



**光大環境**  
EVERBRIGHT ENVIRONMENT

(STOCK CODE 股份代號: 257)



Devoted to  
**ECOLOGY AND ENVIRONMENT**  
*For a BEAUTIFUL CHINA*

情繫生態環境 築夢美麗中國



SUSTAINABILITY  
REPORT  
可持續發展報告  
2023



CHINA EVERBRIGHT ENVIRONMENT GROUP LIMITED  
中國光大環境(集團)有限公司



DEVOTED TO  
ECOLOGY AND ENVIRONMENT  
FOR A BEAUTIFUL CHINA

情繫 生態環境 | 築夢 美麗中國

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## About This Report

### 關於本報告



## Group Profile

China Everbright Environment Group Limited (“Everbright Environment” or the “Company”, together with its subsidiaries, the “Group”) is a flagship enterprise of China Everbright Group Ltd. (“Everbright Group”), the controlling shareholder of the Company, in the industrial field. Everbright Environment is listed on the Main Board of The Stock Exchange of Hong Kong Limited (the “Stock Exchange”) (257.HK), and has two listed subsidiaries: China Everbright Water Limited (“Everbright Water”), which is listed on both the Mainboard of the Singapore Exchange Securities Trading Limited (“SGX”) and the Stock Exchange (U9E.SG & 1857.HK); and China Everbright Greentech Limited (“Everbright Greentech”), which is listed on the Main Board of the Stock Exchange (1257.HK)<sup>(1)</sup>. Since shifting its business focus to the environmental sector in 2003, the Company has grown into the largest environmental enterprise in the People’s Republic of China (“PRC”), a leading player in Asia’s environmental protection industry, the world’s largest waste-to-energy investor and operator, and a world-renowned environmental group.

## Reporting Scope and Principles

The Sustainability Report 2023 (the “Report”) is the Group’s twelfth standalone sustainability report, which covers the Group’s main sustainability initiatives and performance during 1 January 2023 to 31 December 2023 (the “Reporting Period”).

The data and information disclosed in the Report are consolidated from the materiality assessment, stakeholder engagement and other relevant sustainability reporting guidelines, covering the sustainability performance of the Group’s headquarters in Hong Kong and Shenzhen, a management centre and a representative office<sup>(2)</sup>, Singapore office, projects under the Group’s operational control from construction<sup>(3)</sup> through operation phases, and other business activities of the Group during the Reporting Period<sup>(4),(5)</sup>. The delineation of reporting boundary is provided in Appendix I while the relevant entities of the Group can be found in the Company’s Annual Report 2023 (the “Annual Report 2023”): Notes to Financial Statements.

## 集團概覽

中國光大環境(集團)有限公司(「光大環境」或「本公司」, 連同其附屬公司, 統稱「本集團」) 為其控股股東中國光大集團股份公司(「光大集團」) 在實業領域的旗艦企業。光大環境於香港聯合交易所有限公司(「聯交所」) 主板上市(257.HK)。下轄兩家上市企業: 新加坡證券交易所有限公司(「新交所」) 及聯交所主板上市之中國光大水務有限公司(「光大水務」, U9E.SG及1857.HK) 以及聯交所主板上市之中國光大綠色環保有限公司(「光大綠色環保」, 1257.HK)<sup>(1)</sup>。自二零零三年轉型環境領域以來, 本公司已逐步成長為中國最大環境企業、亞洲領先環保企業、全球最大垃圾發電投資運營商及世界知名環境集團。

## 報告範圍及原則

二零二三年可持續發展報告(「本報告」) 為本集團第十二份獨立的可持續發展報告, 涵蓋了本集團於二零二三年一月一日至二零二三年十二月三十一日(「報告期」) 期間本集團的主要可持續發展策略和表現。

本報告所披露的數據及信息是基於實質性評估、持份者參與和其他相關的可持續發展報告指引釐訂, 並涵蓋了本集團在報告期內於香港及深圳總部、管理中心及代表處<sup>(2)</sup>、新加坡辦事處以及本集團從建設<sup>(3)</sup>到運營階段擁有運營控制權的項目, 及本集團其他業務活動的可持續發展表現<sup>(4),(5)</sup>。有關報告邊界的描述, 請參閱附錄I。本集團的相關實體資料可參閱本公司二零二三年年報(「二零二三年年報」) 中的財務報表附註。



We believe that quality reporting is a fundamental step for us to manage the Group effectively and sustainably. As such, the Group adheres to the following 11 principles in disclosing its environmental, social and governance (“ESG”) performance:

我們相信以高質量的報告作信息披露是本集團高效及可持續管理的關鍵步驟。因此，本集團恪守以下十一項原則以披露其環境、社會及管治（「ESG」）表現：

## 1 MATERIALITY 重要性

We conduct annual materiality assessments to ensure that the identified and prioritised ESG issues reliably reflect the most material concerns to us and our stakeholders.

我們每年進行重要性評估，確保已識別且優先考慮的ESG議題能夠可靠地反映我們和持份者最關注的事項。

## 2 QUANTITATIVENESS 量化

We strive to quantify data with the most accurate and precise standards, methodologies and assumptions possible for ease of comparing and verifying ESG performance.

我們致力於準確且精確的標準、計算方法和假設，量化數據，以便比較和驗證ESG表現。

## 3 CONSISTENCY AND COMPARABILITY 一致性及可比性

We compile our latest sustainability report in a familiar format as our past reports and publish it in a timely manner for our stakeholders to make meaningful assessments and comparisons of our ESG performance to make an informed decision.

我們使用熟悉的報告格式編製新年度的可持續發展報告，讓持份者能有意義地評估及比較我們的ESG表現，作出明智決策。

## 4 ACCURACY 準確性

The information we report, whether qualitative or quantitative in nature, is ensured to be supported by sufficient details with correct evidence.

我們確保報告的資訊，不論定性或定量，均有足夠且正確的證據支持。

## 5 BALANCE 平衡性

We disclose relevant information in a fair and impartial manner. Regardless of whether the information may cause a positive or negative impact on the Group, we take a rational approach in disclosing and drawing a lesson from it.

我們公平公正地披露相關資訊，無論對本集團的影響是正面還是負面，皆以實事求是的態度披露，並將負面資訊引以為戒。

## 6 CLARITY 清晰性

We clearly present all information in the Report with precise language and a rich variety of pictures. Where necessary, annotations are added in appropriate spaces to provide supplementary information to the document.

我們以簡明的語言和圖文並茂的方式清晰呈現各類資訊，必要時以註解提供輔助資訊。

## About This Report

關於本報告

### 7 COMPLETENESS 完整性

We disclose both the positive and negative impacts of our business in a transparent manner to present a more balanced and complete overview of our ESG performance.

我們以高度透明的方式披露我們業務所帶來的正面及負面影響，讓我們能更平衡和全面地概述我們的ESG表現。

### 8 SUSTAINABILITY CONTEXT 可持續發展背景

We aim to identify the internal and external impacts of sustainable development on the Group and ensure that ecological, social and economic sustainable development is promoted at a macro level.

我們致力於識別可持續發展對本集團的內外影響，並確保在宏觀層面上推動生態、社會和經濟的可持續發展。

### 9 TIMELINESS 時效性

We prepare our sustainability reports with an annual reporting period covering 1 January to 31 December of the same year. Starting from this year, we will publish them at the same time as our annual reports, which is in April of each year.

我們的報告期為每年的一月一日至十二月三十一日，由本年度起，與年報同期發布，即每年的四月份。

### 10 VERIFIABILITY 可驗證性

We report in accordance with multiple international and local guidelines, standards, and frameworks, and appoint an independent certification body to audit and verify the report content and data.

我們按照多個國際及本地指引、準則和框架進行披露，並委託獨立認證機構審計和核實報告內容與數據。

### 11 STAKEHOLDER INCLUSIVENESS 持份者包容性

We engage a broad range of stakeholders to pinpoint the most material issues. Stakeholder groups include investors, shareholders, governments, villagers, local communities, investment analysts, business partners, suppliers, customers, employees, media and non-governmental organisations.

我們與各方持份者進行廣泛互動，探討最重要的議題。這些持份者包括投資者、股東、政府、村民、當地社區、投資分析員、業務夥伴、供應商、客戶、員工、媒體和非政府組織。



## Reporting, Calculation and Assurance Standards

Based on the 11 disclosure principles, the Group has implemented corresponding standards in three aspects: report preparation, data quantification and audit verification. The board (the “Board”) of directors (the “Directors”) of Everbright Environment reviewed and approved the content and scope of the Report to demonstrate that the Board had considered sustainability issues as part of its strategic formulation, determined the material ESG issues and overseen the management and monitoring of those issues.

## 報告、計算及審核準則

本集團在十一個披露原則的基礎上，透過相應的準則在報告編寫、數據量化及審計驗證三方面得以實踐。本報告的內容及範圍亦經過光大環境董事（「董事」）會（「董事會」）審閱及批准，以展示董事會已將可持續發展議題視為戰略制定的其中一部份，確定了主要的ESG議題，並對該等議題的管理和監察進行了監管。

Categories of Standards 準則類別	Practices 實踐
<b>Reporting Standards (or Frameworks) 報告準則 (或框架)</b>	
Rule 13.91 and Appendix C2 <i>Environmental, Social and Governance Reporting Guide</i> of the <i>Rules Governing the Listing of Securities on the Stock Exchange</i>  《聯交所證券上市規則》第13.91條及附錄C2 《環境、社會及管治報告指引》	Fulfill the Group’s basic responsibilities as a listed company in accordance with local listing rules and relevant guidelines.  按照本地上市規則及相關指引履行本集團作為一家上市公司的基本責任。
Global Reporting Initiative Sustainability Reporting Standards (“GRI Standards”)  全球報告倡議組織準則（「GRI準則」）	Systematically and comprehensively disclose material issues related to the Group through easy-to-understand international language.  透過容易理解的國際通用語言有系統地全面披露與本集團相關的實質性議題。
United Nations Sustainable Development Goals (“SDGs”)  聯合國可持續發展目標（「SDGs」）	Fully incorporating 17 goals into the Group’s environmental and social management strategy, and identify the direction of sustainable development based on the goals to demonstrate determination to address the world’s most pressing issues.  將17項目標全面融入本集團的環境及社會管理戰略中，並按照目標識別可持續發展方向，以展示應對全球最迫切議題的決心。
<i>Recommendations of the Task Force on Climate-related Financial Disclosures</i> (“TCFD Recommendations”)  《氣候相關財務信息披露工作組建議》（「TCFD建議」）	Effectively identifying risks and opportunities related to climate change in accordance with international frameworks in order to develop relevant response strategies and processes.  按照國際框架有效地識別氣候變化相關的風險與機遇，以便制定相關應對策略和流程。



Categories of Standards 準則類別	Practices 實踐
<b>Calculation Standards</b> 計算準則	
<p>Clean Development Mechanism (“CDM”) 清潔發展機制（「CDM」）</p> <hr/> <p><i>2019 Refinement to the 2006 IPCC<sup>(6)</sup> Guidelines for National Greenhouse Gas Inventories</i> 《二零零六年IPCC<sup>(6)</sup>國家溫室氣體清單指南二零一九年修訂版》</p> <hr/> <p>ISO 14064-1:2018 - <i>Greenhouse Gases – Part 1: Specification with Guidance at the Organizational Level for Quantification and Reporting of Greenhouse Gas Emissions and Removals</i> (“ISO 14064-1:2018”) ISO 14064-1:2018《溫室氣體－第一部分：組織層級溫室氣體排放和清除的量化和報告指南》（「ISO 14064-1:2018」）</p>	<p>Conducting data collection and analysis in accordance with relevant international or local guidelines and standards, and quantify the project’s greenhouse gas (“GHG”) emissions and avoidance. Except for the data published in the Annual Report 2023, all data contained in the Report are subject to rounding adjustments<sup>(7)</sup>.</p> <p>根據相關國際或本地指引及準則進行資料收集及分析，並量化項目的溫室氣體排放及避免。除了二零二三年年報已公布的數據外，本報告所載的所有數據均已作捨入調整<sup>(7)</sup>。</p>
<b>Assurance Standards</b> 審核準則	
<p><i>International Standard on Assurance Engagements 3000 (Revised) Assurance Engagements Other than Audits or Reviews of Historical Financial Information</i> (“ISAE 3000”) 《國際鑒證業務準則3000（修訂版）－歷史財務資料審計或審閱以外的鑒証》（「ISAE 3000」）</p> <hr/> <p>ISO 14064-3:2019 - <i>Greenhouse gases – Part 3: Specification with Guidance for the Verification and Validation of Greenhouse Gas Statements</i> (“ISO 14064-3:2019”) ISO 14064-3:2019《溫室氣體－第三部分：有關溫室氣體聲明審定和核證指南》（「ISO 14064-3:2019」）</p>	<p>Commissioning the Hong Kong Quality Assurance Agency as the independent certification body to audit and verify the content and data of the Report, with the relevant verification statement attached to the Report.</p> <p>已委託香港品質保證局作為獨立認證機構，為本報告的內容及數據進行審計和核實，並將其相關審核聲明附載於本報告中。</p>

## The Statement of the Board

According to the relevant provisions set out in Appendix C2 to the *Listing Rules*, The Board has issued a statement on the following matters. A disclosure of the Board's oversight of ESG issues is provided in the "Board Oversight of ESG and Climate Matters" section of this Chapter; the Board's ESG management approach and strategy, including the process used to evaluate, prioritise and manage material ESG-related issues (including risks to the Group's businesses), as well as the details regarding how the Board reviews progress made against ESG-related goals and targets with an explanation of how they relate to the Group's businesses are provided in the "Sustainable Operations Management" chapter on pages 34-53 of the Report.

## Board Oversight of ESG and Climate Matters

The Board has the overall authority over the Group's policies, strategies and performance in relation to sustainability and is responsible for overseeing the work of sustainability development such as reviewing and approving the Report.

Under the leadership of the Chairman of the Board, the Safety and Environmental Management Committee is responsible for formulating, monitoring and reviewing the Group's objectives, strategies and policies on sustainable development; as well as supervising the Group's performance and effectiveness in implementing the Environmental, Safety, Health and Social Responsibility ("ESHS") Management System and related measures; identifying, evaluating and prioritising the most material ESG, climate change and biodiversity-related topics that are relevant to our operations and concerned by our stakeholders; and reporting and providing continuous improvement suggestions to the Board on relevant matters whenever possible.

## 董事會聲明

根據《上市規則》附錄C2所載的有關條文，董事會就以下事宜發出聲明。有關董事會對ESG事宜的監管披露之討論載於本章之「董事會對ESG及氣候變化事宜的監管」一節；有關董事會的ESG管理方針及策略，包括評估、優次排列及管理重要的ESG相關事宜（包括對本集團業務的風險）的過程之討論，以及董事會如何按ESG相關目標檢討進度，並解釋它們如何與本集團業務有關連之討論，均載於本報告第34至53頁之「可持續的運營管理」章節。

## 董事會對ESG及氣候變化事宜的監管

董事會擁有本集團有關可持續發展的政策、策略及績效的全面權力，並負責監督可持續發展方面的工作，例如審閱及批准本報告。

在董事會主席的領導下，安全與環境管理委員會負責制訂、監察及檢討本集團有關可持續發展的目標、策略及政策；監督本集團在實施環境、安全、健康及社會責任（「ESHS」）管理體系及相關措施方面的表現和成效；識別、評估和優先應對與我們的運營及持份者最深切關注的ESG、氣候變化和生物多樣性相關議題；並且將會就相關事宜向董事會報告及提出持續改善建議。

## About This Report

### 關於本報告

During the Reporting Period, the Board had been briefed on the economic, environmental and social issues, which included the economic, environmental and social related risks and opportunities, aiming to ensure the effective implementation of the Group's sustainable development strategy.

The Board shall continue to manage, monitor and take ESG issues into consideration when determining the Group's future business direction and strategy.

## Accessibility and Feedback

The Report is available in both Chinese and English versions and has been uploaded onto the websites of Everbright Environment ([www.cebenvironment.com](http://www.cebenvironment.com)) and Hong Kong Exchanges and Clearing Limited ([www.hkexnews.hk](http://www.hkexnews.hk)). If there is any inconsistency or discrepancy between the Chinese version and the English version, the English version shall prevail; in the event of any inconsistency or discrepancy between the Report and the Annual Report 2023, the Annual Report 2023 shall prevail unless otherwise stated.

The Group welcomes all stakeholders and the public to provide valuable comments and suggestions to [info1@cebenvironment.com](mailto:info1@cebenvironment.com) on the content of the Report, the reporting approach as well as the Group's sustainability performance.

於報告期內，董事會已聽取有關經濟、環境和社會議題之匯報，匯報內容亦包括經濟、環境和社會相關風險和機遇，以確保本集團的可持續發展策略得以有效實行。

董事會將繼續管理和監察ESG事宜，並將之納入本集團制定未來業務方向及策略時的考慮之列。

## 報告獲取及反饋

本報告備有中英文版本，並已上載至光大環境網站(<https://www.cebenvironment.com>)及香港交易及結算所有限公司網站([www.hkexnews.hk](http://www.hkexnews.hk))供下載及閱覽。如中、英文版本有任何抵觸或不相符之處，應以英文版本為準；除非另有說明，若本報告和二零二三年年報有任何抵觸或不相符之處，應以二零二三年年報為準。

本集團歡迎各持份者及公眾就本報告內容、報告方式和本集團在可持續發展方面的表現提供寶貴意見及建議，並電郵至 [info1@cebenvironment.com](mailto:info1@cebenvironment.com)。



Notes:

- (1) For detailed sustainability performance of the two listed subsidiary companies of the Group (namely Everbright Water and Everbright Greentech), please refer to their standalone 2023 sustainability reports.
- (2) Include a management centre in Beijing and a representative office in Vietnam.
- (3) For environmental data of projects under construction, only electricity and water consumption and the associated greenhouse gas (GHG) emissions are disclosed in the Report. Other data such as fuel and materials consumption are possessed by contractors and/or subcontractors and the Group does not have access to them.
- (4) Unless otherwise specified, data of contractors and/or subcontractors is not disclosed in the Report.
- (5) Since the assets related to the projects undertaken by Everbright Environment under engineering, procurement and construction (“EPC”) approach are owned by its clients, Everbright Environment has no access to the environmental data of such projects, including electricity consumption and water consumption, etc. As such, the environmental performance of these projects is not disclosed in the Report.
- (6) IPCC refers to Intergovernmental Panel on Climate Change.
- (7) The numbers stated in various tables of the Report may not add up to totals or 100% due to rounding.

附註：

- (1) 關於本集團旗下兩間附屬上市公司（分別為光大水務及光大綠色環保）的詳細可持續發展表現，請參閱其獨立的二零二三年可持續發展報告。
- (2) 包括分別位於北京的管理中心以及越南的代表處。
- (3) 有關在建項目的環境數據，僅被披露其電力及水消耗量以及相關的溫室氣體排放。其他數據如燃料消耗量和物料使用量由承包商和／或分包商處理，本集團無權存取有關數據。
- (4) 除非另有註明，承包商及分包商的數據不會於本報告中反映。
- (5) 由於光大環境以工程總包（「EPC」）的模式承接的資產由其客戶擁有，光大環境無權存取其環境數據，包括電力消耗量及水消耗量等。因此，這些項目的環境數據不於本報告中披露。
- (6) IPCC是指政府間氣候變化專門委員會。
- (7) 於本報告的各個表格與數字中，由於捨入關係，個別數字加起來可能與總數不符或不等於100%。

## Message from the Chairman of the Board

### 董事會主席致辭



HUANG HAIQING 黃海清

Chairman of the Board  
董事會主席

2023 marked the 30th anniversary of Everbright Environment's establishment and the 20th anniversary of its transformation of environmental protection. Along the way, Everbright Environment adheres to the mission of "Devoted to Ecology and Environment for a Beautiful China", focusing on the goal of "Developing Professional and Refined Industries", concentrating in ecological and environmental protection undertakings, witnessing the remarkable achievements in China's ecological civilisation construction, benefiting from the rapid development of the country and domestic environmental protection industries, and the industry-leading position of the Group was further consolidated.

This year, we adhered to the general tone of "Seeking Progress while Maintaining Stability", and continued to consolidate our leading position in the industry around the three core areas of solid waste, water-related business and clean energy. We actively promoted the implementation of the goals and plans towards "Peaking Carbon Emissions" and "Achieving Carbon Neutrality" ("Dual Carbons") via providing green and low-carbon services in high quality, thereby creating a wonderful ecological environment. Adhering to the four major initiatives of "Focusing on Core Businesses", "Solidifying Core Businesses and Explores New Opportunities", "Reducing Costs and Increasing Efficiency" and "Undertaking Both Asset-light and Asset-heavy Businesses", focusing on three major aspects of "Deepening Technological Innovation", "Promoting Green Development" and "Serving Communities", we consolidated the foundation for sustainable development and promoted the high-quality development of the Group.

二零二三年是光大環境成立三十週年、轉型環保二十週年。一路走來，光大環境秉承「情繫生態環境，築夢美麗中國」使命擔當，聚焦「做專做精實業」目標，專注生態環保事業，見證了中國生態文明建設取得的顯著成就，並受益於國家和國內環保行業的高速發展，本集團行業龍頭地位持續鞏固。

本年度，我們堅持「穩中求進」工作總基調，圍繞「固廢、泛水、清潔能源」三大核心領域，持續鞏固行業龍頭地位。積極推動「碳達峰」、「碳中和」（「雙碳」）發展目標和行動計劃落實，提供綠色低碳優質服務，打造高品質生態環境。堅持「聚焦主業」、「固本拓新」、「降本增效」、「輕重並舉」四大舉措，圍繞「深化科技創新」、「推動綠色發展」及「積極服務社區」三個重點，夯實可持續發展基礎，推動企業高質量發展。

In 2023, Everbright Environment displayed improving business performance and a growing developmental trend, with a total revenue of HK\$32,090,207,000 during the Reporting Period, whose sustainable performance has been recognised by various sectors: it ranked first in the “Top ten Influential Solid Waste Treatment Enterprises in China” for 13 consecutive years; topped the “Top 50 Environmental Enterprises in China” for five consecutive years; was included in the “Dow Jones Sustainability Emerging Markets Index” for eight consecutive years, and the “Hang Seng Corporate Sustainability Benchmark Index” for 13 consecutive years; and included six times in the S&P Global *Sustainability Yearbook*.

## Deepening Technological Innovation

In keeping with the philosophy of “Technology Leads the Future and Innovation Drives Development”, Everbright Environment has adopted new technological approaches in low-carbon services, invested vigorously in scientific and technological innovation, so as to strengthen the Group’s core competitiveness. As of 31 December 2023, the Group has been granted a total of 1,783 patents, including 1,219 utility model patents, 287 software patents, 224 invention patents and 53 appearance patents, and published 97 significant technical essays.

## Promoting Green Development

During the Reporting Period, the Group processed approximately 52,440,000 tonnes of household waste, 449,000 tonnes of hazardous waste and solid waste, 7,845,000 tonnes of agricultural and forestry waste, as well as treated nearly 1,749,000,000 m<sup>3</sup> of waste water and 12,571,000 m<sup>3</sup> of leachate from waste-to-energy plants. During the Reporting Period, the Group generated around 25,865,000,000 kWh of green electricity, which could support the annual electricity needs of nearly 21,554,000 households, which is equivalent to saving 10,345,000 tonnes of standard coal and avoiding approximately 13,948,000 tonnes of carbon dioxide equivalent (CO<sub>2</sub>e) GHG emissions. Overall, the Group’s projects avoided approximately 26,049,000 tonnes of CO<sub>2</sub>e GHG emissions in total. For details, please refer to pages 70-71 in the “Responding to Climate Change” chapter, and pages 108-110 in the “Environmental Protection” chapter of the Report.

While promoting waste-to-energy and related businesses, the Group also actively expanded its presence in trending business areas such as zero-carbon parks, waste sorting, resource recycling and environmental remediation, secured 40 new environmental protection projects and signed supplementary agreements for two existing projects during the Reporting Period, accumulatively commanding a total investment of approximately RMB4.816 billion.

二零二三年，光大環境經營業績與發展態勢穩中向好，於報告期內錄得綜合收益為港幣32,090,207,000元。在可持續發展方面的表現得到各界的肯定與認可：連續十三年榮居「中國固廢十大影響力企業」首位、連續五年蟬聯「中國環境企業50強」榜首、連續八年獲納入「道瓊斯可持續發展新興市場指數系列」、連續十三年獲納入「恒生可持續發展企業基準指數」及六次入選標普全球《可持續發展年鑒》。

## 深化科技創新

憑著「科技引領未來，創新驅動發展」的理念，光大環境透過科技構建低碳服務新模式，大力投放資源推動科技創新，加強本集團核心競爭力。截至二零二三年十二月三十一日，本集團共獲授權專利1,783項，包括實用型專利1,219項、軟件著作專利287項、發明專利224項、外觀專利53項，發表重要技術論文97篇。

## 推動綠色發展

報告期內，本集團處理生活垃圾約52,440,000噸、危廢及固廢約449,000噸、農林廢棄物約7,845,000噸；處理污水約1,749,000,000立方米；垃圾發電廠滲濾液處理量達約12,571,000立方米。報告期內，本集團產生綠色電力約25,865,000,000千瓦時，可供約21,554,000個家庭一年使用，相當於節約標煤10,345,000噸，避免了溫室氣體排放約13,948,000噸二氧化碳當量。總體上，本集團項目合計避免了溫室氣體排放約26,049,000噸二氧化碳當量。詳情請參閱本報告的「應對氣候變化」章節之第70至71頁及「環境保護」章節之第108至110頁。

在推動垃圾發電等業務的同時，本集團亦積極擴展零碳園區、垃圾分類、資源再生利用、環境修復等新興業務，於報告期內共投資落實了40個新環保項目及簽署了2份現有項目補充協議，涉及總投資額約人民幣48.16億元。



## Serving Communities

During the Reporting Period, the Group has donated RMB1 million to the specifically designated poverty areas. Meanwhile, the Group actively fulfilled its corporate citizenship responsibilities by providing comprehensive high-quality and stable environmental management services to protect the natural and human living environment. The Group also actively participated in various public welfare and charitable activities to advocate the concepts of ecological environmental protection and sustainable development. In 2023, by leveraging various operating environmental protection projects, the Group organised a series of dynamic environmental education activities around themes such as the “World Water Day”, “Earth Day”, and “World Book Day”. The Group also organised diverse public welfare activities in local communities, fostering symbiotic and inclusive relationships with the local residents. Among them, Liaoning Shenyang waste-to-energy project and Tianjin Xiqing waste-to-energy project were recognised as the “AAA-rated Scenic Zones in China”, marking the Group’s further breakthrough in opening-up for public visits and environmental demonstration. The Group actively supported the “Strive and Rise Programme” of the Government of the Hong Kong Special Administrative Region, by delivering environmental lectures and arranging research activities on environmental protection projects for Hong Kong’s youth, contributing to green and low-carbon development in Hong Kong.

Under the government’s guidance and leadership, Everbright Environment remains a leader in the Chinese environmental protection industry for opening up facilities for public visits. As of 31 December 2023, 216 environmental protection projects of the Group has been opened for public visit. Several environmental protection projects located in Zhejiang, Hainan, Henan, Shandong, and other provinces were awarded over ten national and provincial titles related to public accessibility units and environmental education hubs. During the Reporting Period, the Group’s projects received more than 90,000 domestic and foreign visitors from various sectors.

## 積極服務社區

於報告期內，本集團除了定點幫扶捐款總計人民幣一百萬元外，還積極踐行企業公民之責，提供優質、穩定的環境綜合治理服務，守護自然和人居環境；參與各類公益慈善活動，宣揚生態環保與可持續發展理念。二零二三年，本集團依託旗下各類運營環保項目，圍繞「世界水日」、「世界地球日」、「世界讀書日」等環保主題日，開展生動活潑的系列環保科普教育活動，在日常亦通過策劃並組織主題形式多樣的公益活動，深入當地社區，與民眾互利共融。其中，遼寧瀋陽垃圾發電項目與天津西青垃圾發電項目獲批國家AAA級旅遊景區，標誌著本集團在公眾開放、環境示範等方面再次獲得突破；積極支持香港特區政府的「共創明『TEEN』計劃」，面向香港青少年開展環保講座、環保項目研學等活動，助力香港綠色低碳發展。

在國家的部署及號召下，光大環境持續引領中國環保行業公眾開放。截至二零二三年十二月三十一日，本集團已有216個環保項目參與公眾開放，位於浙江、海南、河南、山東等地的多個環保項目先後獲得十餘項國家及省級公眾開放單位、環保科普基地等相關稱號。報告期內，本集團旗下項目共接待國內外各界人士參觀考察超過9萬人次。

## Our Way Forward

In 2024, facing the new situation and tasks of Chinese modernisation, Everbright Environment will unswervingly regard the national “Dual Carbons” goal as the Group’s top priority, thoroughly implement the spirits of the 20th National Congress of the Chinese Communist Party and the Central Ecological Civilisation Work Conference, adhere to the general tone of seeking progress while maintaining stability and promoting stability through progress, adopt new development concept, promote high-quality development, strengthen confidence, work in unity and move forward with courage and perseverance, comply with the development trend of green and low-carbon transformation, seize new opportunities for industrial technology upgrading and improvement of people’s livelihood, strive to achieve effective qualitative improvement and reasonable quantitative growth, continue to provide high-quality green and low-carbon services, and contribute to the construction of a beautiful China.

### **HUANG HAIQING**

*Chairman of the Board*

27 March 2024

## 展望將來

二零二四年，面向中國式現代化建設的新形勢、新任務，光大環境將堅定不移把國家「雙碳」目標視為本集團的首要任務，深入貫徹落實二十大和中央生態文明工作會議的精神，堅持穩中求進、以進促穩工作總基調，貫徹新發展理念，推動高質量發展，堅定信心、團結奮鬥、勇毅前行，順應綠色低碳轉型的發展趨勢，抓住產業技術升級和民生改善新機遇，努力實現質的有效提升和量的合理增長，持續提供優質綠色低碳服務，為美麗中國建設貢獻光大力量。

### **黃海清**

*董事會主席*

二零二四年三月二十七日



## ECONOMY 經濟

As at 31 December 2023  
截至二零二三年十二月三十一日

**592** environmental protection projects  
環保項目數目達**592**個



### In 2023 二零二三年

Revenue amounted to  
HK\$**32,090,207,000**  
收益為港幣**32,090,207,000**元

Integrated biomass utilisation projects directly and/or indirectly created **42,128** jobs and increased farmers' income by approximately RMB**2.37** billion, benefiting over **5** million farmers  
生物質綜合利用項目直接及／或間接提供工作崗位逾**42,128**個，帶動農民增收約人民幣**23.7**億元，令逾**5**百萬名農民受益

## ENVIRONMENT 環境



### In 2023 二零二三年

Environmental protection projects supplied approximately **25,865,000,000** kWh of green electricity, avoiding approximately **13,948,000** tonnes of CO<sub>2</sub>e GHG emissions, and all projects avoided approximately **26,049,000** tonnes of CO<sub>2</sub>e GHG emissions in total<sup>(1)</sup>  
環保項目合共提供綠色電量約**25,865,000,000**千瓦時，避免了溫室氣體排放約**13,948,000**噸二氧化碳當量，所有項目合計避免了溫室氣體排放約**26,049,000**噸二氧化碳當量<sup>(1)</sup>

These projects treated approximately **1,749,000,000** m<sup>3</sup> of waste water and approximately **12,571,000** m<sup>3</sup> of leachate, reducing COD discharge by approximately **850,000** tonnes in total  
該等項目處理污水約**1,749,000,000**立方米及滲濾液約**12,571,000**立方米，合共減少了約**850,000**噸COD排放



Note:

<sup>(1)</sup> For details, please refer to pages 70-71 in the "Responding to Climate Change" chapter, and pages 108-110 in the "Environmental Protection" chapter of the Report.

附註：

<sup>(1)</sup> 詳情請參閱本報告的「應對氣候變化」章節之第70至71頁及「環境保護」章節之第108至110頁。



## EMPLOYEE 員工

As at 31 December 2023  
截至二零二三年十二月三十一日

**11,931** employees in total  
員工總數為**11,931**人

### In 2023 二零二三年

Rate of work-related injuries: **0.10**  
(employees) and **0.02** (third-party contractors  
and subcontractors working on-site)  
工傷率：**0.10**(員工) 及**0.02**(第三方承包商  
及分包商駐場工人)

(Rate of work-related injuries = (Total  
number of work-related injuries/Total  
working hours) x 200,000)  
(工傷率 = (工傷個案總計 /  
工作總時數) x 200,000)

## COMMUNITY 社區

### In 2023 二零二三年

Environmental protection projects received  
over **90,000** domestic and foreign visitors  
from all social circles  
環保項目共接待國內外各界人士參觀考察  
超過**90,000**人次

Donations amounted to HK\$**1,106,400**  
捐款總金額為港幣**1,106,400**元

As at 31 December 2023  
截至二零二三年十二月三十一日

**216** environmental protection facilities had  
been opened up to the public  
已向公眾開放**216**個環保設施

“Everbright Environmental Protection  
Charitable Fund” had accumulatively  
supported a total of **2,355** beneficiaries,  
with a total of over RMB**13.50** million  
delivered as ex-gratia funds and financial  
aids  
「光大環保愛心基金」已累計資助**2,355**名  
受益者，共計已發放超過人民幣**1,350**萬元  
慰問金及救助金



In 2023, the Group received many honours in recognition of its effort in many aspects, including business operation and ESG performance. The major awards and recognition are summarised as below:

二零二三年，本集團在業務經營及ESG表現方面成績卓越，滿載而歸。主要獎項及榮譽摘要如下：

### Business Performance • 業務經營

**First place in the “2023 Top 50 Environmental Enterprises in China” (the fifth consecutive year)**  
「二零二三年中國環境企業50強」榜單榜首 (連續第五年)  
  
China Environment Chamber of Commerce  
全聯環境服務業商會

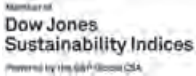


**First place in the “Top Ten Influential Solid Waste Treatment Enterprises in China” (the 13th consecutive year)**  
「中國固廢十大影響力企業」榜單榜首 (連續第十三年)  
  
E20 Environmental Platform  
E20環境平台

**Top Brand Value Ranking for China’s Listed Environmental Protection Companies with a brand value of RMB20.597 billion**  
以人民幣205.97億元的品牌價值高居中國環保上市公司榜首  
  
Top of the “List for Brand Value of Listed Environmental Protection Companies in 2022” published by the *National Business Daily* (“NBD”) in collaboration with the *NBD Brand Value Research Institute* 《每日經濟新聞》(「每經」) 與《每經品牌價值研究院》發布的「二零二二年環保行業上市公司品牌價值榜單」榜首

### ESG Performance • ESG表現

**Included in the Dow Jones Sustainability Emerging Markets Index (the eighth consecutive year)**  
獲納入道瓊斯可持續發展新興市場指數系列 (連續第八年)  
  
S&P Dow Jones Indices  
標普道瓊斯指數



**Included in the Sustainability Yearbook 2023 (the sixth time)**  
獲納入《二零二三年可持續發展年鑒》(第六次)  
  
S&P Global  
標普全球



**Everbright Greentech received “Best in ESG Awards” (Main Board – Small Market Capitalisation) (the third consecutive year)**  
光大綠色環保獲頒「ESG最佳表現大獎」(主機板小市值組別) (連續第三年)  
  
“BDO ESG Awards 2023” by BDO Limited  
香港立信德豪會計師事務所有限公司主辦的「二零二三年BDO環境、社會及管治大獎」



**Included in the Hang Seng Corporate Sustainability Benchmark Index  
(the 13th consecutive year)**

獲納入恒生可持續發展企業基準指數 (連續第十三年)

Hang Seng Indexes  
恒生指數



**Everbright Water received "Singapore Corporate Sustainability Award" (Mid-Cap Category)  
光大水務獲頒「新加坡企業可持續發展大獎」  
(中型股類別)**

Securities Investors Association (Singapore) "Investors' Choice Awards" 2023  
新加坡證券投資者協會  
二零二三年度「投資者之選」

**Everbright Greentech received the "Corporate Governance Award" (Non-Hang Seng Index (Small Market Capitalisation) Category)  
光大綠色環保獲頒「企業管治評判嘉許」  
(非恆生指數成分股 (小市值) 組別)**

"Best Corporate Governance and ESG Awards in 2023"  
Hong Kong Institute of Certified Public Accountants  
香港會計師公會「二零二三年度最佳  
企業管治及ESG大獎」

**Everbright Water received the "ListCo Excellence Award 2023" (the fourth consecutive year)  
光大水務獲頒「二零二三年度傑出上市公司大獎」  
(連續第四年)**

The annual "ListCo Excellence Awards" co-organised by organisations including *Hong Kong Stocks Channel of ifeng.com* and Hong Kong media "*am730*" 《鳳凰網港股》、香港媒體《am730》等機構聯合舉辦的「傑出上市公司大獎」年度評選

**2023最佳企業管治及ESG大獎  
Best Corporate Governance and ESG Awards**

**Everbright Greentech received "Outstanding Contribution to Environment Award 2022"  
光大綠色環保獲頒  
「二零二二年度環境貢獻獎」**



The first KPMG China "Future ESG Awards"  
畢馬威中國首屆「未來 • ESG大獎」





ABOUT EVERBRIGHT  
ENVIRONMENT  
關於光大環境



Promoting clean energy & implementing  
low-carbon development  
推動潔淨能源 • 落實低碳發展







As the first one-stop integrated environmental solution provider in the PRC, Everbright Environment focuses on three core areas, namely solid waste, water-related business and clean energy. Its main businesses cover waste-to-energy and synergistic waste treatment, integrated biomass utilisation, hazardous and solid waste treatment, new energy, environmental remediation, water environment management, equipment manufacturing, waste sorting, environmental sanitation integration, resource recycling, development of zero-waste cities, analysis and testing, research and development relating to green technologies, ecological and environmental planning and designing, as well as environmental protection industrial parks, among others.

Everbright Environment is a key partner of the International Coalition for Green Development on the Belt and Road as well as the Ecological Protection and Green Development of the Yangtze River Economic Belt. The Company upholds its corporate mission of being “Devoted to Ecology and Environment for a Beautiful China”, with awards for ranking first among the “Top Ten Influential Solid Waste Treatment Enterprises in China” for 13 consecutive years, the top on the list of China’s Top 50 Environmental Enterprises for five consecutive years. With the goal of “Create Investment Value and Undertake Social Responsibility”, the Group has also been a constituent member of Dow Jones Sustainability Emerging Markets Index for eight consecutive years, Hang Seng Corporate Sustainability Benchmark Index for 13 consecutive years, and S&P Global’s *Sustainability Yearbook* for six consecutive years.

作為中國首個一站式、全方位的環境綜合治理服務商，光大環境聚焦固廢、泛水、清潔能源三大核心領域，主營業務涵蓋垃圾發電及協同處理、生物質綜合利用、危廢及固廢處置、新能源、環境修復、水環境綜合治理、裝備製造、垃圾分類、環衛一體化、資源循環利用、無廢城市建設、分析檢測、綠色技術研發、生態環境規劃設計、環保產業園等。

作為「一帶一路」綠色發展國際聯盟和長江經濟帶生態大保護的戰略合作夥伴，本公司秉承「情繫生態環境，築夢美麗中國」的使命，連續十三年穩居「中國固廢十大影響力企業」首位、連續五年蟬聯「中國環境企業50強」榜首。另外，本集團致力追求「創造投資價值，承擔社會責任」的企業目標，連續八年獲納入「道瓊斯可持續發展新興市場指數系列」、連續十三年獲納入「恒生可持續發展企業基準指數」、並且六次入選標普全球《可持續發展年鑒》。



<p><b>THE GROUP'S VISION</b> 企業願景</p>	<p><b>THE GROUP'S MISSION</b> 企業使命</p>	<p><b>THE GROUP'S VALUE</b> 企業價值觀</p>	<p><b>THE GROUP'S CULTURE</b> 企業文化</p>
<p>To Become a World-class Integrated Environmental Service Provider with Chinese Characteristics 具有中國特色的世界一流環境綜合服務商</p>	<p>Devoted to Ecology and Environment for a Beautiful China 情繫生態環境 築夢美麗中國</p>	<p>To Create Investment Value and Undertake Social Responsibility 創造投資價值 承擔社會責任</p>	<p>Honoring Integrity and Trustworthiness, Making Profit via Righteous Means, Pursuing Stability and Prudence, Upholding Fundamental Principles and Breaking New Ground, and Complying with Laws and Regulations 誠實守信 以義取利 穩健審慎 守正創新 依法合規</p>

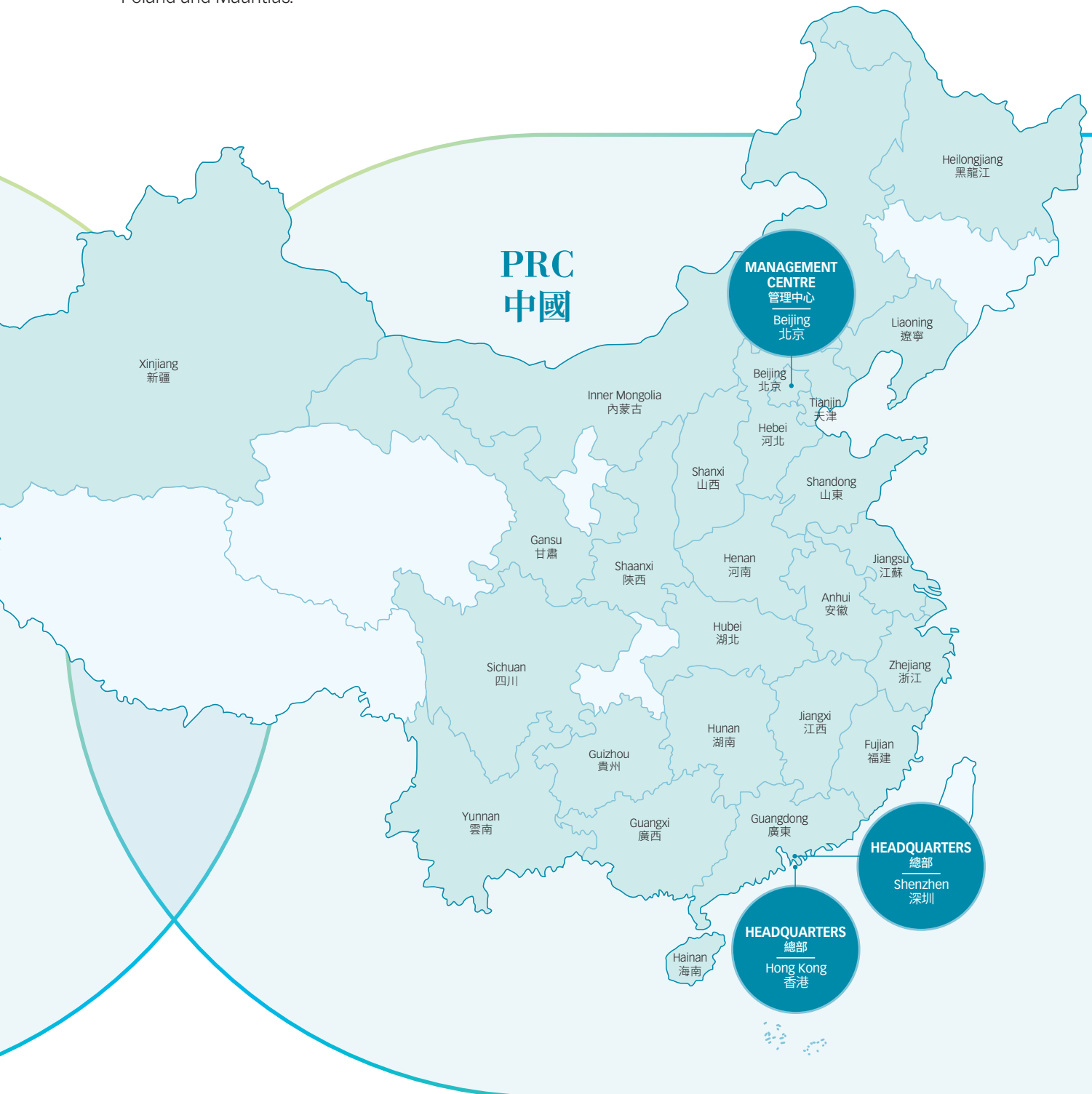


## Business Footprint

As at 31 December 2023, the Group's 592 projects were located in over 225 locations across 26 provinces, municipalities, autonomous regions and a special administrative region in the PRC, as well as Germany, Vietnam, Poland and Mauritius.

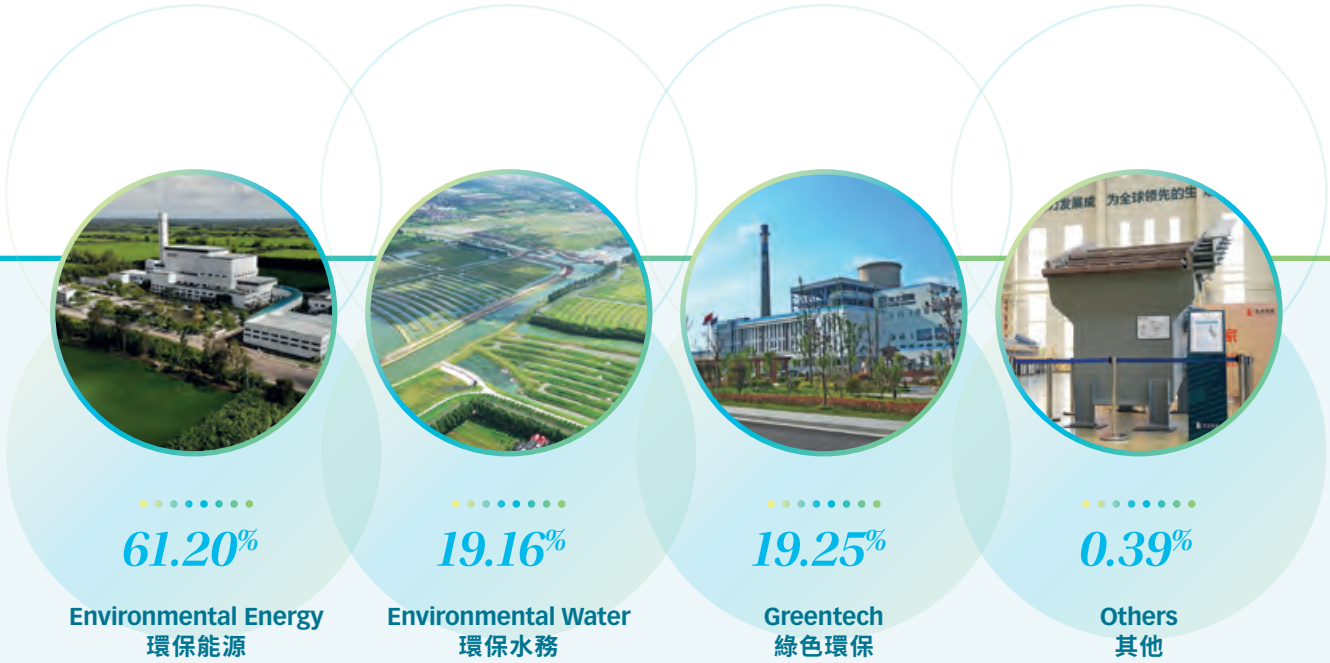
## 業務分布

截至二零二三年十二月三十一日，本集團的592個項目分布全國26個省(市)、自治區及特別行政區，遍及225個區縣市，與此同時海外業務已涉足德國、越南、波蘭及毛里求斯。





Proportion of Investment by Sector  
按板塊劃分的投資額百分比



Total Investment of Approximately  
總投資約

RMB  
人民幣 **160.655** billion  
十億元





## Environmental Energy 環保能源

**The largest waste-to-energy investor  
and operator in the world**

Environmental energy is a core sector of Everbright Environment, with the largest scale and biggest business portion, covering waste-to-energy, food and kitchen waste treatment, leachate treatment, fly ash treatment, methane-to-energy, sludge treatment and disposal, construction and decoration waste treatment, and the development of environmental protection industrial parks. As one of the world's largest waste-to-energy investment operators, environmental energy is committed to improving the layout of the waste-to-energy industry chain and strengthening its synergistic role with other business sectors, thereby consolidating the company's leading position in the waste-to-energy industry.

### 全球最大垃圾發電投資運營商

環保能源為光大環境旗下最具規模且業務佔比最高的核心板塊，業務涵蓋垃圾發電、餐廚及廚餘垃圾處理、滲濾液處理、飛灰處理、沼氣發電、污泥處理處置、建築裝潢垃圾處理、環保產業園開發等。作為全球最大的垃圾發電投資運營商之一，環保能源致力完善垃圾發電產業鏈布局，強化與其他板塊業務的協同作用，以鞏固公司於垃圾發電行業的領先地位。

As at 31 December 2023  
截至二零二三年十二月三十一日

- 165** Waste-to-energy projects  
垃圾發電項目
- 55** Food and kitchen waste treatment projects  
餐廚垃圾處理項目
- 11** Sludge treatment and disposal projects  
污泥處理處置項目
- 2** Leachate treatment projects  
滲濾液處理項目
- 2** Methane-to-energy-projects  
沼氣發電項目
- 13** Fecal treatment/fly ash treatment/animal carcass  
treatment incineration residue treatment projects  
糞便處理／飛灰填埋／病死動物處理／  
爐渣處理項目
- 5** Medical waste treatment projects  
醫療廢物處理項目
- 15** Waste sorting and integration projects  
垃圾分類及一體化項目
- 1** Construction and decoration waste treatment  
project  
建築及裝潢垃圾項目
- 1** Solid waste treatment project  
固廢處理項目
- 11** Heat supply projects  
供熱項目

### Total Designed Capacities 設計總規模

approximately 約  
**53,782,750** tonnes  
噸  
Annual household waste processing capacity  
年處理生活垃圾量

approximately 約  
**18,309,554,700** kWh  
千瓦時  
Annual on-grid electricity  
年上網電量

approximately 約  
**3,169,295** tonnes  
噸  
Annual food waste processing capacity  
年處理餐廚垃圾量

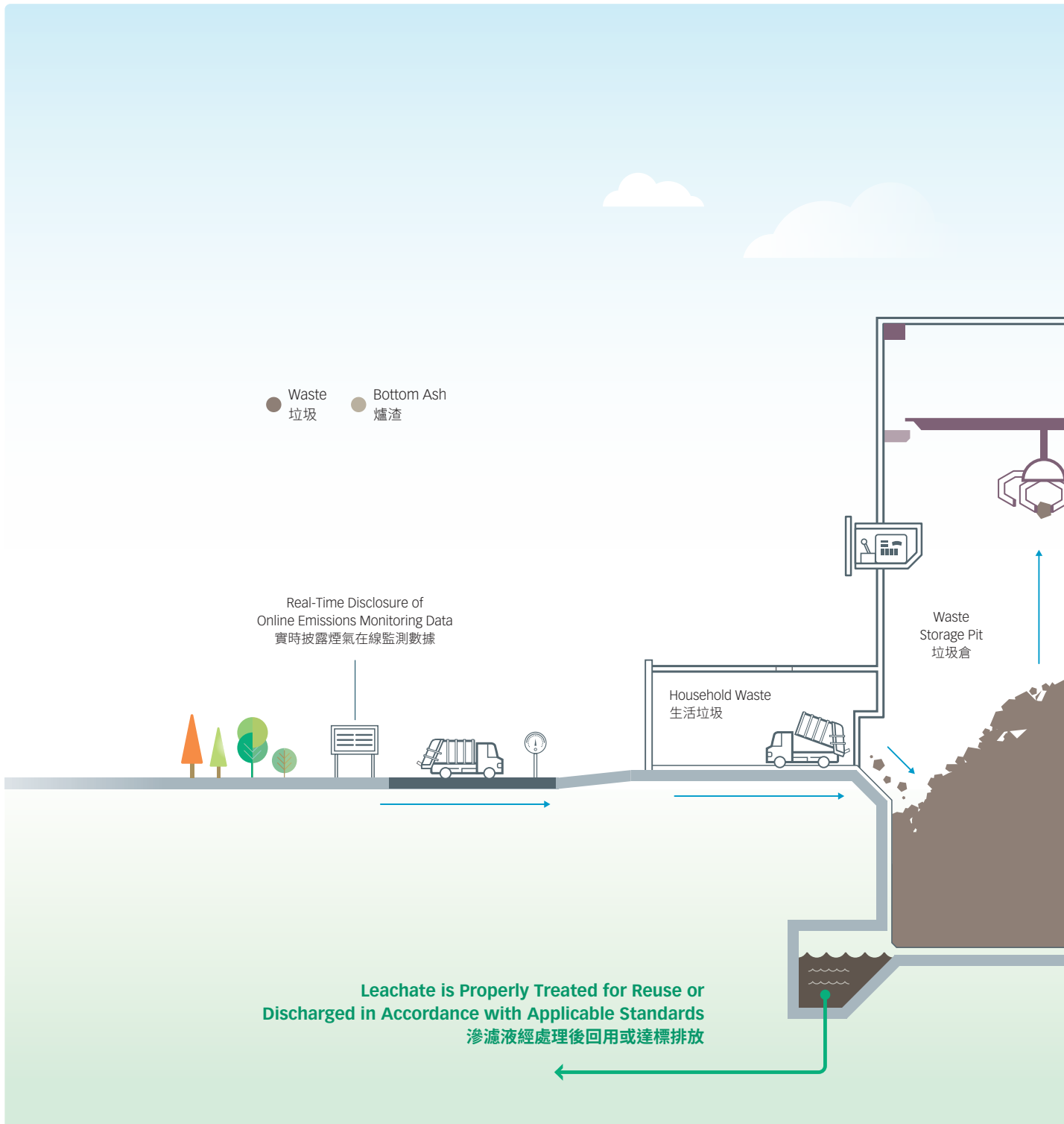
approximately 約  
**503,700** tonnes  
噸  
Annual sludge treatment capacity  
年處理污泥量

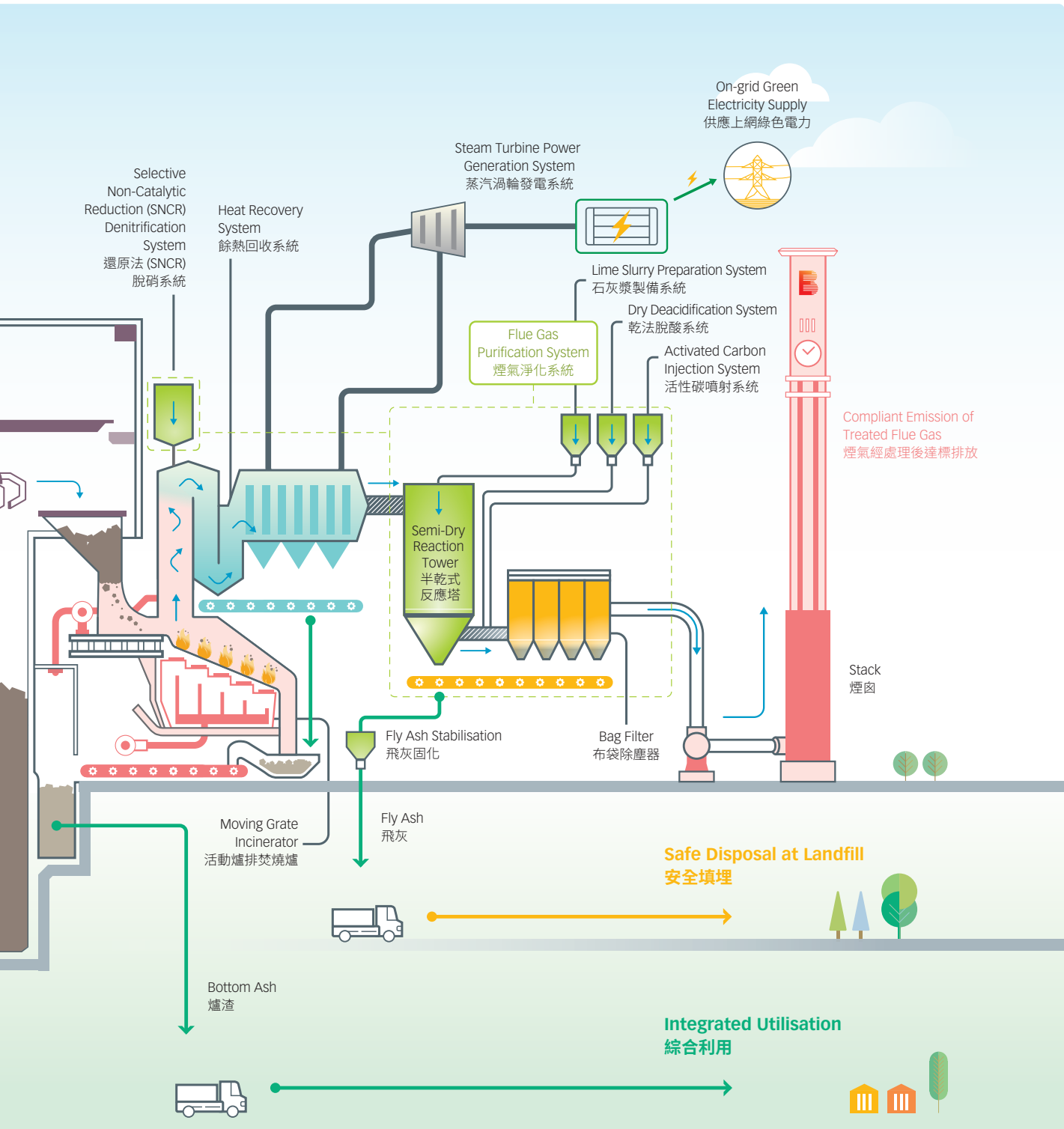
approximately 約  
**20,258** tonnes  
噸  
Annual medical waste processing capacity  
年處理醫療廢物量

## **281** Total Contracted Projects 總投資項目

(In addition to undertaking 2 operation and management (“O&M”) projects and 2 Engineering design-Procurement-Construction-Operation (“EPCO”) projects)  
(另承接2個委託運營項目及2個EPCO項目)

## Waste-to-energy Project - Typical Process Flow Diagram 垃圾發電項目—工藝流程圖









## Environmental Water 環保水務

### Water environment management integrated service provider

Everbright Water is listed on the Mainboard of both the SGX and the Stock Exchange. Everbright Water has developed a comprehensive business coverage that includes raw water protection, water supply, municipal waste water treatment, industrial waste water treatment, reusable water, river-basin ecological restoration and sludge treatment and disposal. As a first-class water environment management service provider in the PRC, Everbright Water is moreover specialised in business areas such as project investment, planning and design, technology R&D and related services, engineering and construction, operations management and integrated diagnosis, etc. As of 31 December 2023, the Group owned a 72.87% stake in Everbright Water.

### 水環境治理綜合服務供應商

光大水務為新交所及聯交所的主板上市公司，業務覆蓋原水保護、供水、市政污水處理、工業廢水處理、中水回用、流域治理、污泥處理處置等。作為中國一流的水環境綜合治理服務供應商，光大水務亦同時精專項目投資、規劃設計、科技研發及服務、工程建設、運營管理、綜合診斷等業務領域。截至二零二三年十二月三十一日，本集團持有光大水務72.87%的權益。

As at 31 December 2023  
截至二零二三年十二月三十一日

- 128** Municipal waste water treatment projects  
市政污水處理項目
- 17** Industrial waste water treatment projects  
工業廢水處理項目
- 8** Reusable water projects  
中水回用項目
- 6** River-basin ecological restoration projects  
流域治理項目
- 3** Water supply projects  
供水項目
- 1** Raw water protection project  
原水保護項目
- 1** Livestock and poultry manure resource  
utilisation project  
畜禽糞污資源化利用項目
- 2** Sludge treatment and disposal projects  
污泥處理處置項目

### Total Designed Capacities 設計總規模

approximately 約  
**2,300,412,000** m<sup>3</sup>  
立方米  
Annual waste water treatment capacity  
年污水處理量

approximately 約  
**115,194,000** m<sup>3</sup>  
立方米  
Annual reusable water supply capacity  
年供中水量

approximately 約  
**310,250,000** m<sup>3</sup>  
立方米  
Annual water supply capacity  
年供水量

## **166** Total Contracted Projects 總投資項目

(In addition to undertaking 7 O&M projects)  
(另承接7個委託運營項目)



## Greentech 綠色環保

**One of the China's top investors and operators with expertise in integrated biomass utilisation, harmless treatment of hazardous and solid waste**

Everbright Greentech is a company listed on the Main Board of the Stock Exchange. The business coverage of Everbright Greentech includes hazardous and solid waste treatment, integrated biomass utilisation, new energy, environmental remediation, among others. It positions itself as a leading intelligent energy supplier, as well as a prominent industrial hazardous waste treatment investor and operator in the PRC. As at 31 December 2023, the Group owned a 69.7% stake in Everbright Greentech.

**全國領先生物質綜合利用、危廢及固廢無害化處置投資運營商之一**

光大綠色環保為聯交所主板上市公司，業務覆蓋危廢及固廢處置、生物質綜合利用、新能源、環境修復等，是中國領先的智慧能源供應商及工業危廢處置投資運營商。截至二零二三年十二月三十一日，本集團持有光大綠色環保69.7%的權益。

As at 31 December 2023  
截至二零二三年十二月三十一日

- 4** Biomass direct combustion projects  
生物質直燃發電項目
- 13** Biomass electricity and heat cogeneration/  
heat supply projects  
生物質熱電聯供／供熱項目
- 38** Urban-rural integration projects  
城鄉一體化項目
- 51** Hazardous and solid waste treatment projects  
危廢及固廢處置項目
- 59** Environmental remediation projects and  
services  
環境修復項目及服務
- 33** Solar energy and wind power projects  
光伏發電及風電項目

### Total Designed Capacities 設計總規模

approximately 約 **8,139,800** tonnes  
噸

Annual processing capacity of biomass raw  
materials  
年處理生物質原材料量

approximately 約 **4,215,750** tonnes  
噸

Annual household waste processing capacity  
年處理生活垃圾量

approximately 約 **2,466,400** tonnes  
噸

Annual hazardous and solid waste treatment  
capacity  
年處置危廢及固廢量

approximately 約 **7,047,733,085** kWh  
千瓦時

Annual on-grid electricity  
年上網電量

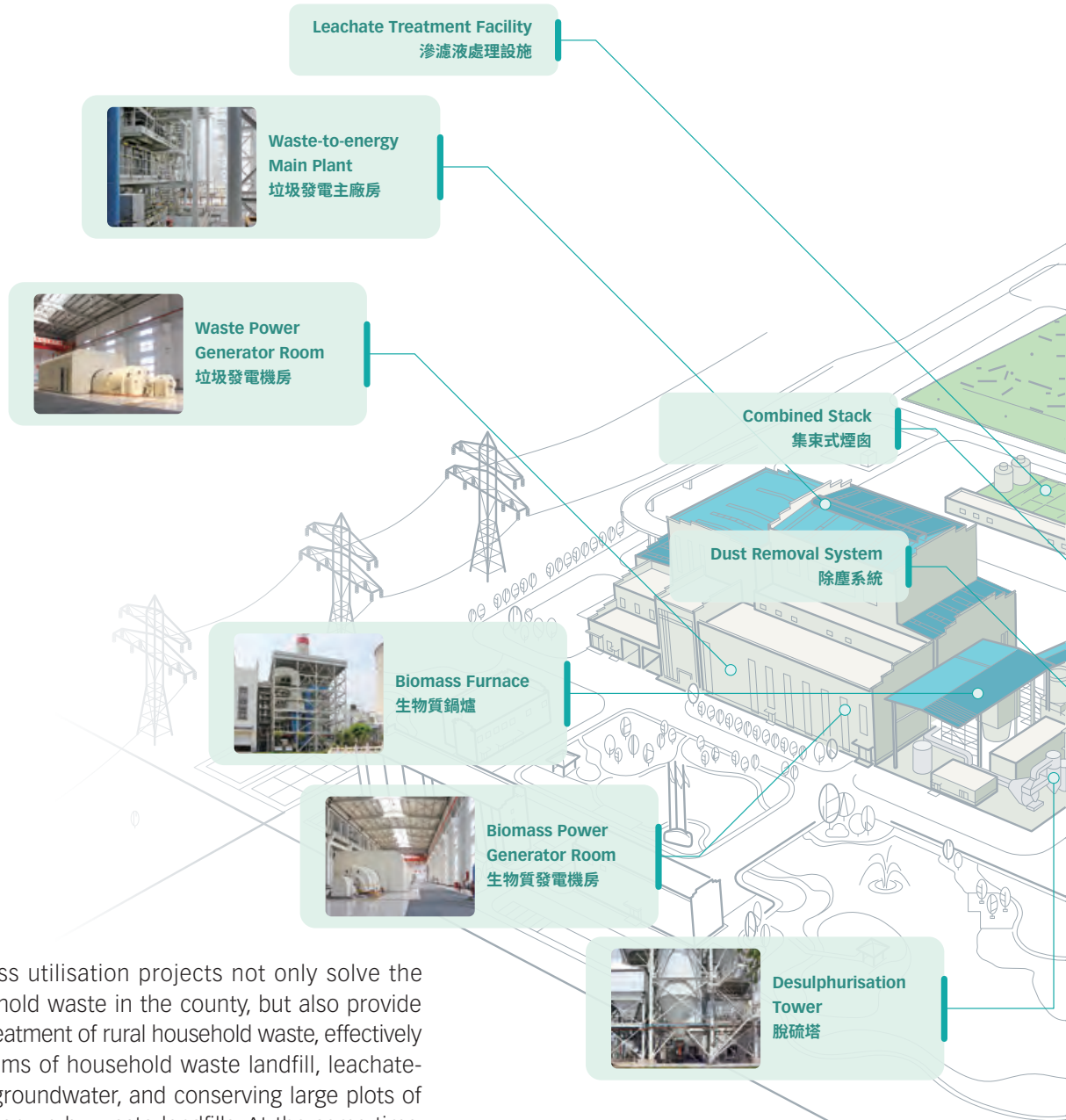
approximately 約 **6,046,663** tonnes  
噸

Annual steam supply capacity  
年供蒸汽量

**198** Total Contracted Projects and Services  
總投資項目及服務



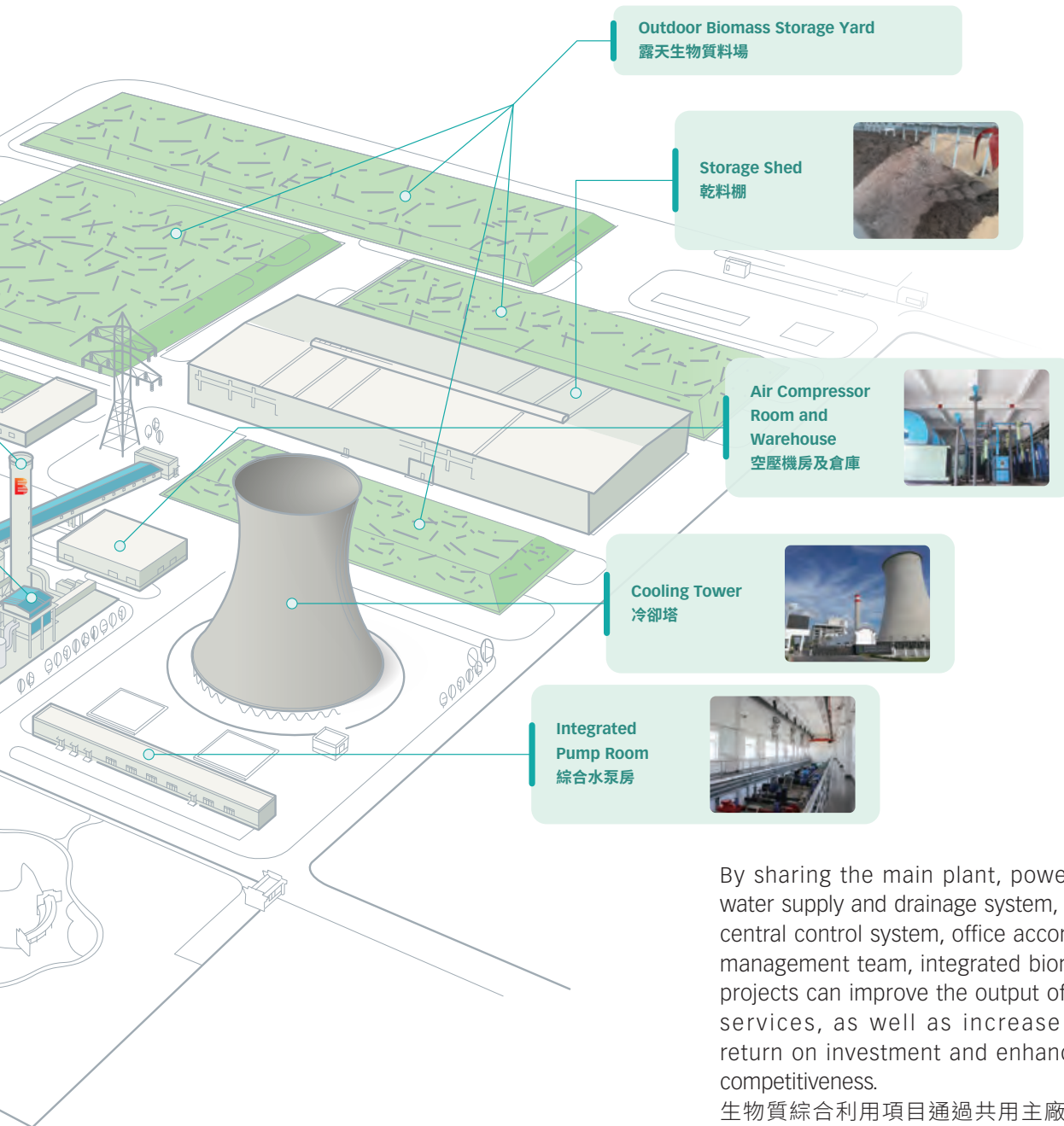
## Integrated Biomass Utilisation Project – Overview 生物質綜合利用項目—概覽



Integrated biomass utilisation projects not only solve the problem of household waste in the county, but also provide solutions for the treatment of rural household waste, effectively solving the problems of household waste landfill, leachate-polluted soil and groundwater, and conserving large plots of land otherwise taken up by waste landfills. At the same time, they will greatly change the current issue of rural open-air burning of straw by reducing smog formation.

生物質綜合利用項目不僅可以解決縣城內的生活垃圾問題，還可以為農村生活垃圾處理提供解決方案，有效解決生活垃圾填埋及滲濾液污染土壤及地下水問題，可節約因垃圾填埋所佔用的大量土地，同時極大程度上改變農村露天焚燒秸稈的現狀，減少霧霾的形成。





By sharing the main plant, power grid system, water supply and drainage system, cooling system, central control system, office accommodation and management team, integrated biomass utilisation projects can improve the output of environmental services, as well as increase their overall return on investment and enhance the Group's competitiveness.

生物質綜合利用項目通過共用主廠房、電網系統、給排水系統、冷卻系統、中控系統、辦公住宿場所及管理團隊等，既能提高環境服務產出，也能增加項目整體投資回報並提升本集團的競爭力。

## Equipment Manufacturing

As a key environmental protection equipment R&D manufacturer in the PRC, with Everbright Environmental Technical Equipment (Changzhou) Limited being the main platform, Everbright Environment's equipment manufacturing sector strives to upgrade its factories from the country's "Green Factories" to "Zero-carbon Factories", promoting the integration of advanced manufacturing and modern services, fostering a new development paradigm for the "Intelligently Made by Everbright", and continuing to solidify its industry-leading position. Equipment manufacturing focuses on the four aspects, including "professionalism, precision, specialness, and novelty" and independently develops various environmental protection equipment. It has repeatedly broken overseas technology monopoly, derived new links, new chains, and new products from traditional fields, and steadily promoted business transformation and upgrade, for the sake of seeking new business formats and new industry developmental paths. In 2023, equipment manufacturing won numerous awards and made breakthroughs in quick-install grate and water-cooled grate technology.

## 裝備製造

作為中國骨幹環保裝備研發製造商，裝備製造業務板塊依託光大環保技術裝備(常州)有限公司為平台，以國家「綠色工廠」為基礎升級打造「零碳工廠」的同時，促進先進製造與現代服務深度融合，助力構建「光大智造」發展新格局，持續鞏固行業領先地位。裝備製造圍繞「專、精、特、新」四個方面，自主研發各種環保裝備，多次打破國外技術壟斷，從傳統領域衍生疊加新環節、新鏈條、新產品，穩步推動業務轉型升級發展，尋求新業態新產業發展路徑。於二零二三年，裝備製造屢獲殊榮，在快裝式爐排和水冷爐排技術方面取得突破。

### In 2023 二零二三年

Everbright Environmental Technical Equipment (Changzhou) Limited was nominated in the 2023 "Green Supply Chain Management Enterprise" list, which was announced by the Ministry of Industry and Information Technology of the PRC.

光大環保技術裝備(常州)有限公司入選中華人民共和國工業和信息化部二零二三年「綠色供應鏈管理企業」名單。



## Envirotech

Being Everbright Environment's engine for technology R&D and innovation, the envirotech sector has been leveraging its R&D layout with platforms in various locations, focusing on key research areas such as household waste treatment, treatment of various hazardous and solid waste, agricultural and forestry biomass utilisation, water environment management, big data and intelligent control. The sector promotes green technological innovation and is positioned to become a global platform dedicated to application and commercialisation of research results. Envirotech strived to cater to the growth of traditional business, new business and the demands of future development, and to promote R&D activities. Envirotech provided several technical support services for system designs, covering grate furnace, flue gas purification, energy and carbon reduction, intelligent control systems and others to assist in business development in various sectors by responding to the needs of the Group's other sectors. In 2023, envirotech made advances and achievements in a number of areas, as well as actively promoted the pilot work of carbon asset development, so as to prepare the Group for future participation in the China Certified Emission Reduction ("CCER") scheme, which is a voluntary carbon emission reduction scheme.

## 環境研究院

作為本集團科技研發創新的引擎，環境研究院基於其多地設立的研發平台，聚焦生活垃圾處理、各類危廢及固廢處理、農林生物質利用、水環境治理、大數據及智慧控制等重點科研攻關領域，全力推進綠色技術創新及打造面向全球的成果轉化平台。環境研究院聚焦「面向傳統業務、面向新業務、面向未來發展」三個方向進行研發工作，並且響應各板塊需求，完成焚燒爐、煙氣淨化、節能降碳、智能控制系統等多項系統設計的技術支持服務，協助各板塊業務發展。於二零二三年，環境研究院於多方面獲取良好進展及成果，並積極推進碳資產開發試點工作，為本集團未來參與國家核證自願碳減排提前做好準備。

As at 31 December 2023  
截至二零二三年十二月三十一日

The Group had been granted a total of **1,783** patents, comprising **224** invention patents, **1,219** utility model patents, **287** software patents and **53** appearance patents.  
本集團獲授權專利合共**1,783**項，其中發明專利**224**項、實用型專利**1,219**項、軟件著作專利**287**項及外觀專利**53**項。



# SUSTAINABLE OPERATIONS MANAGEMENT

可持續的運營管理



Upholding corporate integrity &  
fulfilling social responsibility  
秉持企業誠信 • 善盡社會責任





## Sustainable Operations Management 可持續的運營管理



The Group adheres to the management principle of “People-Oriented, Pragmatism, Creativity and Systematic Management” while pursuing excellent, all-rounded and high-quality corporate governance as the cornerstone of the Group, contributing significantly to our sustainable development. As such, we have established a mature organisational management structure that details the responsibilities and obligations of employees at all levels. Through the Management Decision Committee, the Group monitors and reviews business operations and management comprehensively, so as to protect the interests of all stakeholders and creating long-term value for the Group.

The Group fully complies with all relevant national and regional laws, regulations and standards, actively upholds corporate social responsibilities, and strives to minimise the adverse business impacts on the environment and society.

### Business Principles

The Group persists in carrying out the management principle of integrity and pragmatism, upholds noble ethics, and stay steadily to these principles and values in all our business operations. The Group strives to strengthen and promote the corporate culture of integrity, as well as establish corresponding management policies and guidelines. In this process, the Group has developed and improved the *Employee Code of Conduct*, the *Anti-corruption, Anti-bribery and Anti-Money Laundering Policy*, the *Internal Whistleblowing and Investigation Policy*, and the *External Whistleblowing and Investigation Policy*, which provided employees with clear guidelines and instructions on equal opportunity, anti-discrimination, anti-corruption, prevention of bribery and extortion, anti-fraud, anti-money laundering, prevention of anti-competitive practices and avoiding conflict of interest, use of confidential and proprietary information, environment, health and safety, whistleblowing, safeguarding employees’ remuneration, welfare and security and other relevant issues. We communicate our values, cultures and policies to our existing and new employees to strengthen their awareness of internal rules and ethics and create a healthy and orderly corporate atmosphere.

The bonuses of Executive Directors (including the Chairman of the Board and the Chief Executive Officer (“CEO”)) and the senior management of the Company are linked to metrics such as operating profit, investments in new projects, safety and environmental performance, etc., to ensure the alignment of long-term interests between the Executive Directors and the senior management and the Company together with its shareholders. Details of the Directors’ remuneration information can be found in the Company’s Annual Report 2023.

本集團秉承「以人為本、求真務實、開拓創新、規範管理」的管理理念，認為優質、全面及高水平的企業管治是本集團可持續發展的基石，為此，我們建立了一套完善的組織管理架構，明確各職級的責任與義務，通過管理決策委員會全面監督及檢討業務運營及管理情況，致力維護各持份者的利益，為本集團締造長遠價值。

本集團全面遵從所有相關國家或地方的法例、規則和標準，同時積極承擔企業社會責任，努力緩解業務對環境和社會產生的不良影響。

### 營商原則

本集團秉持著誠信和務實的管理理念以及高尚的道德操守，堅守原則並在各項業務運作中實踐這些價值觀。我們努力打造並建立一個以誠信為本的企業文化，並建立相應的管理政策和指導方針。在這過程中，本集團制定並完善《員工守則》、《反貪污、反賄賂及反洗錢政策》、《內部舉報及調查辦法》及《外部舉報及調查辦法》等政策，在平等機會、反歧視、反貪腐、防止賄賂、防止勒索、反欺詐、反洗黑錢、防止反競爭行為、避免利益衝突、機密和專有資料的使用、環境、健康及安全、舉報，以及員工待遇和福利保障等方面提供了原則和指引。我們向現有及新入職的員工傳達本集團的價值觀、文化和政策，以提升員工對內部規則的認知和道德規範，從而營造一個健康有序的企業環境。

執行董事（包括董事會主席及總裁）及本公司高級管理人員的獎酬制度是根據經營活動所產生的盈利、新項目投資和安全環境表現等指標來制定的，確保執行董事和高級管理人員與本公司及其股東的長遠利益一致。有關各董事的薪酬資料，可參閱本公司的二零二三年年報。

## Prevention of Corruption and Anti-competitive Behaviour

To promote the anti-corruption practice and improve employees' awareness on conflict of interests and integrity issues, the Group continuously provides various anti-corruption trainings for the Directors and employees, such as "Training on Upholding and Implementing Probity", "Lecture on Probity", etc. Besides, trainings related to the Group's *Employee Code of Conduct*, corporate culture, policies, and management systems are also actively conducted to further enhance an atmosphere of integrity and discipline, and to build up the integrity culture within the Group.

In addition, the Group holds various forms of educational activities and trainings for the management to strengthen integrity and self-discipline amongst the management at all levels and promote the spirit of sincerity. The Group also strives to strengthen the reform of relevant systems and regulations to avoid abuse of power, enhance disciplinary supervision, and stringently enforce disciplinary accountability, and thus implement the practice of preventing corruption and anti-competitive behaviour at all business levels.

## Protection of third-Party Privacy and Intellectual Property

About protecting third-party personal data and privacy for the sake of legal and regulatory compliance, the Group has clearly set out the scope of privacy of relevant third parties and stipulated a series of standard procedures and operating guidelines for employees and suppliers to follow in the *Privacy Policy*. We strictly demand our employees to collect, manage, process, disclose and use personal data of third parties in accordance with the law. Furthermore, our *Privacy Policy* also includes provisions to prevent copyright infringement to protect intellectual property rights and ensure respect for knowledge and talent.

To further reduce the risk of leaking private and sensitive information, the Head of the Leading Group of Cyber and Information Security, who is an Executive Director, is entrusted with the responsibility to maintain information security and implement the Group's cybersecurity measures as stipulated under the *Everbright Environment Information Security Management Policy*. We provide regular trainings for employees to refresh their understanding of privacy and intellectual property protection as well as proper management practices.

## 防止貪腐及反競爭行為

為了反對貪污行為並提高員工對利益衝突和誠信事宜的警覺性，本集團持續向董事和員工提供不同的反貪腐培訓。我們組織了「廉政建設及執行力培訓」和「廉潔工作講座」、並提供與《員工守則》、企業文化、政策及管理體系相關的培訓，以進一步實踐誠信守紀的公司氛圍，建立本集團誠信文化。

本集團還通過多種形式開展面向管理層的教育活動及培訓，促使各級管理層嚴格遵循廉潔自律的原則，弘揚清風正氣的價值觀。同時，本集團加強制度改革和權力約束，增強紀律監督，嚴肅執行紀律，致力於在各業務層面全面實踐防貪腐和避免反競爭行為。

## 保護第三方隱私及知識產權

為了在遵守法律規定的基礎上保護第三方的個人資料和隱私，本集團在《隱私政策》中明確列明了相關第三方的隱私範圍，並規定了員工與供應商必須遵循的一系列標準程序和處理方法指南。我們嚴格要求員工依法收集保管、處理、披露和使用第三方個人資料和數據。為保護知識產權和確保各方尊重知識及人才，我們的《隱私政策》亦包含了防止侵犯版權的條款。

為了進一步降低隱私和敏感資訊外洩的風險，資訊安全工作交由本公司的執行董事兼任網絡與信息安全領導小組負責人，並根據《光大環境資訊安全管理政策》執行本集團的網路安全措施。我們定期提供培訓，讓員工重新認識隱私及知識產權保護，並掌握正確的管理方法。

## Policy for Whistleblowing

The Group continues to adhere to transparent and honest operation in all businesses; actively and continuously perfecting the accountability and supervision framework; and strive to consistently maintain high standards of corporate governance. To this end, the Group has formulated the *Internal Whistleblowing and Investigation Policy* and *External Whistleblowing and Investigation Policy*, and provided safe, confidential, and legal channels for whistleblowing. Employees and related correspondents (including but not limited to investors, lenders, suppliers, customers, service providers, governments, etc.) may report, without fear of retaliation, on the Group's financial reporting, internal controls, or any other areas of actual or suspected misconducts and illegal activities. All reports or complaints are ensured to be handled fairly, justly, and effectively. Those policies are posted on the Company's website.

The Company has set up dedicated email addresses (published on the Company's website) that operate 24/7 as formal reporting channels for employees and correspondents to report anonymously and directly to the chairman of the Audit Committee, and the CEO. We prohibit any form of retaliation or intimidation, and will not disclose the identity of the whistleblower without the whistleblower's consent or unless under any legal obligation to do so, in order to guarantee that the whistleblower can actively defend the Company's moral standards free of worries. All concerns or violations raised shall be treated as confidential information, and the Group shall ensure that an impartial and independent investigation will be carried out to facilitate follow-up actions.

During the Reporting Period, the Company received two reports through the above whistleblowing channels covering one case concerning tender procedures and one case concerning labour disputes. Both cases have been investigated, and the findings were reported to the Audit Committee in March 2024.

## 舉報政策

本集團繼續堅持各項業務的透明廉潔運作，積極而持續地完善問責監督體系，致力於保持企業管治一貫的高標準。為此，本集團制定了《內部舉報及調查辦法》和《外部舉報及調查辦法》，提供安全保密且合法的管道，讓員工及往來人士（包括但不限於投資者、貸款人、供應商、客戶、服務商、政府等）可以無畏報復地就本集團財務匯報、內部監控或其他方面實際或懷疑的不正當或不合法行為進行舉報，並確保所有的舉報或投訴均能夠得到公平、公正和有效的處理。該等辦法已載列於本公司網站。

本集團設立了24/7運作的特定電子郵箱（已在本公司網站上公布），作為正式的舉報渠道，讓員工及往來人士可以直接聯繫審核委員會主席及總裁作出匿名舉報。在未經舉報者同意或沒有法律要求的情況下，我們不會透露舉報者的身份，以確保舉報者能夠積極捍衛本公司的道德標準而無後顧之憂。所有提出的關注事項或違規行為都將被視為保密訊息，並且本集團保證會妥善安排公平獨立的調查以作出適當跟進。

在報告期間內，本公司透過上述舉報管道收到了2宗個案報告，其中包括1宗關於招標程序和1宗關於勞務糾紛的舉報。兩宗案件已完成調查，調查結果已於二零二四年三月向審核委員會報告。



### Whistleblowing Channels 舉報方式

**Chairman of the Audit Committee 審核委員會主席**  
ac@cebenvironment.com

**CEO 總裁**  
ceo@cebenvironment.com

## Sustainability Approach

The Group actively integrates the principles of sustainable development into the governance framework and daily operations, and strives to create long-term values and benefits for its stakeholders.

## Sustainable Development Policies and Systems

After years of development, the Group has established an all-rounded ESG system, covering the entire project management cycle from the early planning stage to the final operation management stage. The system contains requirements for aspects related to environmental and social impact screening and categorisation, resettlement, indigenous peoples, environmental impact assessment, information disclosure, public consultation and engagement, gender equality, grievance mechanism, due diligence and review, monitoring and reporting, etc. These requirements ensure the Group's operations can comply with international principles and standards related to safeguarding the environment and society. Furthermore, the Group's *Code of Practice* provide clear guidance on operations involving air and GHG emissions, effluent discharge into water and soil, generation and management of hazardous and non-hazardous wastes, and the use of energy, water resources and other raw materials, to strengthen and standardise the Group's environmental and social governance. In 2023, the Group re-examined the *Environmental Policy* and upgraded it to the *Environmental, Health and Safety Policy*, which not only covers environmental and social risk management and basic compliance requirements, but also includes biodiversity risks assessment, labour safety and health systems, supplier management, stakeholder engagement and employee training.

The Group continued to review the ESG-related management and division of work. Such review helped to improve the implementation effectiveness of the supervisory system in our operations. The system contains management standards for guidelines and procedures related to the identification of material ESHS topics, auditing, incident investigation and reporting, handling of occupational injuries, and contractors' ESHS management, etc. This management system can enhance the Group's sustainable development internally, and even extend the safety culture and relevant policies to the supply chain. In addition, the Group actively promotes the *Points-Based ESHS Management Rules* to encourage all employees and outsourced personnel to engage in safety management, supervise one another, and advance the standardisation of safety management together to further improve the proficiency of safety management.

The Group reviews the sustainability policies from time to time and revises them when appropriate.

## 可持續發展方針

本集團積極地將可持續發展原則融入管治框架及日常運營中，致力為持份者創造長遠價值及利益。

## 可持續發展政策和體系

經多年的不斷發展，本集團已建立一套完善的ESG體系，涵蓋了從前期規劃到最終營運管理的項目全週期管理。該體系包括涉及環境和社會影響的篩選和分類、搬遷安置、原住民事務、環境影響評估、資訊披露、公眾諮詢和參與、性別平等、申訴機制、盡職調查和審查，以及監測和報告等領域的要求，以確保本集團的運作符合國際上關於環境和社會保護的原則和規範。此外，本集團的《運營守則》對運營中所涉及的大氣及溫室氣體排放、向水及土地的排污、有害及無害廢棄物的產生及處置方法，以及能源、水資源、其他原材料使用等方面提供了明確指引，加強和規範本集團的環境和社會治理。二零二三年，本集團重新審視了《環境政策》，並升級為《環境、健康與安全政策》，內容除了涵蓋環境和社會風險管理與基本的合規要求，還包括了生物多樣性風險評估、勞工安全和保健制度、供應商管理、持份者參與員工培訓。

本集團持續檢討ESG相關管理制度及分工，有助於完善監管體制在營運中的有效實務。當中涉及到重要ESHS議題的識別、審核、事故調查及匯報、工傷處理及承包商ESHS管理方面等指導程序的管理標準。此管理體系可以促進本集團內部的可持續發展，並將安全文化和相關政策延伸到供應鏈中。此外，本集團積極推行《ESHS積分管理制度》，努力推動員工及外協隊伍全員參與安全管理，互相監督，共同推進安全管理規範化，以提升安全管理水平。

本集團不時檢視可持續發展政策，並會在適當時作出修訂。



## Corporate Governance Structure for Sustainable Development

The Board is responsible for reviewing and supervising the Group's plans, activities, and performance in relation to sustainable development. Under the Management Decision Committee, the Safety and Environmental Management Committee, which is led by the CEO, provides leadership and material support for corporate sustainability matters and ensures that appropriate decisions and strategies are made regarding the Group's sustainability efforts.

The Independent Non-executive Directors provide the Group with diversified experience and professional knowledge. Apart from complying with the independence guidelines set out in Rule 3.13 of the *Listing Rules*, each of the Independent Non-executive Directors has confirmed that:

1. he/she has not been employed by the Company in an executive capacity within the last year;
2. he/she has not been a partner or employee of the Company's external auditor during the last year;
3. he/she is not a family member of an individual who is employed by the Company or by any parent or subsidiary of the Company as an executive officer;
4. he/she has no conflict of interest that the Board itself determines to mean they cannot be considered independent;
5. he/she has not been (and has not been affiliated with a company that is) an adviser or consultant to the Company or a member of the Company's senior management;
6. he/she has not been affiliated with a significant customer or supplier of the Company;
7. he/she has not entered into personal services contract(s) with the Company or a member of the Company's senior management;
8. he/she has not been affiliated with a not-for-profit entity that receives significant contributions from the Company;
9. he/she has not accepted or has any family member who has accepted any payments from the Company or any parent or subsidiary of the Company in excess of US\$60,000<sup>(1)</sup> during FY2023.

Note:

<sup>(1)</sup> Other than those permitted by US SEC Rule 4200 Definitions, including i) payments arising solely from investment in the Company's securities; or ii) payments under non-discretionary charitable contribution matching programmes; or iii) compensation for board or board committee service.

## 可持續發展企業管治架構

董事會負責審視及監督本集團可持續發展的計劃、活動及表現。於管理決策委員會下亦設有由總裁牽頭的安全與環境管理委員會，為企業可持續發展工作提供領導和實質的支持，以及確保本集團在可持續發展方面作出適當的決策和部署。

獨立非執行董事為本集團帶來多元化的經驗及專業知識。除符合《上市規則》第3.13條所載之獨立性指引外，各獨立非執行董事確認：

- (一) 他／她在過去一年內未曾以行政人員身份受僱於本公司；
- (二) 他／她在過去一年內未曾受僱於本公司外部核數師或出任其合夥人；
- (三) 他／她現時沒有家屬以行政人員身份受僱於本公司或其任何母公司或附屬公司；
- (四) 他／她現時沒有任何董事會認為會影響其獨立性的利益衝突；
- (五) 他／她現時不是本公司或本公司的高級管理人員的顧問或諮詢人（也不與作為本公司顧問或諮詢人之公司有關聯）；
- (六) 他／她現時與本公司的重要客戶或供應商並無關聯；
- (七) 他／她現時與本公司或本公司高級管理人員沒有簽訂個人服務合同；
- (八) 他／她現時與獲本公司重大捐獻之非盈利性實體並無關聯；
- (九) 他／她於二零二三財年沒有接受或有任何家屬接受過本公司或其任何母公司或附屬公司的超過60,000美元<sup>(1)</sup>的款項。

附註：

<sup>(1)</sup> 但受美國SEC規則4200條款所允許的則不在此限，包括i)投資本公司的證券產生之款項；或ii)根據無裁量性慈善捐款配比方案所產生之款項；或iii)為董事會或董事會委員會服務的報酬。

## Organisational Framework of Sustainable Operations

## 可持續運營組織架構

**LEGEND**  
圖例



**Board of Directors**  
董事會

Responsible for approving and supervising the overall strategies and policies of the Group, approving the annual budget and business plans, assessing the Group's performance and supervising the work of the management of the Company.  
負責批准及監察本集團的整體策略及政策，批准年度預算及業務計劃、評估本集團表現，以及監督本公司管理層的工作。



Note:

<sup>(1)</sup> The Disclosure Committee was cancelled on 27 March 2024. Its work and duties are thereafter performed by the Board.

附註:

<sup>(1)</sup> 披露委員會於二零二四年三月二十七日已取消，其工作及職責隨後由董事會履行。

Management Decision Committee 管理決策委員會

Responsible for the day-to-day administration, operation and management of the business and affairs of the Group, its primary responsibilities include but not are limited to reviewing and formulating the Group's development strategies and goals, long term business development plans, directions, policies and guidelines, etc.  
負責本集團所有業務及事務的日常行政、營運及管理工作。其主要職責包括但不限於審議及制定本集團的發展戰略、發展目標、長遠業務發展規劃、方針、政策及指引等。



Safety and Environmental Management Committee  
安全與環境管理委員會

Responsible for providing practical guidelines and support to the Group's sustainable development work, and is tasked to ensure thorough implementation of the Group's sustainable management policies.  
為本集團的可持續發展工作提供切實可行的指導及支持，確保本集團的可持續管理政策得以妥善實施。



Operation, Safety and Environmental  
Management Department  
運營與安環管理部

Responsible for overseeing the sustainability performance of the Group.  
負責監督本集團的可持續發展表現。



Five Sectors Safety and Environmental  
Management Department  
五大板塊安全與環境管理部

Responsible for overseeing the sustainability performance of each respective sector.  
負責監督相應板塊的可持續發展表現。



Five Sectors Safety and Environmental  
Management Committee  
五大板塊安全與環境管理委員會

Responsible for providing practical guidelines and support to sustainable development work in each sector, and is tasked to ensure thorough implementation of the Group's sustainable management policies.  
為各板塊的可持續發展工作提供切實可行的指導及支持，確保本集團的可持續管理政策得以妥善實施。



Regional (Sector) Centres Safety and  
Environmental Management Department/Director  
區域(板塊)中心安全與環境管理部/總監

Responsible for overseeing the sustainability performance of each respective region.  
負責監督相應區域的可持續發展表現。



Project Companies Safety and Environmental  
Management Committee  
項目公司安全與環境管理委員會

Formulates, monitors and reviews the implementation of sustainable development strategies, policies and the ESHS Management System, and is responsible for providing practical guidelines and support to sustainable development work in each project company.  
制定、監察及檢討可持續發展策略、政策及ESHS管理體系的實施，並為各項目公司的可持續發展工作提供切實可行的指導及支持。



Project Companies Safety and Environmental  
Management Department  
項目公司安全與環境管理部

Assists Safety and Environmental Management Committee to oversee the sustainability performance of each project company.  
協助安全與環境管理委員會，負責監督各項目公司的可持續發展表現。



Review and  
Supervise  
審視及監督

## Risk Management

The Group is committed to developing a comprehensive risk management culture by implementing an “Integration of Policy, Procedure and System with Risk-oriented” risk management model to strengthen risk management and control. The Group issued the *Everbright Environment 2021 Risk Management Instructions* in accordance with the *Risk Management Policy*, *Risk Management Operation Manual* and the *Everbright Environment Internal Control Management Manual*, which clearly demonstrate the Group’s detailed workflows and specific implementation requirements on risk management and internal controls. In order to improve the overall risk management of investment projects, all new investment projects were reviewed by the Project Investment Advisory Committee which is formed by the colleagues representing relevant departments and teams namely Strategic Development Department, Financial Management Department, Risk Management and Legal Compliance Department, Construction Budgetary Management Department, Operation and Safety and Environmental Management Department, as well as the construction technology team and operation team. We have also regularly revised and issued the *Project Investment Advisory Committee Organisation and Review Workflow* to further strengthen the risk management of investment projects.

During the Reporting Period, the Group continued to enhance the management of major risk prevention, and internal control and compliance. At the same time, the risk factor list has been revised, not only to constantly improve the risk management systemisation and normalisation levels, but also to enhance the quality and efficiency of project review.

In addition, the Group conducts an annual identification and assessment of its principal risks, analyses the effectiveness of its control measures, and continues to follow up on specific control outcomes.

## 風險管理

本集團致力建立健全的風險管理文化，並推行「以風險為導向、以制度為基礎、以流程為紐帶、以系統為抓手」的風險管理模式，全面強化管理和管控風險。本集團根據《風險管理制度》、《風險管理操作手冊》及《光大環境內控管理手冊》下發之《光大環境二零二一年風險管理工作指導意見》，清楚地列明了本集團在風險管理和內部監控方面的詳細工作流程和具體執行要求。為有效加強投資項目的整體風險管控，本集團的新投資項目均經過項目投資評審委員會審議，該委員會由相關部門和工作小組人員組成，包括戰略發展部、財務管理部、風險管理與法律合規部、工程預算管理部、營運與安環管理部，以及工程技術小組和營運小組。定期修訂並下發的《項目投資評審委員會組織及評審流程》亦進一步強化投資項目的風險管理。

報告期間，本集團持續加強重大風險防範及內控合規管理工作，並對風險要素清單進行修訂。除了不斷提升風險管理系統化和常態化程度外，本集團還提高了項目評審的品質和效率。

此外，本集團每年對主要風險進行識別和評估，分析管控措施的有效性，並持續跟進具體的管控成效。



## Risk Management Framework 風險管治框架

Our risk management hierarchy, comprising three lines of defence, has helped to achieve risk management and internal controls at each level:

我們建立了由三道防線構成的風險管理組織體系，以實現風險及內部監控的逐級管理：

### 1 First Line of Defence 第一道防線

**(Business Sectors, Regional Centres and Project Companies)**  
**(各業務板塊、區域中心和項目公司)**

Responsible for continuous identification, assessment, monitoring and reporting of risks, implementation of risk management and internal control specific measures.  
負責對運營過程中的風險持續識別、評估、監察及匯報，實施風險管理及內部監控系統的具體措施。

### 2 Second Line of Defence 第二道防線

**(Functional Departments of the Headquarters, Functional Departments in All Business Sectors and Risk Management and Legal Compliance Department)**  
**(總部職能部門、業務板塊職能部門和風險管理與法律合規部)**

Responsible for regular review of overall risk level and effectiveness of control measures in principal risks.  
負責定期評估整體的風險等級、審閱主要風險管控措施的有效性。

### 3 Third Line of Defence 第三道防線

**(Audit Department)**  
**(審計部)**

Responsible for regular review of the follow-up actions taken to enhance the risk management and internal control systems.  
負責定期審核風險管理和內部監控系統改進的落實情況。



## Sustainable Operations Management 可持續的運營管理

Everbright Environment strives to strengthen all employees' risk awareness and considers the establishment of a risk management culture as a significant part of the Group's development strategies. The Group has established effective control measures against all kinds of risks. Besides, through a learning bundle of various risk case studies, including case study analysis and trainings on the Group's systems and procedures, we can help employees build up a sound risk management mindset, which guides them towards upholding good conduct and ethical standards. In the process, they can transform their risk management awareness into conscious action, and further integrate such awareness into their daily work.

光大環境致力於增強全體員工的風險意識，並將建立風險管理文化視為本集團發展策略的重要一環。針對各項風險，本集團制定了有效的管控措施，並透過各類風險案例教育、個案分析及本集團制度流程訓練等方式，幫助員工建立正確的風險管理觀念。這些培訓和教育活動旨在引導員工遵守良好的行為準則和道德規範，將風險管理意識轉化為自覺行動，並進一步將這種意識融入日常工作中。



For details of the Group's corporate governance, risk management and internal controls, please refer to the Annual Report 2023.  
有關本集團的企業管治、風險管理及內部監控的詳情，請參閱二零二三年年報。

## Supply Chain Management

The Group has adopted a stringent supplier selection and management system and maintained close cooperation and communication with suppliers to reduce procurement risks and promote responsible procurement. We have made full use of Everbright Environment's electronic transaction platform for tendering and procurement, to strengthen the supervision and management of the tendering and bidding processes while striving to eliminate any regulatory and disciplinary violations.

## 供應鏈管理

本集團實施嚴格的供應商選擇和管理制度，與供應商緊密合作和溝通，減輕採購風險及推動負責任採購。我們透過光大環境招標採購電子交易平台進行線上招標採購，加強招標監督管理，致力於杜絕違規違紀行為。

We actively strive to extend the Group's excellent ESHS management practice to cover the entire value chain, ensuring that ESG considerations are applied at various stages. The ESHS department of each regional centre conducts regular ESHS audits for its respectively responsible project companies, during which, the project companies' supplier screening records will be reviewed for any legal non-compliances such as child labour and forced labour, as well as to evaluate the suppliers' performance and their corresponding environmental and social risks in terms of service quality, safety measures, environmental performance, social responsibility, etc. In order to encourage suppliers to support sustainable development, the project companies will consider the audit results as the basis for supplier selection in the coming year. We try to select the most environmentally and socially responsible suppliers as far as practicable, such as prioritising the procurement of reusable or renewable products, hiring contractors who adopt low-emission construction processes, etc. Besides, the Group gives priority to suppliers in the same provinces as those of our operations throughout the country to create local employment opportunities and fulfil our corporate social responsibility.

The Group has continuously improved the development of its tendering and procurement system by establishing Guangcai Tendering (Shenzhen) Co., Ltd.\* to optimise the tendering and procurement governance system. Meanwhile, consistent efforts such as making full use of technical means to identify bid rigging and collusive bidding, have been made to improve supplier management. During the Reporting Period, there were 172 external experts and approximately 16,849 registered suppliers in the system database. Major procurement includes equipment fitting, construction and installation works, etc.

同時，本集團積極且持續地將ESHS管理實踐延伸至整條價值鏈，確保ESG考量在不同階段中得以貫徹應用。各區域中心的ESHS主管部門會定期對所轄項目公司進行ESHS審核，期間會檢視項目公司的供應商篩選紀錄，查看是否有任何違反法律的行為，如童工和強迫勞動，並從供應商服務品質、安全措施、環保表現、社會責任等各方面進行分析，評估各供應商的表現及相應的環境與社會風險。為鼓勵供應商支持可持續發展，項目公司會根據審核結果選擇來年的供應商。我們盡可能選擇對環境及社會負責的供應商，例如優先選購可重用或再生產品、聘用實行低排放建設過程的承建商等。為當地創造就業機會，履行企業社會責任，本集團於全國各地發展業務時，亦會優先與位於同省份的供應商合作。

本集團不斷完善招標採購制度建設，成立光採招標（深圳）有限公司\*，優化招採治理機制，同時一如既往充分利用技術，甄別圍標、串標行為，以不斷完善供應商管理。報告期內，平台資料庫共錄記172名外部評審專家和約16,849家註冊供應商。主要採購包括裝備配置、建安工程等。

\* For identification purpose only

\* 僅供識別用途

In 2023, the Group utilised the *Procurement Management Policies*, the *Working Guidelines for Bid Rigging and Collusive Bidding*, the *Notice on Reporting Businesses and Companies Run by Procurement Personnel and Relevant Personnel and Their Relatives*, the *Interim Administrative Measures for "Briber Blacklist"*, etc to enhance the compliance level. To further strengthen the supervision and management over processes, the Group has established a bidding supervision team to carry out on-site supervision over key projects. It has also enhanced the training and warning education on professional skills of procurement personnel, and established a procurement patrol inspection system to reinforce a strong firewall against non-compliance and non-disciplinary tendering and procurement practices. Meanwhile, the Group continued to optimise the electronic transaction platform and the platform has passed the annual evaluation for the third time, which has achieved the third tier of Multi-Level Protection of Information Security during the year, implying that the level of security and compliance of the procurement platform was further enhanced. The platform has continued to improve in aspects such as compliance management, prevention and control of bid rigging and collusive bidding, process optimisation, early warning of risks and sharing of information based on the actual needs.

### Supplier Management Measures

The Group has set a fair and transparent code for the selection and management of suppliers and contractors, aiming for partnering with companies that possess standardised management, complete qualifications, and share similar corporate culture or value with Everbright Environment. We conduct strict screenings by thoroughly investigating the outsourced units' ability to fulfill contractual duties, their environmental and social performance, service quality, management philosophy, etc., during the initial stage.

二零二三年，本集團透過《採購管理制度》、《圍標串標工作指引》、《關於持續做好採購人員及相關人員報告本人及親屬經商辦企業情況的通知》、《「行賄人黑名單」管理暫行辦法》等一系列管理制度與操作手冊，提升合規水平。為加強過程監督管理，本集團成立監標小組，對重大項目實行現場監督，加強採購人員專業技能培訓和警示教育，建立採購巡檢制度，築高招採工作違規違紀防火牆。此外，本集團持續優化電子交易平台並連續三次通過年審，本年度開展並完成了三級等級保護測評，進一步增強了招採平台的安全性、合規性，同時根據實際需求對合規管理、圍標串標防控、流程優化、風險預警、信息共用等方面持續優化。

### 供應商管理準則

本集團制定了公正和透明的準則，用於選擇和管理供應商和承包商。我們致力於選擇管理規範、資質齊全且與光大環境有相近企業文化或價值觀念的企業作為合作對象。在選擇供應商和承包商之前，我們會進行充分的考察，評估其履約能力、環境與社會表現、服務品質、管理理念等方面，並進行嚴格的篩選。



Everbright Environment has especially formulated and implemented the following supplier management guidelines, covering all suppliers of the Group regarding environmental and social management in each process of the supply chain:

光大環境特別制定並落實以下涵蓋本集團所有供應商的供應商管理準則，在供應鏈的各個流程中進行環境與社會管理：

### Code of Conduct for Suppliers 《供應商行為準則》

- The Group has systematically standardised supplier behaviour in economic, environmental and social terms, as a means of encouraging suppliers to fulfil and jointly improve the sustainability performance of the supply chain. Our *Code of Conduct for Suppliers* even encourages suppliers to manage their own suppliers with the same standards, which in turn improves the sustainability of the overall supply chain.

本集團以具系統性的方式規範供應商在經濟、環境及社會領域的行為，鼓勵供應商履行並共同提高供應鏈的可持續發展表現。我們的《供應商行為準則》更鼓勵供應商以相同的標準對待他們的從屬供應商，有助提升整體供應鏈的可持續性。

- On the economic level, the Group demands that suppliers should consider the moral point of view when conducting business activities, operate with integrity and comply with relevant local and international laws. In terms of the environment level, we require suppliers to increase their efforts in monitoring their operations to minimise environmental pollution and other adverse impacts. On the social level, we require suppliers to comply with national labour policies and regulations, including prevention of slavery, forced labour, bonded labour, child labour and abusive employment practices. As such, their employees' basic human rights are safeguarded along with considerations of public welfare.

在經濟層面，本集團規定供應商進行商業活動時需要從道德角度出發，誠實地進行經營，並遵守當地及國際的相關法律；在環境層面，要求供應商在其運營中加大監控力度，盡量減少對環境的污染及負面影響；在社會層面，要求供應商遵守國家的勞工政策和法規，包括避免任何奴役、強迫勞動、抵押勞工、使用童工及虐待行為，維護員工的基本人權，以及考慮公眾福利。

- All suppliers conducting business with the Group or participating in any activities related to the Group shall comply with the *Code of Conduct for Suppliers*.

所有供應商在與本集團進行業務往來或參與任何與本集團有關的活動時都應遵守《供應商行為準則》。

### Supplier Management Measures 《供應商管理辦法》

- It covers detailed regulations and requirements including supplier responsibilities such as equipment, main materials, construction units, design units and operation centres; supplier rankings and evaluations; engagement of new suppliers; continuity management of suppliers; management of unqualified suppliers; and penalties for non-compliances.

涵蓋包括裝備、主材料、施工單位、設計單位、運營中心等供應商之職責、供應商等級及評價、新供應商的聘用、供應商的持續管理、不合格供應商的管理和違規處罰等在內的詳細規定和要求。

- Current suppliers are continuously assessed based on their professional proficiency, financial status and compliance records, and then categorised into four levels, namely A, B, C and D. If suppliers in the lowest level fail to prove their compliance with the Group's requirements, business relationships may be terminated.

依照供應商的專業水平、財務狀況及合規記錄等對現有供應商進行持續評估，並將供應商劃分為A、B、C、D四個等級，最低等級的供應商若未能證明能夠達到本集團的要求，本集團或會終止與其合作。

- At the same time, the Group also implements integrity management for suppliers, records suppliers with untrustworthy and bad behaviours, and includes them in the list of unqualified suppliers or supplier blacklists according to the severity. Enterprises that run by relatives are included in the list of restricted enterprises. Unqualified suppliers will be restricted from participating in the bidding of the sector in which the entity concerned is located, suppliers included in the blacklist will be restricted from participating in bidding in the Everbright Environment system, and those in the list of restricted enterprises will be restricted from participating in bidding in the corresponding system of Everbright Environment.

本集團同時也對供應商實行誠信管理，對具有失信、不良行為的供應商進行記錄，並根據嚴重程度將其列入不合格供應商名單或供應商黑名單。涉及親屬經商辦的企業，列入限制企業名單；不合格供應商將被限制參與涉事單位所在板塊的投標；列入黑名單的供應商被限制參與光大環境系統內投標；列入限制企業名單的，限制參與光大環境相應系統內投標。

### Contractor ESHS Management Standards 《承包商ESHS管理標準》

- By examining the contractors' backgrounds, qualifications, construction operations and environmental protection performance, we aim to identify and control any potential environmental, social and safety risks arising from outsourced work.  
透過審視承包商在背景、資質、施工作業及環保等方面的表現，藉此識別和控制工作外包過程中產生的與環境、社會和安全相關的風險。
- Based on the "Contractor ESHS Questionnaire" and the relevant ESHS information provided by contractors, the Group can sort out the list of qualified contractors, ensure that the suppliers and contractors comply with environmental and social responsibility management laws and regulations, as well as any applicable national and local government regulations.  
本集團透過承包商填寫的「承包商ESHS問卷調查表」和相關的ESHS資料整理達標承包商名單，並確保供應商和承包商遵守環境和社會責任的管理法律和規例，以及適用國家和地方政府的規定。
- The information required for submission includes whether the contractor has obtained any international environmental management standards or certifications such as ISO 14001; whether ESHS training and assessment have been conducted; and whether appropriate protective equipment have been provided for its staff, etc.  
要求提交的信息包括承包商是否擁有ISO 14001等國際環境管理標準認證、有否進行ESHS培訓與考核、有否為員工提供適當的保護裝備等。
- The Group provides further guidance to its business partners to enhance their sustainability performance by issuing various policies and guidelines, including *Procurement Management System and Management Measures*, *Tender Management Measures* and *Management Measures for Appraisal Expert Database for Project Construction Procurement*.  
本集團的《採購管理制度及辦法》、《招標管理辦法》及《工程建設採購評審專家庫管理辦法》等相關政策和制度可有助引領業務夥伴提升其可持續發展表現。

## Supply Chain Profile 2023

## 二零二三年供應鏈概況

		No. of Suppliers	Amount of Purchase (RMB) 採購金額 (人民幣元)	Percentage in Total Amount of Purchase 所佔總採購金額的百分比
Total	總數	16,973	11,055,939,862	100%
Critical/Major Suppliers <sup>(1)</sup>	關鍵/主要供應商	22	2,529,945,956	23%

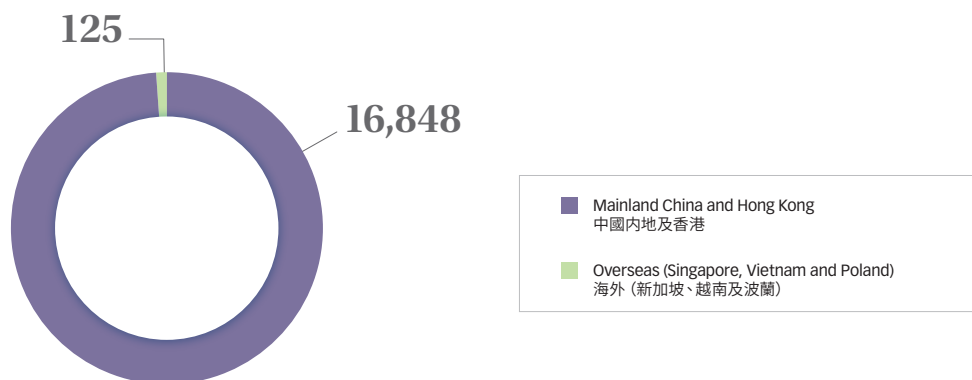
Note:

附註：

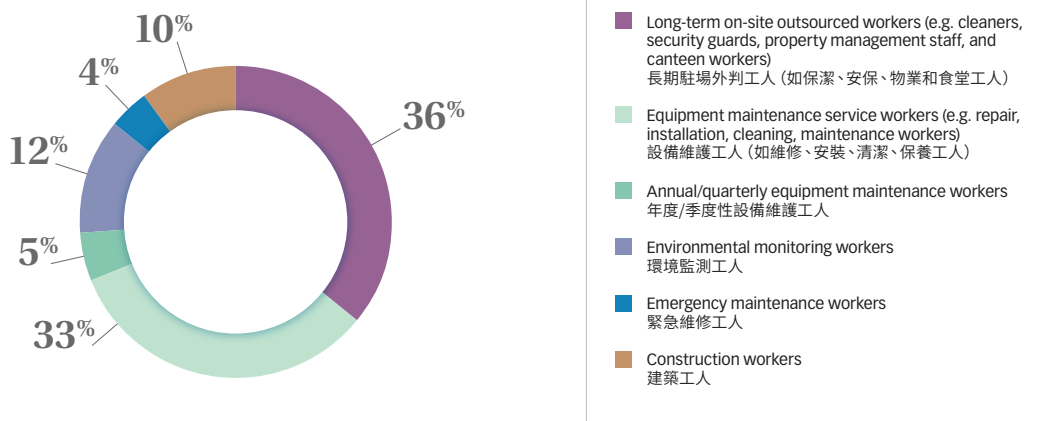
<sup>(1)</sup> Critical/Major suppliers mean suppliers whose goods, materials, and services have a significant impact on the competitive advantage, market success or survival of the Group.

<sup>(1)</sup> 關鍵/主要供應商是指其商品、材料、服務對本集團的競爭優勢、市場成功或生存空間產生重大影響的供應商。

Number of Suppliers by Geographical Region  
按地區劃分的供應商數目



Number of On-site Outsourced Workers in 2023  
二零二三年駐場外判工人數目



Number of On-site Outsourced Workers  
駐場外判工人數目

.....

**26,241**



## Supplier Sustainability Risk Assessment

In order to better understand the ESHS performance of suppliers of all categories, the Group commissions an external consultant to conduct sustainability risk assessments for the Group's suppliers every year. In 2023, 914 suppliers (including all major suppliers), whose business categories include electrical equipment, construction, lifting machinery, pumping equipment, air system technology and water treatment equipment, participated in the survey. The scope of the assessment mainly included supplier qualifications in terms of production, operation and safety, etc., as well as their management systems and operating performance related to quality, environment, society, labour rights protection, etc.

To integrate ESG into the assessment process, suppliers were asked to demonstrate how their services were aligned to at least one of the ESG objectives: 1. Sustainable Development and Strengthening Climate Resilience; 2. Improving Social Outcomes; 3. Facilitating Carbon Neutrality; and 4. Enhancing Governance. All of the assessed suppliers met the above criteria.

The overall result of the risk assessment was satisfactory and reflected the effectiveness of the Group's guidance and the requirement on suppliers' ESHS performance over the years. None of the assessed suppliers indicated that they had any ongoing commercial litigation, prosecution or fine on environmental and social issues made by relevant authorities. 59% of the surveyed suppliers had obtained the internationally certified ISO 9001 Quality Management System, ISO 14001 Environmental Management System and OHSAS 18001/ISO 45001 Occupational Health and Safety Management System, or were currently undergoing related certification process. Moreover, 20% of the surveyed suppliers had plans to establish a management system and complete the certification process within the next three years. Around 91% of the surveyed suppliers had established occupational health and safety policies and 12% had provided related trainings for employees. Only one of the surveyed suppliers had reported a safety accident in the past three years, which involved a minor traffic injury. We did not identify any risks associated with child labour and forced labour in this risk assessment.

## 供應商可持續發展風險評估

為了深入了解各類型供應商在ESHS方面的表現，本集團每年都邀請外部顧問對本集團供應商進行可持續發展風險評估。二零二三年，共有914家供應商（包括所有主要供應商）參與了評估，涉及的業務範圍包括電力設備、工程施工、起重機械、泵類設備、空氣系統技術、水處理設備等。評估的範圍主要包括供應商之生產、運營及安全方面的實質，以及質量、環境、社會、保障勞工權益等方面的管理體系和運營表現等。

為將ESG納入評估流程，參與評估的供應商需展示其服務如何與最少一個ESG目標保持一致：（一）可持續發展和增強氣候變化韌性；（二）改善社會成果；（三）促進碳中和；及（四）加強管治。所有被評估的供應商均符合上述標準。

根據本次風險評估的結果，整體上令人滿意，顯示出本集團多年來對供應商在環境、社會、健康與安全方面的表現所做的努力取得了顯著成效。所有被評估供應商均在評估中表示無任何正在進行的商業訴訟，且無任何由有關部門就環境及社會問題作出的檢控或罰款。59%的受訪供應商已獲取國際認證的ISO 9001質量管理體系、ISO 14001環境管理體系及OHSAS 18001/ISO 45001職業健康和安全管理體系或現正進行相關的認證工作。此外，20%的受訪供應商計劃在未來三年內建立管理體系並完成認證流程。約91%的受訪供應商制定了職業健康與安全政策，12%的受訪供應商為員工提供了相關培訓。在受訪供應商中，只有1家供應商在過去三年曾涉及輕微交通意外的安全事故。在本次風險評估中，我們沒有發現與童工和強迫勞動相關的風險。



**Suppliers participated in the 2023 supplier sustainability risk assessment accounted for approximately 25% of the annual total purchasing amount of the Group.**

**參與二零二三年供應商可持續發展風險評估的供應商佔本集團全年總採購金額約25%。**



## Customer Satisfaction

Over the years, the Group has adhered to the customer-centric service principle and has strived to integrate premium customer services into daily operational management. We keep advancing with the times and dedicated to solve relevant key problems for customers and even the whole industry development, and contribute to build a cleaner environment and a more effective mode of resource utilisation, so as to meet the needs of customers, facilitate industry-wide development, and benefit all of society. Customer satisfaction is one of the Group's short-term goals in sustainable development at the social level, we have therefore commissioned an external consultant to conduct an annual customer satisfaction survey during the Reporting Period, aiming to collect customers' feedbacks on our work and in turn enhance our service quality.

## 客戶滿意度

本集團多年來堅持以滿足客戶需求為中心的服務理念，並將優秀的客戶服務融入日常營運管理中。我們不斷與時俱進，致力於解決客戶乃至整個產業發展的關鍵問題，以幫助建立更清潔的環境和更有效的資源利用模式，從而滿足客戶需求、推動產業發展，並造福社會。客戶滿意度作為本集團在社會層面的可持續發展短期目標之一，我們在報告期內邀請了外部顧問為本集團進行年度客戶滿意度調查，以了解客戶對我們工作的評價和進一步提升我們的服務品質。

Indicators	指標	Average score (out of 10) 平均分 (滿分10分)
Experience and professionalism of project teams	項目團隊的經驗及專業程度	9.65
Environmental, safety and health risk management	環境及安全健康風險管理	9.64
Outcome and quality of work	工作成果及質量	9.64
Effectiveness and timeliness in communication	有效和及時的溝通	9.64
Adherence to agreed project schedules	遵守商定的項目進度	9.63
<b>Overall satisfaction rate</b>	<b>整體滿意度</b>	<b>9.64</b>

A total of 264 valid questionnaires were collected in this survey, with the overall customer satisfaction rate of 9.64 (out of 10) and the percentage of satisfied customers (customers who rated Everbright Environment's performance with an average score of 8 or above) was 97%. The majority of the customers highly recommended Everbright Environment and would be happy to work with the Group again.

The results showed that among 264 surveyed customers, 58 customers, accounting for 22%, were working with the Group for the first time. It is encouraging that among these new customers, 97% rated the Group with an average satisfaction score of 8 or above. Customers' affirmation is the motivation driving the Group to move forward. In the future, the Group will continue to adhere to the customer-oriented philosophy and maximise the added value of projects to achieve win-win outcomes.

是次調查共收集到264份有效問卷，客戶整體滿意度達9.64分（滿分10分），滿意客戶（給予光大環境表現平均分8分及以上的客户）佔比97%。絕大部分客戶表示非常願意推薦光大環境並樂意與本集團再次合作。這是對我們長期以來致力於提供優質服務和滿足客戶需求的肯定和認可。

根據調查結果，在264位受訪客戶中，有58位客戶是首次與本集團合作，佔總受訪客戶的22%。令人鼓舞的是，其中97%的客戶給出了8分及以上的滿意度分數。這些正面的回饋將成為我們未來前進的動力。我們將繼續堅持以客戶為中心的理念，積極提供附加價值，實現互利共贏。



**Results of the customer satisfaction survey in 2023**  
二零二三年客戶滿意度調查結果



Valid questionnaires collected  
共收到

**264** 份有效問卷

Overall satisfaction rate  
整體滿意度

**9.64** (out of 10)  
(10分為滿分)

Percentage of satisfied customers (customers rated Everbright Environment's performance with an average score of 8 or above)  
滿意客戶百分比（給予光大環境表現平均分8分或以上的客戶）

**97%**





# STAKEHOLDER ENGAGEMENT

## 持份者參與



We draw on collective wisdom,  
advice & suggestions  
集思廣益 • 建言獻策





As a critical way to convey information and a basis for problem solving, proactive, transparent and timely communication with stakeholders is essential to the Group's everyday operations. By listening to and responding to the views of our stakeholders from multiple channels, we are able to more effectively implement our sustainability strategies into each project and achieve common benefits with our stakeholders.

The Group's business covers a wide range of stakeholder groups, including investors, shareholders, governments, villagers, local communities, investment analysts, business partners, suppliers, customers, employees, media, and non-governmental organisations. The Group identifies stakeholders based on the five following principles:

作為傳遞信息的關鍵途徑和解決問題的基礎，與持份者積極、透明和及時的溝通對本集團日常運營至關重要。透過從多個渠道傾聽且回應持份者的意見，我們能夠更有效地將可持續發展策略貫徹於每個項目中，與持份者實現共同的利益。

本集團的業務涉及多個持份者組別，當中包括投資者、股東、政府、村民、當地社區、投資分析員、業務夥伴、供應商、客戶、員工、媒體和非政府組織。本集團基於以下五個原則識別持份者：

Responsibility 責任	Influence 影響力	Proximity 鄰近性	Dependency 倚靠性	Representativeness 代表性
Stakeholders linked to the Group through legal, financial, operational procedures, contracts, and/or policies 通過法律、財務、運營規則、合約及／或政策與本集團連繫的持份者	Stakeholders with formal decision-making power or informal influence on the Group 具有本集團正式決策權或非正式影響力的持份者	Stakeholders located geographically close to the Group's operating plants and who interact closely with the Group's daily operations 居於本集團運營廠房附近及與本集團日常運營關係密切的持份者	Stakeholders who are highly dependent on the Group's business operations 很大程度上倚靠本集團業務運營的持份者	Stakeholders who are the representatives of the organisations that are closely connected with the Group 來自與本集團聯繫最緊密的業界代表的持份者代表



During the Reporting Period, we remained proactive and closely connected with various stakeholders through diversified channels of communication:

報告期內，我們繼續透過多元化的溝通途徑與各持份者進行積極和緊密的聯繫：

Stakeholder Group 持份者組別	Channel of Engagement or Communication 參與或溝通途徑	Engagement Frequency or Duration 參與頻率或時間
<b>Investors, Shareholders</b> 投資者、股東	Annual/extraordinary general meeting 股東週年／特別大會 Press release/announcement/circular 新聞稿／公告／通函 Results presentation 業績發布會 Interim report/annual report 中期報告／年報 Roadshow 路演 Meeting/telephone conference/email 會議／電話會談／電郵聯系 Site visit 現場考察 Company website 公司網站	Annually/as needed 每年／根據需要 Regularly/as needed 定期／根據需要 Half-yearly/annually 半年／每年 Annually 每年 Regularly/as needed 定期／根據需要 Regularly/as needed/upon request 定期／根據需要／根據需求 As needed/upon request 根據需要／根據需求 As needed 根據需要
<b>Governments</b> 政府	Progress report 進度報告 Site visit 現場考察 Meeting 會議 WeChat and QQ 微信及QQ Phone or email 電話或電郵聯繫 Customer satisfaction survey 客戶滿意度調查	Weekly/monthly/quarterly 每週／月／季 Weekly/monthly/quarterly 每週／月／季 Weekly/monthly/quarterly 每週／月／季 As needed 根據需要 Weekly/monthly/quarterly 每週／月／季 Annually 每年
<b>Villages, Local Communities</b> 村民、當地社區	Project visit/site visit 項目參觀／現場考察 Survey 意見調查 Public hearing 公聽會	Before construction/open day on the first weekend of every month/upon request 工程施工前／每月第一個週末之公眾開放日／根據需求 Before construction/as needed 工程施工前／根據需要 Before construction/as needed 工程施工前／根據需要
<b>Investment Analysts</b> 投資分析員	Project visit/site visit 項目參觀／現場考察 Meeting/telephone conference/email 會議／電話會談／電郵聯繫 Press release/announcement 新聞稿／公告 Results presentation 業績發布會 Interim report/annual report 中期報告／年報 Company website 公司網站	As needed/upon request 根據需要／根據需求 As needed/upon request 根據需要／根據需求 Regularly/upon request 定期／根據需要 Half-yearly/annually 每半年／每年 Half-yearly/annually 每半年／每年 As needed 根據需要

Stakeholder Group 持份者組別	Channel of Engagement or Communication 參與或溝通途徑	Engagement Frequency or Duration 參與頻率或時間
<b>Business Partners, Suppliers</b> 業務夥伴、供應商	Pre-tender meeting 採購招標會 Phone interview 電話回訪 Questionnaire 調查問卷 WeChat and QQ 微信及QQ	Every tender event 每次招標活動 As needed 根據需要 Ad hoc 不定期 As needed 根據需要
<b>Customers</b> 客戶	Meeting 會議 Phone or email 電話或電郵聯繫 Customer satisfaction survey 客戶滿意度調查	Weekly/monthly/quarterly 每週/月/季 Weekly/monthly/quarterly 每週/月/季 Annually 每年
<b>Employees</b> 員工	Work meeting/project meeting 工作會議/項目會議 Performance review meeting 表現評估會議 Internal publication 內部刊物 Charitable activity 公益活動 Face-to-face meeting/telephone conference/email 當面會談/電話會談/電郵聯繫 Email to CEO and/or the Chairman of the Audit Committee 電郵至總裁及/或審核委員會主席	Regularly 定期 Interim/year-end 年中/年末 Monthly 每月 As needed 根據需要 As needed As needed 根據需要 As needed 根據需要
<b>Media</b> 媒體	Project visit/site visit 項目參觀/現場考察 Press release/announcement 新聞稿/公告 Management interview 管理層採訪 Results presentation 業績發布會 Company website 公司網站	As needed/upon request 根據需要/根據需求 Regularly/as needed 定期/根據需要 Regularly/as needed/upon request 定期/根據需要/根據需求 Half-yearly/annually 每半年/每年 As needed 根據需要
<b>Non-Governmental Organisations (NGOs)</b> 非政府組織	Charitable activity 公益活動 Site visit 現場考察 Meeting 會議	As needed 根據需要 Regularly/as needed 定期/根據需要 As needed 根據需要

## Materiality Assessment

The Group conducts a comprehensive materiality assessment on sustainability topics each year, engaging with stakeholders through questionnaires, so as to identify and prioritise economic, environmental and social topics that are most material to the Group; set the sustainability reporting scope and boundaries; and enhance communication with stakeholders and their participation in the process.

In 2023, we have continued to adopt the four-stage methodology for materiality assessment and strive towards advancing the sustainable development agenda. The four stages are as follows:

## 實質性評估

本集團每年都會進行一次全面的實質性評估，透過問卷調查與持份者溝通以便分辨對本集團而言最優先的經濟、環境和社會議題及確立可持續發展報告範圍和邊界，並且促進與持份者溝通以及持份者在過程中的參與。

二零二三年，我們依然以四個階段作為實質性評估方法，並繼續致力追求和推進可持續發展議程。四個階段如下：

1

STAGE  
第一階段

### Identification of Sustainability Topics

#### 識別可持續發展議題

The Group engages an external sustainability consultant to identify and review comprehensively the sustainability topics that are most relevant to the Group's business (refer to "List of Sustainability Topics"). These topics are determined from extensive information sources, including the GRI Standards, SDGs, opinions from stakeholders, the Board and management, internal publications, media information analysis, etc., to ensure these topics can reflect the Group's business nature as well as the results from previous communication with our stakeholders.

本集團委聘外部可持續發展顧問為本集團識別與其業務最密切的可持續發展議題（見「可持續發展議題列表」）進行全面識別。這些議題是參照GRI準則、SDGs、持份者意見、董事會及管理層建議、內部刊物及媒體信息分析等廣泛來源所得，以確保這些議題充分反映本集團的業務性質及以往與持份者溝通的結果。

2

STAGE  
第二階段

### Collection of Stakeholders' Opinions and Development of Materiality Matrix

#### 收集持份者意見，建立實質性矩陣

The Group's sustainability consultant conducts a stakeholder engagement survey with the nine key stakeholder groups and prioritises the sustainability topics identified in Stage 1 based on the survey results. The consultant then conducts a quantitative analysis of these topics based on two parameters: perceived materiality to the stakeholders and to Everbright Environment. Results of the analysis are presented in the form of a matrix to identify the most important topics on two levels. The topics that are most material to stakeholders and the Group shall then become the focus of disclosure in the Report.

由可持續發展顧問對九個重點持份者組別進行持份者參與調查，並根據持份者調查結果為第一階段識別了的可持續發展議題作優先排序。顧問隨後以持份者對議題的重要性評分和議題對光大環境的重要性這兩個參數，對這些議題的實質性進行量化分析，並以矩陣形式顯示分析結果。矩陣中顯示的議題重要性是按照右上方到左下方斜向排序，並將持份者和本集團層面均為最重要的議題作為本報告的披露重點。



# 3

## STAGE 第三階段

### Validation of Material Topics and Data Analysis

#### 驗證實質性議題及分析數據

In order to ensure the reasonableness, balance and completeness of the Report, the Board shall validate the prioritised material topics and their boundaries. Subsequently, the sustainability consultant shall disclose the material topics based on the GRI Standards. Furthermore, the specialist of the Group's relevant departments shall ensure that all project companies regularly provide accurate and comprehensive sustainability data through systematic data collection and monitoring mechanisms.

為確保本報告的合理性、平衡性及完整性，董事會對經過優先排序的實質性議題及其邊界作驗證。隨後，可持續發展顧問會按GRI準則報告實質性議題。另外，為確保所有項目公司定期提供準確、全面的可持續發展數據，本集團各相關部門的專員亦會採用系統式數據收集和監測機制。

# 4

## STAGE 第四階段

### Review of Material Topics

#### 檢視議題實質性

Prior to the preparation of the Report, the Group reviews the material topics and disclosure practices of its previous reports and collects stakeholder opinions through the annual stakeholder engagement survey on Everbright Environment's sustainability performance during the Reporting Period. All opinions and data are reported during the Board meetings, where the Board reviews and verifies their materiality, so as to help stakeholders participate more fully in the sustainable development management and disclosure process, which is at the same time beneficial to realising long-term sustainable development goals.

在準備本報告前，本集團對過往報告的實質性議題和披露工作進行了回顧及審閱，以及透過年度持份者參與調查收集持份者對光大環境於報告期內可持續發展表現的意見。所有意見及數據皆會於董事會會議中匯報，並由董事會檢視核實實質性，以助持份者更全面參與可持續發展的管理和披露過程，同時有利於實踐長遠的可持續發展目標。



### List of Sustainability Topics

The following table ranks the corresponding sustainability topics according to the three aspects of economy, environment and society, and reveals the importance of allowing stakeholders to prioritise issues in the stakeholder survey. Most of these topics are determined with reference to the topic standards under the GRI Standards, while the remaining ones are added based on past opinions of the stakeholders.

### 可持續發展議題列表

以下列表按照經濟、環境和社會三個範疇排列出相應的可持續發展議題，並呈現在持份者調查中讓持份者作優先排序議題的重要性。這些議題大多參考GRI準則的議題標準而定，而餘下的都是按照持份者以往提出的意見添加。

Economic 經濟	Environmental 環境	Social 社會	
Economic Performance 經濟績效	Material Usage 物料使用	Employee Welfare 員工福利	Community Health and Safety 社區健康及安全
Market Presence 市場地位	Energy Efficiency 能源效益	Occupational Health and Safety 職業健康與安全	Customer Privacy 客戶隱私
Indirect Economic Impacts 間接經濟影響	Usage of Water Resources 水資源使用	Employee Training 員工培訓	Disaster and Emergency Planning and Response 災難及應急預案規劃
Procurement Practices 採購行為	Greenhouse Gas Management and Climate Change Mitigation 溫室氣體管理及氣候變化的應對	Diversity and Equal Opportunity 多元化及平等機會	Community Participation 社區參與
Anti-corruption 反貪腐	Waste Water Treatment 污水處理	Internal Communication 內部溝通	
Anti-competitive Behaviour 反競爭行為	Waste Management 廢物管理	Child Labour and Forced Labour 童工與強制勞工	
Technological R&D 技術研發	Biodiversity 生物多樣性	Rights of Indigenous Peoples 原住民權利	
	Supplier Environmental Assessment 供應商環境評估	Protection of Human Rights and Freedoms 保障人權及自由	
	Construction Management 在建項目施工管理	Poverty Alleviation 扶貧	
	Environmental Education 環保教育	Supplier Social Assessment 供應商社會評估	

GRI 2-29

GRI 3-1

GRI 3-2

## Materiality Matrix

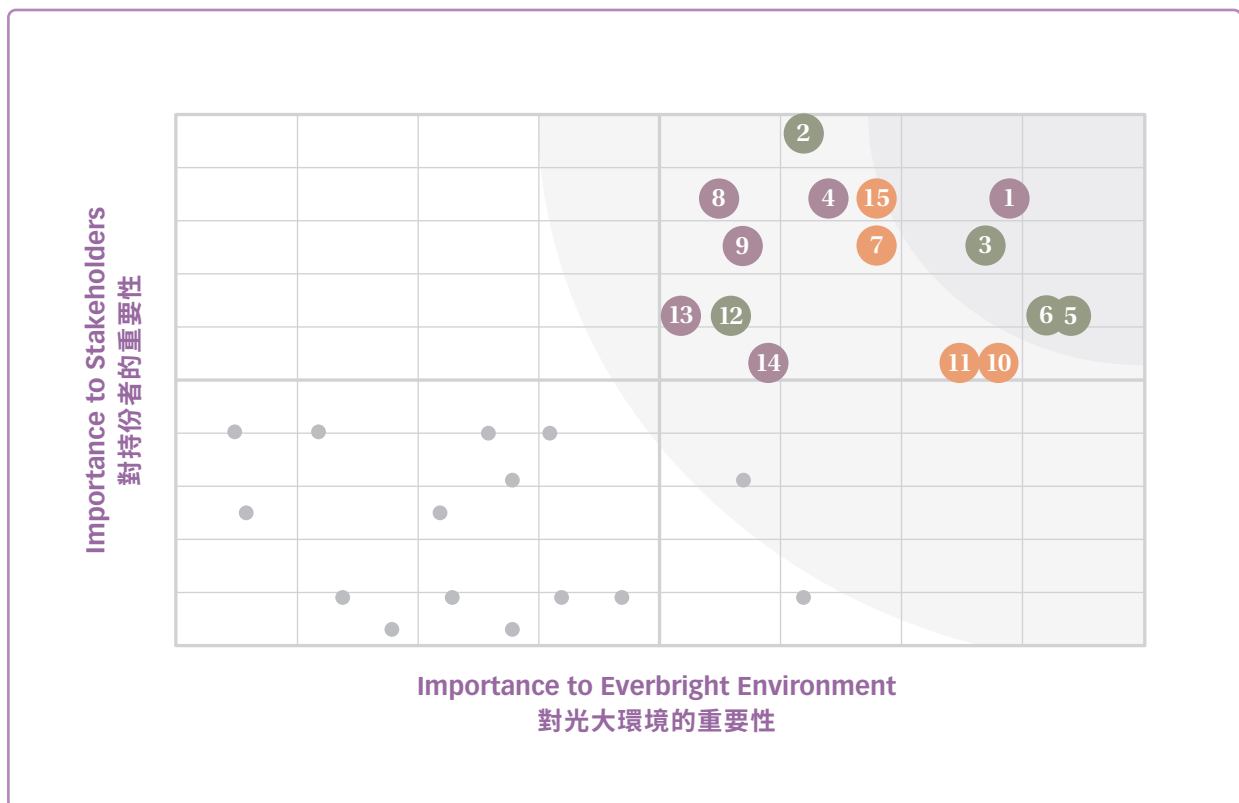
Based on the results of the materiality assessment, 15 topics most material to the Group are identified and ranked in the matrix below according to their priority, while impacts and boundaries of the concerned impacts, the corresponding GRI Standards as well as the SDGs are determined.

The topics identified through the materiality assessment in 2023 remain consistent with those of 2022, albeit with different rankings.

## 實質性矩陣

根據實質性分析的結果，我們識別了與本集團最具關連的15個重要議題，按優先次序按矩陣圖排列如下，並分辨相關議題的影響及範圍、其相應的GRI準則及相關的SDGs。

於二零二三年，我們通過實質性評估確定的議題與二零二二年相同，不過排序有變。



Stakeholder Engagement  
持份者參與

GRI 2-29      GRI 3-1      GRI 3-2

Key Topics/Stakeholder Concerns 主要議題 / 持份者的關注	Impact and Boundary 影響及範圍									GRI Standards GRI準則	Key Relevant SDGs 主要相關的 可持續 發展目標
	Investors/Shareholders 投資者、股東	Employees 員工	Governments 政府	Villagers, Local Communities 村民、當地社區	Customers 客戶	Business Partners, Suppliers 業務夥伴、供應商	Investment Analysts 投資分析員	Media 媒體	NGOs 非政府組織		
1 Occupational Health and Safety 職業健康與安全	•	•	•	•	•	•	•	•		GRI 403 Occupational Health and Safety 職業健康與安全	
2 Energy Efficiency 能源效益	•	•	•	•		•	•			GRI 302 Energy 能源	
3 Usage of Water Resources 水資源使用	•	•	•	•	•	•			•	GRI 303 Water and Effluents 水資源與污水	 
4 Disaster and Emergency Planning and Response 災難及應急預案規劃	•	•	•	•		•	•	•		Not applicable 不適用	
5 Greenhouse Gas Management and Climate Change Mitigation 溫室氣體管理及氣候變化的應對	•	•	•	•	•	•	•	•		GRI 305 Emissions 排放	
6 Waste Management 廢物管理	•	•	•	•	•	•	•	•		GRI 306 廢棄物 Waste	
7 Technological R&D 技術研發		•	•	•	•	•	•	•		Not applicable 不適用	
8 Child Labour and Forced Labour 童工與強制勞工	•	•	•	•	•	•		•	•	GRI 408 Child Labor 童工 GRI 409 Forced or Compulsory Labor 強迫或強制勞動	
9 Customer Privacy 客戶隱私			•	•	•	•	•	•		GRI 418 Customer Privacy 客戶隱私	
10 Economic Performance 經濟績效	•	•		•	•	•	•	•	•	GRI 201 Economic Performance 經濟績效	
11 Anti-corruption 反貪腐	•	•		•	•	•	•	•	•	GRI 205 Anti-corruption 反腐敗	
12 Waste Water Treatment 污水處理	•	•	•	•	•	•	•	•		GRI 303 Water and Effluents 水資源與污水	 
13 Rights of Indigenous Peoples 原住民權利	•		•	•	•	•		•		GRI 411 Rights of Indigenous Peoples 原住民權利	
14 Employee Training 員工培訓	•	•	•		•	•	•	•		GRI 404 Training and Education 培訓與教育	 
15 Anti-competitive Behaviour 反競爭行為		•	•	•	•	•	•			GRI 206 Anti-competitive Behavior 不當競爭行為	



## Stakeholders' Feedback 持份者反饋

Average stakeholders' rating for the sustainable development performance of Everbright Environment in 2023:  
持份者對光大環境二零二三年可持續發展表現的平均評分：

9.29 (out of 10)  
(10分為滿分)

Average stakeholders' rating for the Sustainability Report 2022 of Everbright Environment:  
持份者對光大環境二零二二年可持續發展報告的平均評分：

9.38 (out of 10)  
(10分為滿分)

97%

of stakeholders agreed that Everbright Environment has sufficient engagement with them  
的持份者認同光大環境與他們保持充足的聯繫



# RESPONDING TO CLIMATE CHANGE

應對氣候變化



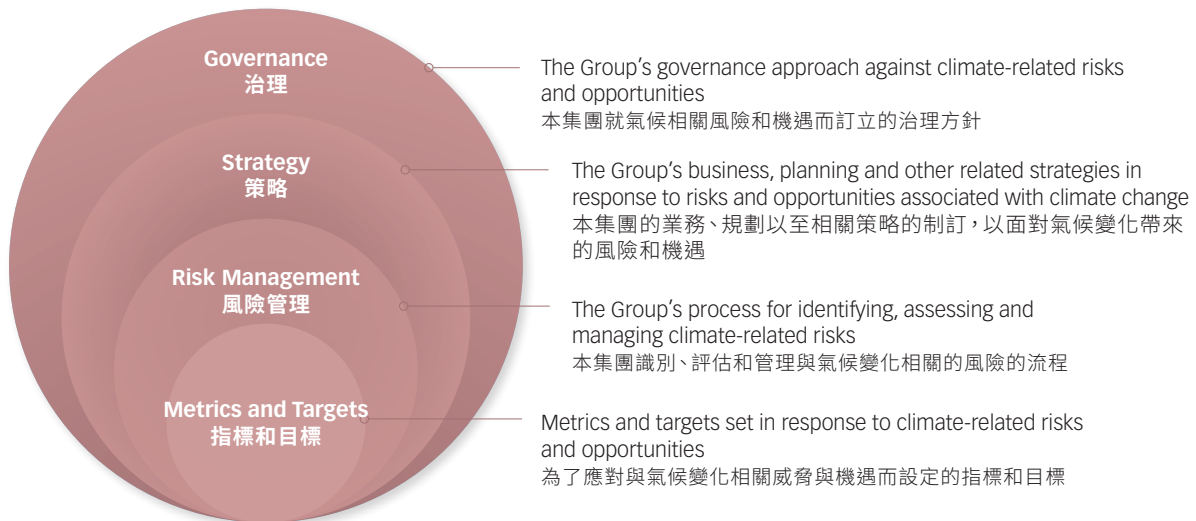
Decarbonisation blueprint  
for a new green chapter  
擘畫三碳藍圖 • 續寫綠色篇章





Given the increasing importance of sustainable finance, there has been a notable trend towards disclosing climate-related information, including how a company streamlines climate-related risks into its management decisions. Climate change is the primary risk threatening the world today. It is also the most important sustainable development issue for the Group and its stakeholders. In order to enhance the transparency and accuracy of information disclosure, the Group makes climate-related disclosures to stakeholders including investors and fund providers by preparing the Report in accordance with the TCFD Recommendations. This is also to assist stakeholders in tackling the issue of climate change. Everbright Environment signed up to become a TCFD Supporter from 2020 to 2023, further demonstrating the Group's commitment to supporting climate-related information disclosure.

由於可持續融資的重要性不斷提高，氣候變化信息的披露已顯著增加，包括如何將氣候相關風險納入企業管理決策。氣候變化是當下威脅全球的首要風險，亦是本集團及持份者最為重視的可持續發展議題。本集團按照TCFD建議編寫本報告，向包括投資者及資金提供者在內的持份者披露氣候相關風險信息，務求加強信息透明度及確實性，協助各界應對氣候變化。光大環境於二零二零年至二零二三年成為TCFD支持機構，進一步證明了本集團對氣候相關信息披露的承諾。



### About TCFD Recommendations

The TCFD Recommendations cover four key areas for disclosure: governance, strategy, risk management, metrics and targets.

### 關於TCFD建議

TCFD建議涵蓋了四個信息披露重點：治理、策略、風險管理、指標和目標。

## Governance

Everbright Environment has incorporated the concept of sustainable development into its corporate governance structure. While paying close attention to the risks and opportunities related to climate change, the Group continuously improves its agenda, so as to implement climate risk response goals and strategies with a united attitude from top to bottom.

### Board Level

The Board is the highest governance body of the Group and is the highest leading unit for managing climate risks, formulating sustainable development strategic goals and steering the effective implementation of relevant goals. The Board is responsible for determining the strategic direction of the Group. When formulating strategic goals and development directions, the Board takes climate change-related issues and corporate social responsibility into consideration, sets goals for the management and oversees the achievements thereof.

With full support from the Risk Management Committee, the Board retains ultimate responsibility for the oversight of Everbright Environment's risk management activities. The Risk Management Committee under the Board takes accountability on risk management, and reviews corporate risk management and internal controls at least twice a year.

In addition, under the Management Decision Committee, the Group has established a Safety and Environmental Management Committee led by the CEO. The Safety and Environmental Management Committee provides practical guidelines and support to the Group's sustainable development work, and is tasked to ensure thorough implementation of the Group's sustainable management policies.

### Management Level

The various risks brought on by climate change are placed high on the Group's agenda, and therefore, the Group is committed to building resilience against these risks. In particular, the Group has established a working group that integrates the four main levels of the Group, namely: the headquarters, all business sectors, regional centres and project companies. The leader of the working group is mainly responsible for leadership duties, and annually develops, monitors and reviews safety and environmental indicators and targets. The same leader shall firmly discharge his responsibilities and guide the various executive departments in taking measures to address climate risks. Please refer to the "Organisational Framework of Sustainable Operations" section under the "Sustainable Operations Management" chapter for details of our governance structure.

## 治理

光大環境將可持續發展概念納入公司治理結構，並持續關注氣候變化的相關風險和機遇，同時不斷完善其議程，以上下一心的態度落實氣候風險的應對目標與策略。

### 董事會層面

董事會是本集團的最高管理機構，也是管理氣候變化風險、制定可持續發展的長期戰略目標以及督導落實相關目標的最高領導單位。本集團的戰略方向必須由董事會確定，在制定戰略目標和發展方向的同時，董事會把氣候變化相關議題和企業社會責任納入考慮，設定及監督實現相關管理目標。

在風險管理委員會的全力支持下，董事會對光大環境的風險管理舉措持有最終監管責任。董事會旗下的風險管理委員會負責風險管理，每年至少對企業風險管理和內部監控進行兩次評估。

另外，管理決策委員會下設有由總裁領導的安全與環境管理委員會。為保證本集團的可持續管理政策得到妥善實施，安全與環境管理委員會為本集團的可持續發展工作提供切實可行的指導和支持。

### 管理層面

本集團十分重視氣候變化帶來的各種風險，因此本集團致力提升這些風險的抵禦能力。本集團特別成立了一個工作小組，綜合了集團總部、各業務板塊、區域中心和項目公司四個主要的層級。該工作小組的領導主要負責領導職責，並每年制定、監察和審查安全和環境指標和目標。該負責人將堅決履行職責，並指導不同的執行部門採取行動減輕氣候威脅。有關我們的管治架構詳情，請參閱「可持續的運營管理」章節關於「可持續運營組織架構」的部分。



## Strategy

Everbright Environment acknowledges the various risks associated with climate change and has therefore consistently taken active and prudent steps in formulating response strategies. The Group's physical risks mainly include water stress, natural disasters such as floods and droughts, and other extreme weather events such as extreme precipitation, extreme temperatures, etc. Other changes are categorised into transition risks, including policy changes, reputation shifts, technological expansion/phase-out, etc. These risks may negatively affect the assets and supply chains and cause potential financial impacts. As a result, the Group is committed to avoiding and reducing GHG emissions while enhancing the climate resilience of its projects, in hopes of building a more livable environment.

At the same time, Everbright Environment embraces the opportunities brought by climate change and is determined to advance the sustainable development of the city as a whole through its responses to climate change. As such, the Group has developed and implemented a series of strategies to address climate risks, with the aim of maintaining a clear position in an ever-changing world. The Group has adopted the following three strategies to adapt/mitigate climate impact with a more proactive stance:

## 策略

光大環境深明氣候變化所帶來的多種風險，因此一直採取審慎積極的態度制定應付策略。本集團業務所面臨的實體風險主要包括水資源壓力、洪水乾旱等天然災害、其他極端天氣事件如極端降水、極端氣溫等；其他變化則與轉型風險相關，包括：政策變動、聲譽轉移、科技擴展／淘汰等。這些風險或對資產及供應鏈造成負面壓力，構成潛在的財務影響。因此，本集團致力避免和減少溫室氣體排放，同時強化旗下項目對氣候變化的應變能力，以建設更宜居的環境。

與此同時，光大環境亦充分認知氣候變化所帶來的機遇，銳意藉著氣候變化的應對工作來推動城市整體的可持續發展。因此，本集團制定和落實了一系列應對氣候風險的策略，旨在身處持續變化的世界中仍能保持清晰定位。本集團採取了以下三大策略，並致力以更進取的姿態以適應／減緩氣候變化帶來的影響：





### Understanding Climate Risks Through “Climate Scenario Analysis”

Climate scenarios refer to the future climate conditions under different levels of GHG emissions. To follow in the footsteps of global climate change governance and gain an in-depth understanding of the significant climate risks faced by the Group, the Group has conducted climate scenario analysis with reference to internationally recognised guidelines. In accordance with the TCFD Recommendations, climate risks are divided into two categories, namely, physical risks and transition risks. Climate scenario analysis helps the Group to assess the impact of future climate change trends specifically by measuring and estimating its potential threats to various assets (such as projects under preparation, construction, commissioning and operation). The risk calculations enable the Group to make better-informed decisions, so as to reduce the business vulnerabilities while seizing various emerging opportunities in the context of climate change.

#### Physical Scenarios

In accordance with the *Sixth Assessment Report* (“AR6”) on climate change published by IPCC and the TCFD Recommendations, the Group evaluated chronic and acute physical risks by using “Shared Socioeconomic Pathways” (“SSP”) with “Representative Concentration Pathways” (“RCP”). This approach enables the assessment of physical risks across most relevant climate change scenarios in selected timeframe (i.e. 2030 and 2050) in comparison to baseline condition. Considering most projects are operated under a concession for approximately 20 to 30 years, the selection of 2030 and 2050 as the short-term and mid-term assessment year is considered appropriate. In addition, a long-term assessment by 2100 was not conducted due to the uncertainties associated with forecasting over such an extended period, and the fact that most of the projects would have reached the end of their concession periods and be transferred by that time.

### 透過「氣候情境分析」了解氣候相關風險

氣候情境是指在不同程度的溫室氣體排放情境下對未來氣候條件的描述。為了深入了解本集團所面對的重大氣候風險並跟隨全球氣候變化治理的步伐，本集團參照國際認可之指引對氣候情境進行模擬，遵從TCFD建議把氣候風險分作兩大類，包括：實體風險和轉型風險。氣候情境分析將有助本集團評估未來氣候變化趨勢帶來的影響，具體量度並估計其對各類資產（如在籌備、建設、投產和運營的項目）的潛在風險。通過風險計算，本集團能藉此未雨綢繆，減低氣候變化對業務的影響，同時把握各種新機遇。

#### 實體情境

本集團根據IPCC公布的氣候變遷《第六次評估報告》（「AR6」）及TCFD建議同時考量「共享社會經濟路徑」（Shared Socioeconomic Pathways，簡稱「SSP」）與「代表濃度途徑」（Representative Concentration Pathways，簡稱「RCP」）評估慢性和急性實體氣候風險。這一方法可以比較基準線條件下與所選時間範圍（即二零三零年和二零五零年）內最相關的氣候情境下的實體風險。考慮到大多數項目的特許經營年期約介乎20至30年之間，故本集團選用了二零三零年和二零五零年作為未來評估之年份。此外，鑒於長期氣候預測的高度不確定性，而且大多數項目將在二一零零年前達到特許經營期限，所以本集團沒有對直至二一零零年的長期實體氣候風險進行評估。

Scenario 情境	Scenario Simulation 模擬情境
Current trend scenario 當前趨勢情境	Current trend scenario pathway represents a world similar to current socio-economic development trends (SSP2) and intermediate GHG emission levels (RCP4.5), leading to an increase of global mean surface temperature of approximately 2°C by the end of the 21st century. 當前趨勢情境中的路徑代表一個與當前社會經濟發展趨勢(SSP2)和中等溫室氣體排放水平(RCP4.5)相似的世界，導致二十一世紀末全球平均表面溫度升高約2度。
Pessimistic scenario 悲觀情境	Pessimistic scenario pathway represents a world with unequal and unstable socio-economic development (SSP3) and high GHG emission levels (RCP6.0/RCP7.0), leading to an increase of global mean surface temperature of approximately 3.5-4°C by the end of the 21st century. 悲觀情境路徑代表一個社會經濟發展不均和不穩定(SSP3)以及高溫室氣體排放水平(RCP6.0/RCP7.0)的世界，導致二十一世紀末全球平均表面溫度升高約3.5到4度。

## Transition Scenarios

To analyse the various transition climate risks that the Group are facing and, formulate and implement the corresponding management policies, the Group has adopted the climate change scenarios in the *World Energy Outlook 2023* report released by the International Energy Agency for the purpose of the Group's development. In addition, our analysis adopts the recommendations of TCFD's *Guidance on Scenario Analysis for Non-Financial Companies* and adopts a 1.5°C scenario, which is in line with IPCC's latest scientific research, and the growing momentum of pledges to ensure net zero emissions by 2050.

## 轉型情境

為了分析本集團正面臨的各種轉型氣候風險及該實施的管理方針，本集團的評估參考並採用了國際能源署發布的《二零二三年世界能源展望》報告中的氣候變化情境，以促進本集團發展。此外，我們的分析採納TCFD《非金融公司情境分析指南》的建議，採用一個攝氏1.5度情境。此情境符合IPCC最新的科學研究，同時亦能反映全球多國承諾在二零五零年達到淨零排放的國際趨勢。

Scenario 情境	Scenario Simulation 模擬情境
Stated Policies Scenario 既定政策情境	<p>The Stated Policies Scenario is an energy system projection that assesses the prevailing direction of progress based on current policies and measures, without assuming that governments will achieve all its stated goals. It evaluates sector-specific policies, industry actions and implementation measures adopted as of August 2023, including Nationally Determined Contributions under the <i>Paris Agreement</i>, and considers detailed sectoral information such as pricing policies, efficiency standards, electrification programs, and infrastructure projects, to determine their impact on energy goals.</p> <p>既定政策情境是一種能源系統預測，它基於目前的政策和措施評估當前的進展方向，但不假定政府將實現其所有既定目標。它評估了截至二零二三年八月採用的具體部門政策、行業行動和實施措施，包括《巴黎協定》下的國家確定貢獻，並考慮了詳細的部門信息，如定價政策、效率標準、電氣化計劃和基礎設施項目，以確定它們對能源目標的影響。</p>
Net Zero Emissions by 2050 Scenario 二零五零年淨零排放情境	<p>The Net Zero Emissions by 2050 Scenario is a normative scenario that shows a pathway for the global energy sector to achieve net zero CO<sub>2</sub> emissions by 2050, with advanced economies reaching net zero emissions in advance of others. This scenario also meets the key energy-related Sustainable Development Goals (SDGs), in particular the universal access to energy by 2030 and major improvements in air quality. It is consistent with limiting the global temperature rise to 1.5 °C (with at least a 50% probability), in line with emissions reductions assessed in the IPCC's AR6.</p> <p>二零五零年淨零排放情境是一種規範情境，展示了全球能源部門到二零五零年實現二氧化碳淨零排放的途徑，其中已開發經濟體比其他經濟體更早實現淨零排放。該情境也實現了與能源相關的主要可持續發展目標(SDGs)，特別是到二零三零年實現能源普及和空氣品質的重大改善。該情境與IPCC在其第六次評估報告中評估的減排目標一致，將全球氣溫上升限制在1.5°C (至少50%以上機率)。</p>

### Promote the Development of Renewable Energy

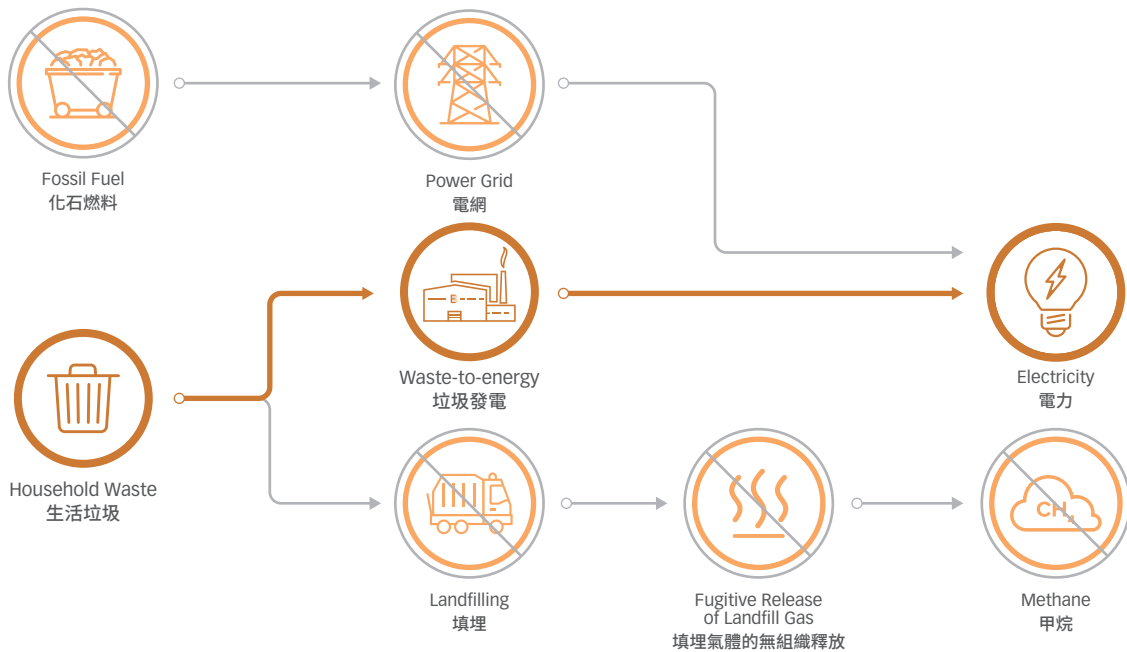
Following the implementation of the “Dual Carbons” goal in the “14th Five-Year Plan”, the Group continues paying close attention to the project operation and the sustainable development of the integrated environmental management industry. In addition to ensuring reliability of its projects, the Group also highly values energy conservation and emissions reduction. Therefore, the Group promotes the reduction of consumption of non-renewable energy by generating electricity from renewable energy sources such as waste, biomass, wind power and solar energy.

### 推動發展可再生能源

緊隨著「十四五」規劃中的「雙碳」目標落地推進，本集團持續關注項目運營以至整個環境綜合治理行業的可持續發展。除了維持項目的可靠性外，本集團亦十分重視節能減排。因此，本集團推廣透過垃圾和生物質發電、風力發電及光伏等可再生能源發電，降低非再生能源消耗。

### Advanced Technologies to Reduce Carbon Emissions

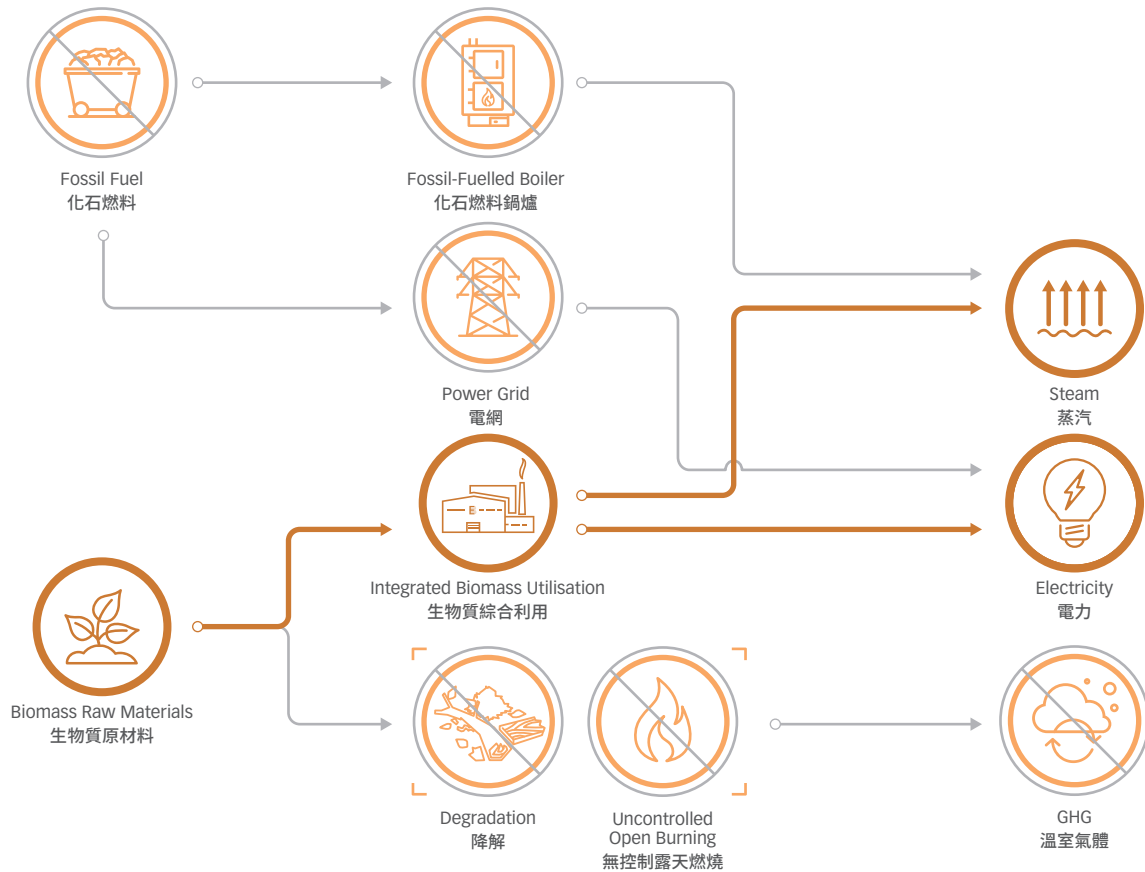
### 先進技術達致減碳



The Group’s waste-to-energy projects recover the heat generated from incineration of household waste for electricity generation, thus avoiding GHG emissions by replacing the use of fossil-fuelled power. GHG emissions avoidance is also achieved by diverting household waste from landfills where the anaerobic degradation of organic waste would cause the fugitive release of landfill gas which is rich in methane, a strong GHG.

本集團的垃圾發電項目，透過回收生活垃圾焚燒所產生的熱量來發電，從而替代化石燃料能源的使用，以避免溫室氣體排放。此外，將生活垃圾從填埋場分流，減少有機廢物在填埋場厭氧降解所釋放的無組織填埋氣體（含大量甲烷，一種強力的溫室氣體），亦避免溫室氣體排放。

**GHG Emissions Avoidance through Integrated Biomass Utilisation** 以生物質綜合利用方式避免溫室氣體排放



Apart from waste-to-energy operations, the Group's integrated biomass utilisation projects utilise biomass raw materials for power and heat generation, which avoids GHG emissions through replacement of fossil fuels and avoidance of uncontrolled open burning and degradation of biomass that would otherwise generate GHG emissions.

除了運營垃圾發電外，本集團的生物質綜合利用項目，使用生物質原材料發電及供熱，通過替代使用化石燃料及避免生物質不受管地露天燃燒或降解，從而避免溫室氣體的排放。

**GHG Emissions Avoidance through Waste Water Treatment**

以污水處理方式避免溫室氣體排放

Reducing nitrous oxide released from effluent through waste water treatment: the amount of N<sub>2</sub>O emissions depends on the nitrogen content of effluent, thus reducing the effluent nitrogen content through waste water nitrogen removal treatment process can avoid GHG emissions.

透過污水除氮處理工藝，減少從出水中釋放的氧化亞氮：污水出水的氧化亞氮排放量，取決於污水的氮含量，因此透過污水除氮處理工藝降低出水的氮含量，能夠避免溫室氣體排放。



### Risk Management

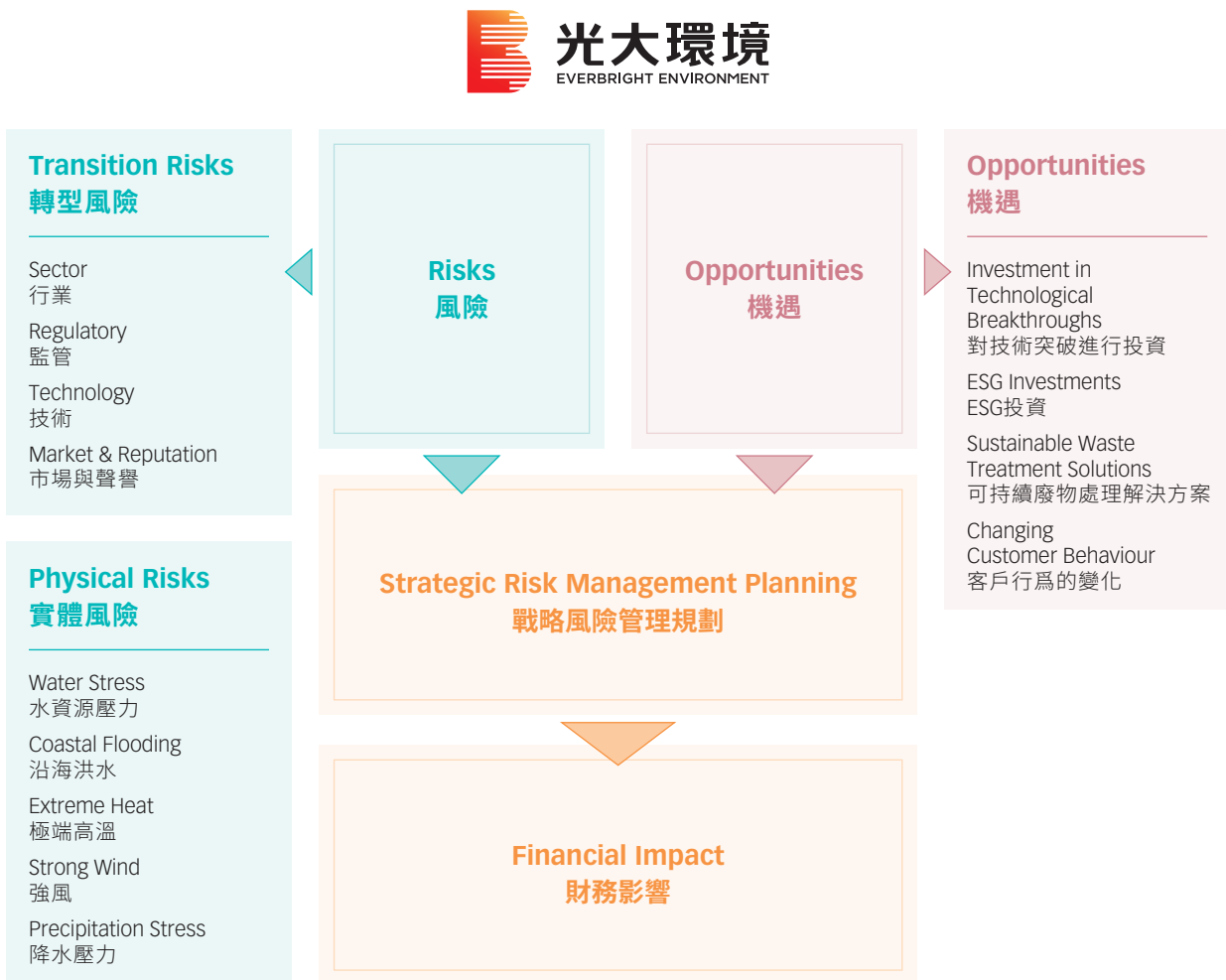
According to the TCFD recommendations, the Group assesses the potential climate-related risks and opportunities of each aspect, takes actions based on the analysis results of physical risks and transition risks, and formulates and implements climate risk control measures. At the same time, the Group also analyses the effectiveness and implementation risks of various measures in order to improve the efficiency of the overall operation.

The diagram below shows an overview of the Group's key climate-related risks and opportunities.

### 風險管理

根據TCFD建議，本集團評估了各個範疇的潛在氣候相關風險及機遇，並根據實體風險和轉型風險的分析結果，制定實施氣候風險控制措施。同時，本集團亦分析了各個措施的有效性以及執行風險，期望提升整體運營的效率。

下圖概述了有關本集團的主要氣候相關風險和機遇。

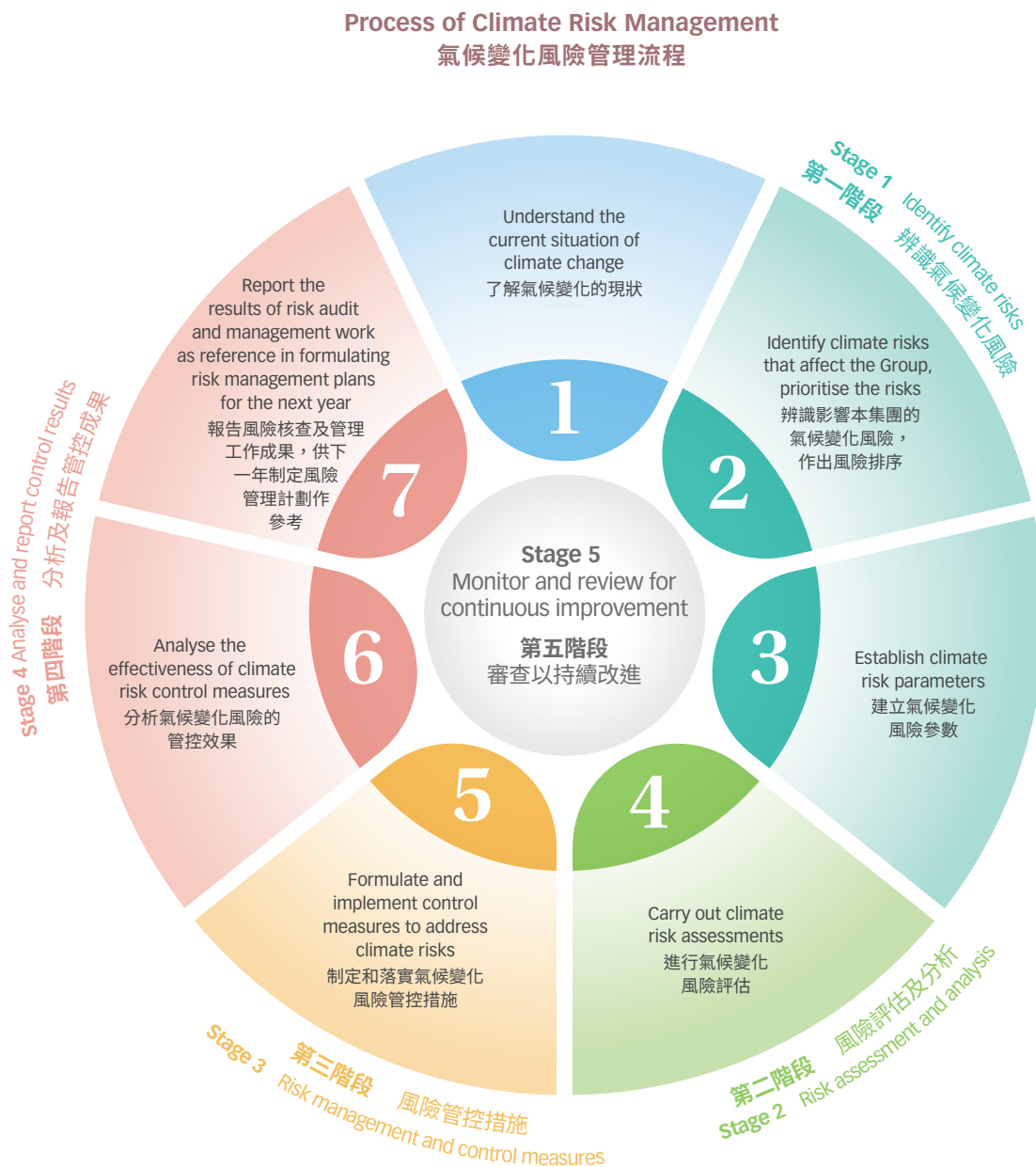


### Risk Management Process

According to the risk management plan, the Group has formulated and implemented a risk management process in order to effectively identify potential risks through clear contingency instructions and formulate and implement relevant measures for each project in a timely manner. Systematic measures can provide a complete and reliable set of decision-making principles and steps to ensure the Group's continued steady operation and development in a changing environment.

### 風險管理流程

根據風險管理計劃，本集團制定並實施了風險管理流程，務求通過清晰的應變指令有效識別潛在風險，適時為各個項目制定和落實相關措施。系統化的措施能夠提供一套完整可靠的決策原則與步驟，確保本集團在變動環境之下繼續穩健經營和發展。



Everbright Environment has thoroughly conducted the identification, assessment and scenario analysis of climate risks, and formulated corresponding mitigation measures according to the results of risk assessment and quantitative analysis to minimise the climate risks faced by the Group. In accordance with the TCFD recommendations, the Group divides climate-related risks into two categories, including physical risks and transition risks, and evaluates material risks by carrying out a scenario analysis.

### Strategy

Everbright Environment is committed to reducing GHG emissions and building a cleaner and environmentally friendly future. On the other hand, the Group strives to address and manage risks and opportunities imposed by climate change on its businesses.

### Physical Climate Scenario Analysis

Climate change has led to various global impacts, including the destabilisation of climate systems and an increase in extreme weather events. These effects can directly harm corporate assets and supply chains, leading to financial losses and damage to physical assets or asset groups.

In 2023, the Group revised the analysis results based on the project-level modelling study with an updated list of projects. The study evaluates both the acute and chronic physical climate risks under climate scenarios that jointly consider SSPs and RCPs based on the IPCC AR6. The physical climate scenario analysis aims to assess key climate-related risks under the current situation and potential future climate states. The assessments cover water stress and coastal flood risk to all Everbright Environment's assets that were under preparation, construction, commissioning and operation during the Reporting Period. To effectively assess and address these physical risks, the Group has conducted scientific scenario analysis based on the WWF Risk Filter Suite, as well as the Coastal Risk Screening Tool released by Climate Central.

為降低本集團所面臨的氣候風險，光大環境對氣候風險進行深入的識別、評估和情境分析，並根據風險評估和定量分析的結果制定相應的緩解措施。本集團根據TCFD建議將氣候相關風險分為兩類，包括實體風險和轉型風險，並使用情境分析評估重大風險。

### 策略

光大環境致力於減少溫室氣體排放，建立更清潔和環保的未來。另外，本集團致力於應對及管理氣候變化給其業務帶來的威脅和機會。

### 實體氣候情境分析

氣候變化已經導致了各種全球性的影響，包括氣候系統的不穩定和極端天氣事件的增加。這些影響可以直接危害企業資產和供應鏈，導致財務損失和實體資產／資產組的損壞。

本集團於二零二三年根據其最新的項目清單進行了項目層面模擬分析的回顧並更新了分析結果。該研究根據IPCC AR6，以綜合考慮SSPs及RCPs的氣候情境的方式評估本集團所面對的急性和慢性實體氣候風險。這個實體氣候情境分析旨在評估當前的關鍵氣候相關風險狀況，以及未來潛在的氣候狀態。該評估涵蓋了光大環境於報告期內所有在籌備、建設、投產以及運營中的資產所面對的水資源壓力和沿海洪水風險。為有效評估和應對這些實體風險對本集團帶來的風險，本集團基於世界自然基金會的風險篩選工具庫（WWF Risk Filter Suite）及氣候中心（Climate Central）發布的海岸風險篩選工具，進行了科學的情境分析。

## Water Stress Assessment 水資源壓力風險評估

### Why Assess Water Stress? 為什麼要評估水資源壓力程度?

Water stress is a dominant climate-related risk of the Group's projects in the future. The majority of the Group's projects, including waste-to-energy projects, integrated biomass utilisation projects, hazardous and solid waste treatment projects, etc., require a considerable amount of water for the cooling purpose. A prolonged drought or insufficient water supply could affect the reliability of waste processing systems.

水資源壓力是未來本集團項目的主要氣候相關風險。本集團的大部分項目，包括垃圾發電項目、生物質綜合利用項目、危廢及固廢處置項目等，在冷卻過程中均需消耗大量水資源。長期乾旱或供水不足會威脅廢物處理系統的可靠性。

### Methodology 方法

The Group evaluates water stress using the Water Scarcity metrics in WWF's Water Risk Filter, which integrates datasets and modelling approaches covering seven aspects of water scarcity: aridity index, water depletion, baseline water stress, blue water scarcity, available water remaining, drought frequency probability, and projected change in drought occurrence.

本集團使用世界自然基金會的水風險篩檢工具 (Water Risk Filter) 來評估水資源壓力，該工具整合了涵蓋水資源壓力七個方面的數據集以及建模方法，包括：乾旱指數、水資源枯竭、基準線水壓力、藍水匱乏、剩餘可用水量、乾旱可能性以及乾旱頻率變化預測。

The Group's assessment covers the water stress risk levels of all projects currently under preparation, construction, commissioning or operation under the baseline condition, as well as under current trend scenario (2°C scenario) and pessimistic scenario (3.5-4.0°C scenario) in 2030 and 2050, expressed as a percentage of capital investment and the percentage of number of projects.

評估涵蓋了所有正在籌備、建設、投產和運營中的項目在基準線情境及在二零三零年和二零五零年下當前趨勢情境 (2°C情境) 和悲觀情境 (3.5-4.0°C情境) 的水資源壓力風險水平，並按資本投資和項目數目百分比表示。

### Findings 分析結果



#### 1. By Percentage of Capital Investment in Projects 1. 按項目資本投資的百分比

According to the Group's analysis, water resource stress is the main climate risk faced by the Group's projects. Under the baseline scenario, around 27% of the Group's capital investment for projects at planning, construction, commissioning or operational phases are exposed to high water stress levels or above.

Under current trend scenario (2°C scenario), the figure is expected to rise to 47% by 2030 and 53% by 2050. Under the pessimistic scenario (3.5-4°C scenario), the figure will be further increased to 55% by 2030 and 56% by 2050.

根據本集團的分析，水資源壓力是本集團項目的主要氣候相關風險。在基準線情境下，本集團在在籌劃、建設、投產和運營中的項目投資，有約27%屬於水資源壓力程度高或以上級別。

在當前趨勢情境(2°C情境)下，預計到二零三零年該數字將升至47%，而到二零五零年將升至53%。在悲觀情境(3.5-4°C情境)下，該數字將在二零三零年進一步上升至55%，並在二零五零年上升至56%。



#### 2. By Percentage of Number of Projects 2. 按項目數目的百分比

According to the Group's analysis, water resource stress is the main climate risk faced by the Group's projects. Under the baseline scenario, around 29% of the Group's projects at planning, construction, commissioning or operational phases are exposed to high water stress levels or above.

Under current trend scenario (2°C scenario), the figure is expected to rise to 45% by 2030 and 53% by 2050. Under the pessimistic scenario (3.5-4°C scenario), the figure will be further increased to 55% by 2030 and 57% by 2050.

根據本集團的分析，水資源壓力是本集團項目的主要氣候相關風險。在基準線情境下，本集團在在籌劃、建設、投產和運營中的項目投資，有約29%屬於水資源壓力程度高或以上級別。

在當前趨勢情境(2°C情境)下，預計到二零三零年該數字將升至45%，而到二零五零年將升至53%。在悲觀情境(3.5-4°C情境)下，該數字將在二零三零年進一步上升至55%，並在二零五零年上升至57%。

**Responding to Climate Change**  
**應對氣候變化**

Everbright Environment’s water stress assessment under various climate scenarios is as follows:

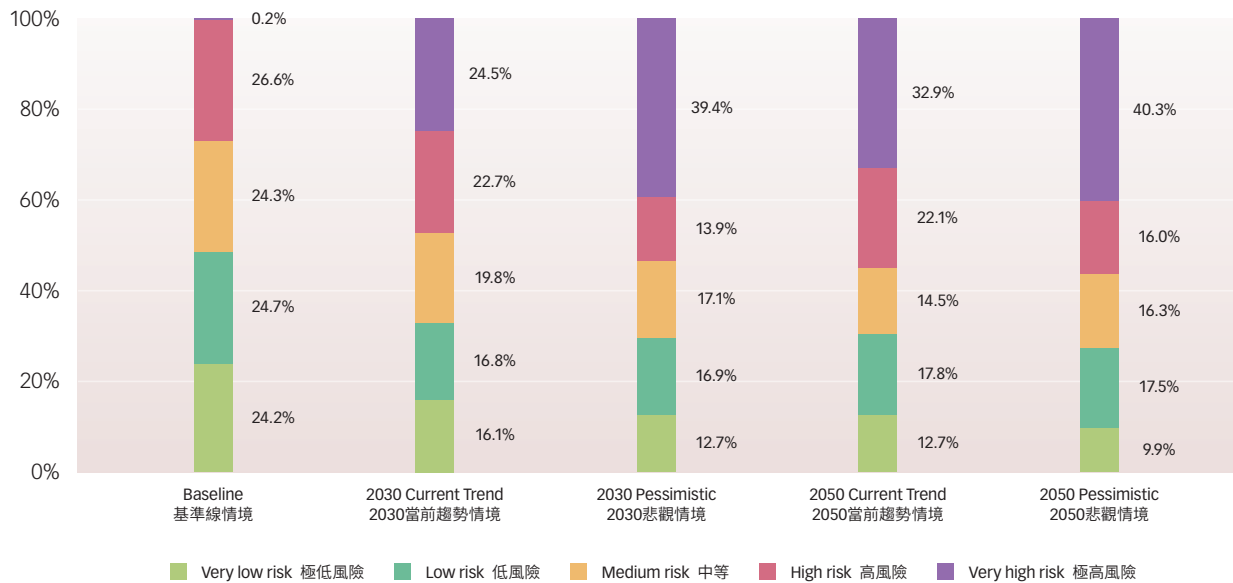
光大環境在各種氣候情境下的水資源壓力程度評估如下：

**By Percentage of Capital Investment in Projects**

**按項目資本投資的百分比**

As of 31 December 2023, the total amount of investment was RMB160.655 billion.

截至二零二三年十二月三十一日，投資總額為人民幣1,606.55億元。

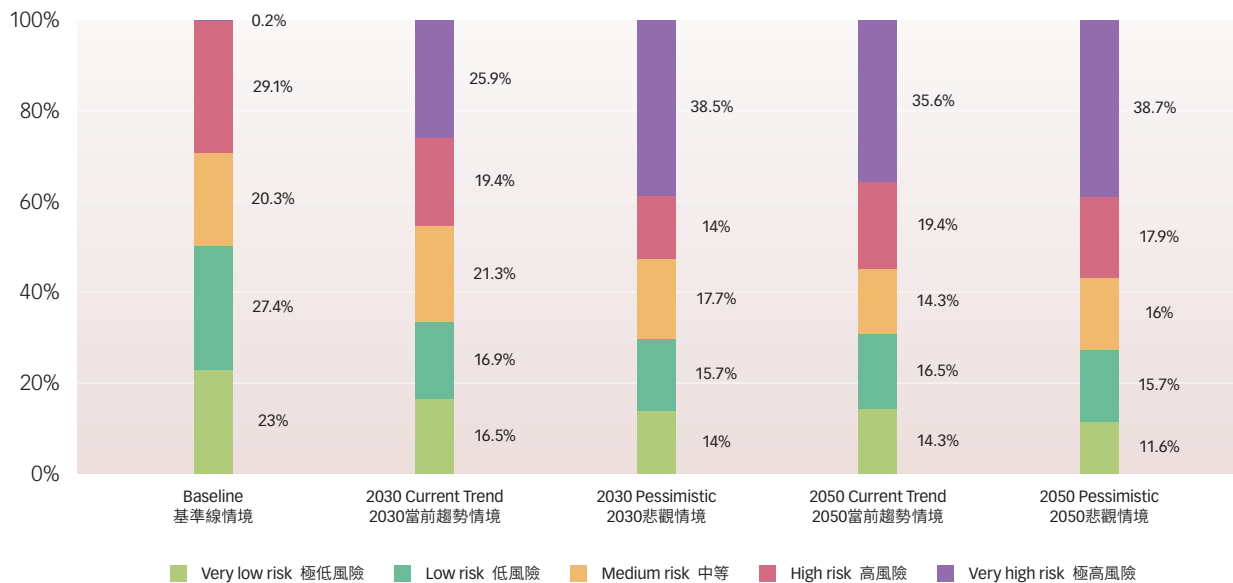


**By Percentage of Number of Projects**

**按項目數目的百分比**

As of 31 December 2023, the total number of projects was 592.

截至二零二三年十二月三十一日，本集團項目數量為592。





## Mitigation Measures for Water Stress Risk

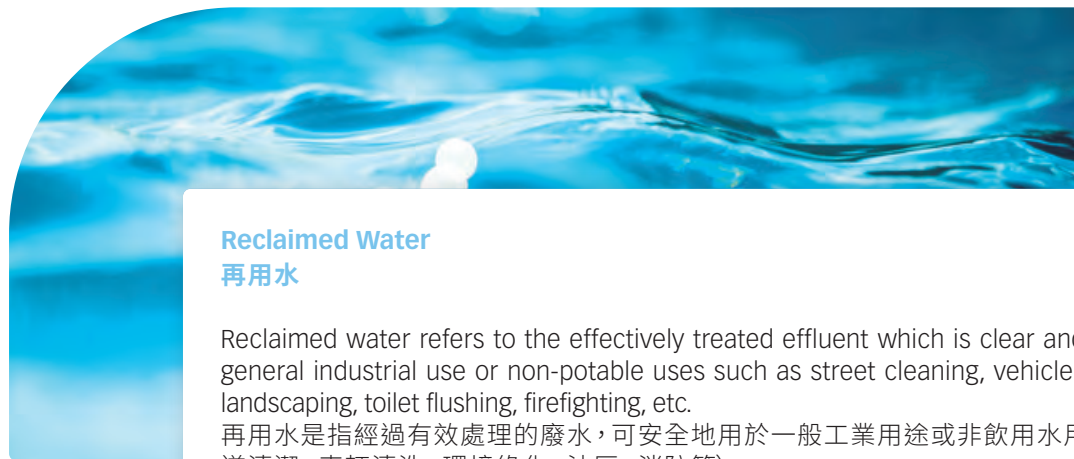
### Water Stress Management

To better manage water stress, the Group has advanced its technology in reusing. For instance, the third generation of the leachate treatment technology has been adopted in the Group's Hangzhou Jiufeng waste-to-energy project ("Hangzhou project"). Through undergoing a series of treatments including ultrafiltration, nanofiltration and reverse osmosis, the effluent quality could meet the standard for use as cooling water. With the adoption of such technology water recovery rate of 80% could be attained. The advanced waste water treatment process supports our vision towards "Reuse All Water, Zero Discharge".

## 針對水資源壓力風險的緩解措施

### 水資源壓力管理

為了更好地控制用水壓力，本集團提高了其回用技術標準。例如，本集團的杭州九峰垃圾發電項目（「杭州項目」）採用了第三代滲濾液處理技術。超濾、納濾和反滲透是在出水達到冷卻水所需標準之前使用的一些技術。通過使用這種技術可以達到80%的水回收率。先進的廢水處理技術將協助我們實現「全回用、零排放」的目標。



#### Reclaimed Water 再用水

Reclaimed water refers to the effectively treated effluent which is clear and safe for general industrial use or non-potable uses such as street cleaning, vehicle washing, landscaping, toilet flushing, firefighting, etc.

再用水是指經過有效處理的廢水，可安全地用於一般工業用途或非飲用水用途（如街道清潔、車輛清洗、環境綠化、沖廁、消防等）。

#### Reusable Water 中水回用

Reusable water refers to the water that is purified by the reusable water projects of environmental water. The reusable water projects purify effluent from waste water treatment plants in accordance with *Reuse of Urban Recycling Water – Water Quality Standard for Industrial Uses* (GB/T 19923-2005) or equivalent standards. Reusable water produced by reusable water projects can be used for power plants and general industrial use, reducing freshwater demand of cities.

中水回用是描述通過環保水務的中水回用項目淨化的水。中水回用工程對污水處理廠出水進行處理，採用《城市污水再生利用工業用水水質》(GB/T 19923-2005)或相等標準。通過將中水回用項目產生的回用水用於發電廠和其他工業用途，可以減少城市所需的淡水量。

## Coastal Flood Risk Assessment 沿海洪水風險評估

### Why Assess Coastal Flood Risk? 為什麼要評估沿海洪水風險?

Coastal flood risk will pose a direct threat to the safety of the Group's assets and employees.  
沿海洪水風險將對本集團資產及員工安全構成直接威脅。

### Methodology 方法

The Group evaluates coastal flood risk using Climate Central's Coastal Risk Screening Tool. For coastal areas' projects, coastal flood risk will be measured through projects that will be below the combined level of projected sea level rise and local annual flood height by 2030 and 2050.

本集團使用氣候中心 (Climate Central) 發布的沿海洪水風險篩檢工具進行風險評估。針對沿海地區項目，沿海洪水風險是通過計算將在二零三零和二零五零年預測的海平面上升及當地年度洪水疊加水位總和之下的項目來確定的。

The Group's assessment covers the coastal flood risk levels of all projects currently under preparation, construction, commissioning or operation in 2030 and 2050 under current trend scenario (2°C scenario) and pessimistic scenario (3.5-4.0°C scenario), expressed as a percentage of capital investment and the percentage of number of projects.

評估涵蓋了所有正在籌備、建設、投產和運營中的項目在二零三零年和二零五零年下當前趨勢情境 (2°C情境) 和悲觀情境 (3.5-4.0°C情境) 的沿海洪水風險水平，並按資本投資和項目數目百分比表示。

### Findings 分析結果



#### 1. By Percentage of Capital Investment in Projects 1. 按項目資本投資的百分比

According to the analysis of the Group, 29% of the investments of the Group's projects under preparation, construction, commissioning and operation are located in coastal areas.

根據本集團的分析，在所有正在籌備、建設、投產和運營的項目之中，有29%的投資位於沿海地區。

The risk calculations for the current trend scenario (2°C scenario) and pessimistic scenario (3.5-4.0°C scenario) in 2030 and 2050 are similar: 14% of the investment will be below the combined level of projected sea level rise and local annual flood height. 當前趨勢情境 (2°C情境) 和悲觀情境 (3.5-4.0°C情境) 分別在二零三零年和二零五零年風險計算結果相似：大約14%的投資將低於預測的海平面上升及當地年度洪水疊加水位總和。



#### 2. By Percentage of Number of Projects 2. 按項目數目的百分比

According to the analysis of the Group, 31% of the number of the Group's projects under preparation, construction, commissioning and operation are located in coastal areas.

根據本集團的分析，在所有正在籌備、建設、投產和運營的項目之中，有31%的項目位於沿海地區。

The risk calculations for the current trend scenario (2°C scenario) and pessimistic scenario (3.5-4.0°C scenario) in 2030 and 2050 are similar: 24% of the projects will be below the combined level of projected sea level rise and local annual flood height.

當前趨勢情境 (2°C情境) 和悲觀情境 (3.5-4.0°C情境) 分別在二零三零年和二零五零年風險計算結果相似：大約24%的項目將低於預測的海平面上升及當地年度洪水疊加水位總和。

## Mitigation Measures for Coastal Flood Risk

### Flood Risk Management

#### *Projects with Built-in Flood Retention Measures*

The Group's projects have over three million m<sup>2</sup> site of greenery area in total, providing aesthetically pleasing landscapes while incorporating flood retention designs.

#### Some Project Highlights:



**Suzhou Waste-to-energy Project**  
蘇州垃圾發電項目

(Overall site greenery area: 23,000 m<sup>2</sup>)  
(整體廠區綠化面積：23,000平方米)

## 針對沿海洪水風險的減緩措施

### 洪水管理

#### *內置防洪措施的項目*

本集團的項目共擁有逾三百萬平方米的廠區綠化面積，提供了美麗的景觀之餘亦包含了防洪設計。

#### 部分亮點項目：



**Dangshan Integrated Biomass and Waste-to-energy Project**  
蕩山生物質及垃圾發電一體化項目

(Overall site greenery area: 38,000 m<sup>2</sup>)  
(整體廠區綠化面積：38,000平方米)



**Jiangyin Waste Water Treatment Project**  
江陰污水處理項目

(Overall site greenery area: 98,000 m<sup>2</sup>)  
(整體廠區綠化面積：98,000平方米)



**Ji'nan Waste Water Treatment Project**  
濟南污水處理項目

(Overall site greenery area: 94,000 m<sup>2</sup>)  
(整體廠區綠化面積：94,000平方米)



### Elevation of Key Equipment/Machinery

To the extent practicable, key equipment and machinery are elevated to avoid damages due to flooding.

### Sponge City

The Group puts the “blue-green infrastructure” concept in practice in its sponge city projects, which aims to improve a city’s ability in absorption, infiltration, retention and release and purification of rainwater, and to strengthen the urban ecosystem through building systems that can effectively control surface runoff and relieve pressure on urban river channels. A series of water storage tanks, rainwater pumping stations, rainwater drainage networks, waste water treatment facilities, as well as ecological restoration works are integrated into the sponge city projects.

### 提升主要設備／機械的高度

在切實可行的範圍內提升主要設備和機械的位置高度，以避免洪水造成損壞。

### 海綿城市

本集團海綿城市項目通過打造城市地表徑流管理、防洪排澇通道，提高城市對雨水的吸收、蓄水、緩釋、淨化能力，增強城市生態系統功能，實現「藍綠建造」的概念。許多雨水收集系統、泵站、排水系統、污水處理廠和生態恢復舉措都是海綿城市概念的一部分。



Zhenjiang Sponge City Construction Public-Private-Partnership (“PPP”) Project  
鎮江海綿城市政府和社會資本合作（「PPP」）項目

### River-Basin Restoration

To a broader extent, the Group undertakes river-basin restoration projects to help protect the water sources at the catchment scale. River-basin restoration (or river-basin ecological restoration) refers to river ecosystem restoration through establishing a healthy, comprehensive and stable river ecosystem using artificial reclamation measures, while meeting the basic needs for flood prevention, stormwater drainage and diversion within the boundaries of rivers and lands.

### 流域治理

本集團已啟動更大規模的流域管理計劃，以保護集水區的水源。流域管理（又稱流域生態修復治理）是指在河道陸域控制線內，在滿足防洪、排澇和引水等河道功能的前提下，以人工修復措施促進河道水生生態系統恢復，營造健康、完整和穩定的河道水生生態系統。

## Climate-Related Physical Risk Matrix

Based on the baseline condition and different climate scenarios in 2030 and 2050, the Group analysed the risks of relevant entities and created a physical risk matrix.

### Key Findings:

- Medium impact was imposed on the Group's water stress under the baseline condition and different climate scenarios in 2030 and 2050.
- Low impact was imposed on the Group's projection the coastal flood issue in the under current trend scenario and pessimistic scenario in 2030 and 2050.

## 與氣候相關的實體風險矩陣

基於基準線以及二零三零和二零五零年不同氣候情境，本集團分析了相關實體風險，並建立了實體風險矩陣。

### 主要分析結果：

- 在基準線以及二零三零和二零五零年不同氣候情境下，水資源壓力對本集團的項目產生了中等程度的影響。
- 在二零三零年和二零五零年的當前趨勢情境和悲觀情境下，沿海洪水對本集團的項目均產生了較低影響。

## Consequences of Climate Change on Everbright Environment's Projects under Different Scenarios<sup>(1)</sup>

### 光大環境項目在不同情境中的氣候變化後果<sup>(1)</sup>

	Baseline 基準線情境	Current trend (2030) 當前趨勢情境 (二零三零年)	Pessimistic (2030) 悲觀情境 (二零三零年)	Current trend (2050) 當前趨勢情境 (二零五零年)	Pessimistic (2050) 悲觀情境 (二零五零年)
Water Stress Risk 水資源壓力風險	M	M	M	M	M
Coastal Flood Risk 沿海洪水風險	/	L	L	L	L

**L** Low impact  
輕度影響  
**<25%**  
of project investments impacted with high risk or above<sup>(2)</sup>  
的項目投資受高風險或以上影響<sup>(2)</sup>

**M** Medium impact  
中度影響  
**≥25% and <75%**  
of project investments impacted with high risk or above<sup>(2)</sup>  
的項目投資受高風險或以上影響<sup>(2)</sup>

**H** High impact  
高度影響  
**≥75%**  
of project investments impacted with high risk or above<sup>(2)</sup>  
的項目投資受高風險或以上影響<sup>(2)</sup>

Notes:

- (1) Financial quantification of physical risk is being studied, as the anticipated value at risk (VaR) is subject to the particular built environment of assets and is case by case. Broad brush screening results cannot derive meaningful VaR for disclosure.
- (2) For coastal flood risk, Group's projects that would be below the combined level of the projected sea level rise and local annual flood height by 2030 and 2050 were categorised as high risk.

附註：

- (1) 對實體風險的財務量化尚在研究當中，由於預期的風險價值 (VaR) 取決於具體的資產建設環境，因此需要根據具體情況進行評估。簡要篩查結果無法提供有意義的VaR披露。
- (2) 在沿海洪水風險方面，本集團所有將在二零三零年和二零五零年位於低於預測的海平面上升及當地年度洪水疊加水位總和的項目均被評價為高風險。



### Other Physical Risks

In addition to climate scenario analysis, the Group has also utilised WWF Risk Filter Suite to assess the baseline risk levels associated with extreme heat and strong wind. According to the analysis of the Group, around 95% of the Group's projects are situated in regions with a very high extreme heat risk, experiencing a daily maximum Wet Bulb Globe Temperature (WBGT) of 32°C within a five-year return period. Additionally, more than 96% of the projects are located in areas with very high strong wind risk, and are expected to encounter maximum wind speeds exceeding 120 mph in a 50-year return period.

### 其他實體風險

除氣候情境分析外，本集團還使用了世界自然基金會的風險篩檢工具來評估與極端高溫 and 強風相關的基準線風險水平。根據本集團的分析，本集團約有95%的項目位於極端高溫風險非常高的地區。這些地區在5年回歸期內的日最高濕球黑球溫度 (WBGT) 可達 32°C。此外，超過96%的項目位於強風風險非常高的地區，預計在50年回歸期內會遇到超過120英里／小時的最大風速。

Physical Risks 實體風險	Potential Impacts 潛在影響
Extreme Heat 極端高溫	<ul style="list-style-type: none"> <li>Health risks to employees due to hotter workplaces 工作場所溫度升高所引致的員工健康風險</li> <li>Increase in perceived odour impacts due to hotter ambient 因環境溫度升高而增加的氣味影響</li> </ul>
Precipitation Stress (resulting from changes in seasonal precipitation patterns leading to more humid, less snowy winters and drier, drought-prone summers) 降雨壓力 (由於季節降雨模式的改變，導致冬季更加潮濕，降雨減少，夏季更加乾燥，更易遭受乾旱)	<ul style="list-style-type: none"> <li>Changes to site hydrology 現場的水文模式改變</li> <li>Impose stressful environment to on-site vegetation 施加於現場植被的環境壓力</li> <li>Reduce water availability during dry seasons 乾旱季節供水減少</li> </ul>
Strong Wind 強風	<ul style="list-style-type: none"> <li>Buildings and facilities (including photovoltaic panels) damaged by strong winds 建築物 and 設施 (包括太陽能光電板) 受強風損壞</li> <li>Increased strong wind-related disruption to critical transport for waste delivery 關鍵廢物運輸受強風相關的干擾增加</li> <li>Increased risk of openly-stored materials getting blown away 缺乏掩蓋的材料被風吹走的風險增加</li> <li>Increased health and safety risks to employees, particularly during working at height 尤其在高空作業時員工的健康和安全風險增加</li> <li>Impacts on revenue due to interrupted operations (e.g. blockage in delivery of waste, unscheduled shutdown of facilities) 因運營中斷而對收入造成的影響 (例如廢物運送的阻塞或設施的非計劃停工)</li> </ul>

## Strategy to Mitigate Climate-Related Risks

Everbright Environment has prepared to commence adaptation measures to mitigate the adverse impacts of climate change that may impose on the Group's human capitals and projects. It will continue to promote these measures in the next five years.

### 1. Emergency Response

The Group has enhanced its emergency preparedness for rapid response and recovery from extreme weather events, including heaving rainstorms, floods, typhoons, thunderstorms, sandstorms, etc. In response to the flood seasons and the occurrence of extreme weather events, the Group has deployed necessary measures in advance, and issued a number of procedural documents, namely *Notice on Strengthening Work Safety in "May Day" Holiday*, *Notice on Commencing "Work Safety Month"*, *Notice on Safe Management of Production Safety during Flood Seasons and under Catastrophic Weather Conditions*, *Notice on Management of Production Safety during Adverse Weather*, and *Notice on Work Measures to Prepare for Strong Wind, Rainstorm, Thunderstorm and Lightning*. Since 2022, we have launched the safety and environmental risk information platform, which combines both online monitoring and offline supervision, to strengthen safety and environmental risk analysis and early warning through technical means, and relying on technological innovation to enhance the level of management and control.

At project levels, all project companies conduct regular inspections on adverse weather protection measures, as well as communication, logistics support and protection of emergency supplies to ensure safe operation at all times. A few days before the arrival of the anticipated extreme weather event, all relevant project companies advance their contingency plans including stocking up of emergency supplies, strengthening backup power systems and enhancing information exchange and operational liaison among the emergency response units.

The Group also carried out dedicated investigation and rectification works to ensure precautionary measures against potential hazards were adequately in place. Furthermore, with an aim to improve accident prevention and handling capabilities of staff, emergency preparedness drills were carried out. Targeting key locations and positions, on-site plan and key emergency drills are carried out. In particular, the operational and practical preliminary emergency response drills for frontline employees of the workshop teams are conducted to enhance their capabilities in emergency response.

## 氣候變化相關風險的緩解措施

為了減輕氣候變化可能對本集團的人力資源和項目的不利影響，光大環境已實施了一系列的適應措施，並會在未來五年內繼續推進。

### 1. 應急響應

本集團提高了對暴雨、洪水、颱風、雷雨、沙塵暴等突發事件的快速反應和恢復能力。在應對汛期及極端天氣事件的發生方面，本集團提前做好準備，推出了《關於加強「五一」假期安全生產工作的通知》、《關於展開「安全生產月」活動的通知》、《關於認真做好汛期和災害性天氣安全生產管理工作的通知》、《關於加強災害性天氣期間安全生產管理工作的通知》和《關於做好暴雨雷電大風等惡劣天氣防範應對工作的通知》。我們自二零二二年啟動了安環風險信息化平台建設後，通過線上監控與線下監管相結合，利用技術手段強化安環風險分析和預警，依靠科技創新提高了管控水平。

在項目層面，所有項目公司必須定期審查與惡劣天氣相關的防護措施，並實施通信、物流支援和應急物資援助，以確保始終安全運行。在預計極端天氣事件發生前幾天，各相關項目公司都提前部署了額外的應急準備工作，包括儲備應急物資，加強備用電源，改善前線應急成員單位之間的溝通和工作聯繫。

本集團還對可能存在的風險進行了專門的調查和修改工作，以確保未雨綢繆。另外，為提高員工處理和預防事故的能力，我們組織了應急準備演習。演習針對重點場所和重點崗位，特別是車間班組一線員工操作式、實戰化的應急處置演練和現場處置演練，提升應急反應能力。

## 2. Robust Preventive Maintenance Programme

To maintain infrastructures within the same ranges of serviceability especially in the era of climate change, the Group has implemented a robust preventive maintenance programme that features regular, frequent maintenance activities to be performed on key systems to reduce the change of failure and extend uptime. The programme allows project companies to address any problems before they arise.

## 3. Sustainable Financing

In March, May and November 2023, the Group issued the 2023's first, second and third tranche Medium Term Notes ("MTNs") in the national inter-bank bond market amounting to a combined issue size of RMB6 billion for the repayment of the interest-bearing debts of the Company and its subsidiaries.

In April, July and August 2023, Everbright Water issued the 2023's first, second and third tranche MTNs in the national inter-bank bond market amounting to a combined issue size of RMB3.5 billion for the replenishment of the working capital of Everbright Water and its subsidiaries.

In May and September 2023, Everbright Greentech issued the 2023's first and second tranche of the green MTNs in the national inter-bank bond market amounting to a combined issue size of RMB2 billion for the repayment of interest-bearing debts of Everbright Greentech and its subsidiaries, replenishment of their working capital and/or investment in and construction of their environmental protection projects and for other business development purposes.

## 4. Climate-Related Risk Insurance

The Group has insurance against climate-related natural hazards including lightning, rainstorms, floods, storms, tornadoes, hail, typhoons, hurricanes, sandstorm, blizzards, landslide, collapse, mudslide and other natural disasters. Insurance covers the compensation for damages of projects, interruption in operations, health of workers, etc.

## 2. 健全的預防性維修計劃

本集團實施了全面的預防性維護計劃，對關鍵系統進行日常和頻繁的維修活動，以減少故障的變化並增加正常運行時間，以在氣候變化的影響下保持基礎設施的運行性能。這個計劃使項目公司可以在問題發生之前處理所有問題。

## 3. 可持續融資

於二零二三年三月、五月、十一月，本集團於全國銀行間債券市場先後發行二零二三年度第一期、第二期及第三期中期票據，總發行規模人民幣60億元，用於償還本集團及附屬公司的銀行有息貸款。

於二零二三年四月、七月及八月，光大水務於全國銀行間債券市場先後發行二零二三年度第一期、第二期及第三期中期票據，用於補充光大水務及其附屬公司的運營資金，總發行規模人民幣35億元。

於二零二三年五月及九月，光大綠色環保於全國銀行間債券市場先後發行二零二三年度第一期及第二期綠色中期票據，用於償還光大綠色環保及其附屬公司的有息債務、補充營運資金及/或投資和建設環保項目及其他業務發展用途，總發行規模人民幣20億元。

## 4. 氣候相關風險的保險

本集團已為與氣候相關的自然災害風險投保，包括閃電、暴雨、洪水、風暴、龍捲風、冰雹、颱風、颶風、沙塵暴、暴風雪、滑坡、塌陷、泥石流和其他自然災害。保險包括對項目損害、運營中斷、工人健康等的賠償。

In order to better understand the impact of climate change on operations, the following climate related indicators were added this year. The Group will continue to disclose and monitor these indicators in order to track the effectiveness of the adaptation measures of each project company and will further improve the risk management process.

為了更好地了解氣候變化對運營所帶來的影響，以下為我們於本年度新增的氣候變化有關的指標。本集團會持續披露和監測指標，以便追蹤各項目公司適應措施的成效和進一步完善本集團的風險管理流程。

Climate Risk Indicators 氣候風險指標	Unit 單位	2023
Number of forced outage days due to extreme weather 由極端天氣所導致而被迫停運天數	Day 天	13
Number of employee sick days due to extreme weather 由極端天氣所導致的員工病假天數	Day 天	0
Number of employee injury days due to extreme weather 由極端天氣所導致的員工工傷天數	Day 天	0
Hours of drills for tackling climate change 應對氣候變化演練的時數	Hour 小時	912
Area that incorporates flood retention & sponge city design 採用排水防洪及海綿城市設計的綠化面積	m <sup>2</sup> 平方米	757,284

### Exploring Future Adaptation and Mitigation Measures Against Climate Change Risks

Everbright Environment recognises the long-term challenges presented by climate change and has continued to explore measures to adapt and mitigate physical and transition risks. The exploration efforts cover the entire cycle of projects from early-stage planning and design till on-going operation and management. Those physical risk adaptation and mitigation measures will be progressively implemented in the next ten years to all applicable projects of the Group.

### 探索應對氣候變化風險的未來適應及減緩措施

因應氣候變化帶來的長期挑戰，光大環境繼續積極探索措施以適應及減緩實體和轉型風險。探索工作涵蓋了從早期計劃和設計到正在進行的運營和管理的整個項目週期。該等實體風險適應和減緩措施涵蓋本集團所有應用項目，並將在未來十年內逐步實施。

\* For identification purpose only

\* 僅供識別用途

Planning  
規劃

**Climate-Sensitive Site Selection**  
**氣候敏感的選址**

- Mainstream climate considerations into the site selection process of projects.  
項目選址過程將引入氣候考慮因素。
- Avoid choosing sites with unfavourable hydrometeorological parameters and/or potential extreme weather conditions as appropriate.  
盡可能避免選擇水文氣象參數不利和／或潛在極端天氣條件的地點。

**Green Building/Infrastructure Development**  
**綠色建築／基礎設施開發**

- Consider climate-related impacts in the building lifecycle and obtain green building certifications for new buildings/infrastructures where possible. The Group will also closely monitor the energy performance of existing buildings through advanced technologies such as real-time energy monitoring for smart energy management, thereby reducing GHG emissions.  
探討氣候變化對建築物生命週期相關的影響，並在可能的情況下獲得新建築物／基礎設施的綠色建築物認證。本集團還會引入先進技術（例如用於智能能源管理的實時能源監控）密切監控現有建築物的能源效能，從而減少溫室氣體排放。

Design  
設計

**Improve Structural Integrity**  
**改善結構完整性**

- Improve structural integrity of plants by adopting a more stringent wind load factor, larger temperature differences, and increased snow load in resilient building design, where appropriate.  
為改善工廠的結構完整性，在適當的情況下，在彈性建築設計中採用更嚴格的風荷載系數，更大的溫差以及增加的雪荷載。

**Drainage and Flood Prevention**  
**防洪及排水設計**

- Adopt climate resilient drainage design that caters for a higher rainfall intensity and shorter return period.  
採用氣候適應性排水設計，可滿足更高的降雨強度和更短的返回期。
- Install flood gates in areas that are prone to flooding.  
在容易發生水災的區域安裝水閘。
- Improve design to ensure proper drainage along key access roads to ensure uninterrupted transportation of waste and biomass raw materials to the plants.  
改進設計，確保沿主要通道的排水妥當，以確保垃圾和生物質原料到項目的運輸不受阻礙。



### Improve Performance of Equipment under High Temperatures 提高設備在高溫下的性能

- Conduct thermodynamic modelling to investigate how higher temperatures and humidity would affect long term plant performance. Thermodynamic modelling allows the future performance of the power plant to be simulated under different scenarios and helps identifying limitations in performance and areas of the plant where operational efficiency can be gained. The modelling results can facilitate adjustments in operations and maintenance or installation of additional infrastructure such as inlet cooling, to adapt to long-term changes to ambient conditions.

使用熱力學模型以研究較高的溫度和濕度將如何影響項目的長期性能。熱力學模型模擬發電廠在未來不同情況下的性能，有助確定發電廠的性能和可獲得運行效率的領域的局限性。模型結果可以促進操作和維護方面的調整或安裝其他基礎設施（如入口冷卻），以適應環境條件的長期變化。

### Rainwater Harvesting 雨水收集

- Explore opportunity to increase rainwater harvesting.  
探索增加雨水收集的機會。

### Transportation Route 運輸路線

- Carefully design transportation routes to reduce climate-related impacts that may affect the delivery of waste and raw materials.  
精心設計運輸路線，以減少氣候變化對阻礙垃圾和原材料運輸的相關影響。



Construction  
施工

### Sustainable Construction 可持續施工

- Select suitable low-carbon materials for construction.  
選擇合適的低碳材料進行施工。
- Use biodiesel to power the construction projects and equipment to lower carbon emission.  
於在建項目及設備中使用生物柴油，以減少碳排放。

Operation  
and  
Management  
運營及管理

**Improve Flood Resilience of Operating Assets**  
提高運營資產的抗洪能力

- Review and improve design and operation of existing assets to enhance waterproofing ability of buildings.  
審查並改善現有資產的設計和運營，以提高建築物的防水性。

**Assessing Climate Resilience of Utilities**  
評估公用設施的氣候適應能力

- Communicate with utility authorities to assess climate resilience of utilities with consideration given to rerouting of pipelines, use of underground pipelines, etc.  
與公用事業當局進行溝通，以評估公用設施的氣候適應能力，並考慮管道的重新分布、地下管道的使用等。

**Capacity Building**  
能力建設

- Conduct training for all staff to ensure their awareness of potential climate-related impacts.  
對所有員工進行培訓，以確保他們意識到與氣候相關的潛在影響。

**Supply Chain: Implementing Climatic Guidance for Procurement**  
供應鏈：實施採購氣候指引

- Where practical, procurement specifications shall clearly identify the climatic conditions (current and future) in which the equipment or asset will operate.  
採購規範應盡可能明確標識設備或資產將在其中運行的氣候條件（當前和將來）。

**Transition Climate Scenario Analysis**

The acceleration of low-carbon economy transformation brings numerous transformation risks to enterprises. In order to achieve carbon reduction goals, the governments and relevant regulatory agencies have introduced successively various policies and measures to encourage various industries in implementing green and low-carbon transformation. The innovative technologies that companies adopt when moving towards low-carbon operations will add uncertainty to their operations. As investors pay more attention to climate change issues, companies are also facing pressure from investors and other competitors in the industry to enhance their reputation by developing low-carbon transition strategies and enhancing GHG auditing and disclosure.

**轉型氣候情境分析**

低碳經濟快速發展，企業面臨諸多轉型風險。各國政府和監管機構紛紛出台相關政策措施，支持各行各業綠色低碳轉型，實現減碳目標。企業在向低碳運營轉型時採用的尖端技術將給運營帶來不確定性。隨著投資者更加關注氣候變化問題，公司面臨來自投資者和同一行業其他競爭對手的壓力，要求他們通過制定低碳轉型戰略和改進溫室氣體核算和披露來提高聲譽。

The transition risks, potential impacts and management approaches identified for the Net Zero Emissions by 2050 Scenario and Stated Policy Scenario are as follow.

針對「二零五零年淨零排放情境」及「既定政策情境」而識別出的轉型風險、潛在影響及管理方針詳列如下。

Aspect & Factor 方面及因素	Rationale 原則	Stated Policies Scenario 既定政策情境	Net Zero Emissions by 2050 Scenario 二零五零淨零排放情境	Management Approaches 管理方針
<p><b>Sector</b> 行業</p> <p>Factor: Underlying Sector Risk and Stigmatisation of Sector 因素：潛在的產業風險與產業污名化</p>	<p>Carbon-intensive industries are at risk of being stigmatised due to its perceived negative impacts on the environment. 碳密集型產業由於對環境的負面影響而面臨污名化的風險。</p>	<p>Everbright Environment's main business is waste-to-energy, which while still currently classified as an environmentally friendly industry by law, is both carbon-intensive and face some stigma due to its environmental discharge. 光大環境的主要業務是垃圾發電，儘管目前被監管單位列為環保產業，但由於屬於碳密集產業及其相應環境排放，而面臨一定污名風險。</p>	<p>More stringent environmental laws might render the industry much less financially viable. 更嚴格的環境法規可能會降低該行業的財務可行性。</p>	<p>Enhance public education campaigns and boost transparency and accountability. 加強科普教育，提升透明度及完善問責機制。</p>
<p><b>Regulatory</b> 監管</p> <p>Factor: Carbon Pricing Mechanisms 因素：碳定價機制</p>	<p>The <i>Paris Agreement</i> Nationally Determined Contribution (NDC) signifies that the relevant country is committed to implementing measures in reducing carbon emissions, contributing to potentially more stringent regulations such as carbon pricing or carbon taxes. 《巴黎協定》中的國家自主貢獻 (NDC) 標誌著相關國家致力於實施減少碳排放的措施，這將使得碳定價或碳稅等法規更為嚴格。</p>	<p>PRC's national Emissions Trading Scheme (ETS) has included waste-to-energy as eligible for carbon trading, Everbright Environment might augment its income through sales of waste-to-energy green licences. In conjunction with recent policy development regarding carbon trading, Everbright Environment has been actively pursuing developmental work of the international Verified Carbon Standard ("VCS") Program, so as to convert GHG emission reductions and removals from certified projects into tradable carbon credits under voluntary emission reduction and trading mechanisms. 中國的國家排放交易計劃(ETS)已將垃圾發電納入碳交易市場之中，光大環境或可透過出售垃圾發電綠證來增加收入。結合碳交易政策的最新進展，光大環境積極開展國際核證碳減排標準 ("VCS") 計劃的開發工作，以在自願減排和自願碳排放權交易的機制下，將認證項目中的溫室氣體減排量和清除量轉化為可交易的碳信用額。</p>	<p>Transformation of the entire electricity sector is central to achieving net zero emissions in 2050. Although Net Zero Emissions by 2050 Scenario does not rely on offsetting of carbon credits as a means to decarbonise, the carbon pricing mechanism would still be active to encourage investment for decarbonisation. There is also a possibility that waste-to-energy might cease to be eligible from green licences market in the long haul. 推動全電力產業轉型對於二零五零年實現淨零排放至關重要。儘管二零五零淨零排放情境不依賴碳信用額抵銷作為脫碳手段，但碳定價機制依然將積極鼓勵脫碳投資。從長遠來看，也存在垃圾發電不再具備綠證市場交易資質的可能性。</p> <p>It is foreseeable that Everbright Environment will have to invest more heavily into decarbonising its waste-to-energy operations, to allow for more revenue in this respect to augment shrinking income amidst reduced municipal household waste feedstock. 可以預見的是，光大環境須加大垃圾發電脫碳投入，以獲得更多收入，從而彌補城市生活垃圾原料減少帶來的收入萎縮。</p>	<p>Optimise budget planning process to make full use of the opportunities and challenges presented by carbon pricing mechanisms. 優化預算規劃流程，充分利用碳定價機制所帶來的機遇和挑戰。</p>

Aspect & Factor 方面及因素	Rationale 原則	Stated Policies Scenario 既定政策情境	Net Zero Emissions by 2050 Scenario 二零五零淨零排放情境	Management Approaches 管理方針
<p><b>Regulatory 監管</b></p> <p>Factor: Enhanced Emissions-Reporting Obligations 因素：排放報告義務日益強化</p>	<p>With applicable mandatory GHG emissions and climate reporting regulations, companies will face higher operating costs such as higher compliance costs. 根據適用的強制性溫室氣體排放和氣候報告法規，公司將面臨更高的營運成本，例如更高的合規成本。</p>	<p>Everbright Environment is subject to the Stock Exchange's climate reporting obligations. Apart from the need to report climate strategies and assessment results, the tightened GHG emissions reporting requirements would be extended to cover all Scope 3 emissions, covering both upstream and downstream activities. Everbright Environment has been proactively allocating additional resources in this respect, developing a carbon emission and carbon asset management system which will help to realise the systematic, process-based and digital management of carbon assets. 光大環境須遵守聯交所的氣候報告義務。除了報告氣候策略和評估結果外，強化後的溫室氣體排放報告要求還將擴大到涵蓋所有範圍三排放，涵蓋上游及下游活動。光大環境為此積極投入額外資源，開發了一個碳排放與碳資產管理系統，有助於實現碳資產的系統化、流程化、數字化管理。</p>	<p>Anticipated advancements in the methodology for calculating scope 3 emissions and stricter climate reporting requirements are expected to apply throughout the entire value chain, demanding Everbright Environment to allocate additional human and financial resources to develop and maintain a more robust system and subscribe to proxies for collecting higher quality data for calculation and compliance. 預期中範圍三排放計算方法的進步和更嚴格的氣候報告要求將適用於整個價值鏈，使得光大環境須分配額外的人力和財力資源來開發和維護更強大的體系，並訂閱代理以收集更高質量的排放數據，用於計算與合規。</p>	<p>Allocate a substantial budget for an extended ESG consultancy service with broader coverage, considering the potential need to purchase proxy data, install sensors/meters, conduct lab tests and relevant R&amp;D, and other expenses in line with long-term market trends. 分配足額預算以聘用覆蓋範圍更廣的ESG諮詢服務，將購買代理數據、安裝感測器／儀表、進行實驗室測試以及符合長期市場趨勢的其他費用的潛在需要納入考慮。</p>
<p><b>Regulatory 監管</b></p> <p>Factor: Exposure to Litigation 因素：訴訟風險</p>	<p>Climate-related litigation (due to ever tightened standards and evolving claim attitude of stakeholders) can expose a company to potential fines and liabilities. 氣候相關訴訟（由於標準不斷收緊，及持份者變化中的索賠態度）可能會使公司面臨潛在的罰款和責任。</p>	<p>There is no ongoing or previous climate-related litigation cases on the project companies of Everbright Environment. However, under the current prevailing policies in the PRC, the electricity industry is deemed as a carbon-intensive sector, while waste-to-energy is included in PRC's green industry taxonomy, thus is potentially under increasing regulatory scrutiny. Nevertheless, Everbright Environment will upkeep a high standard of integrity and professionalism in disclosing its carbon emissions and avoidance in a transparent manner. 目前，光大環境下屬項目公司並無進行中或過往的氣候相關訴訟案件。不過，在中國現行政策下，電力產業被認為高排放產業，而垃圾發電亦在綠色低碳轉型產業目錄之中，因此可能會面臨更為嚴格的監管審查。儘管如此，光大環境仍將保持高標準的誠信和專業精神，以透明的方式披露其碳排放和碳避免的狀況。</p>	<p>Everbright Environment's project companies have not been involved in any climate-related litigation cases, neither currently nor in the past. However, under Net Zero Emissions by 2050 Scenario, there is a chance that waste-to-energy plants, being energy-consuming public utilities infrastructures, may be subject to greater regulatory and public oversight. 目前，光大環境下屬項目公司並無進行中或過往的氣候相關訴訟案件。不過，在二零五零淨零排放情境下，垃圾發電廠作為耗能的公共市政設施，可能會受到更嚴格的監管和公眾監督。</p>	<p>Enhance sustainability practices to meet societal expectations and regulatory compliance. 加強可持續發展實踐，以滿足社會期望和監管合規性。</p>

Aspect & Factor 方面及因素	Rationale 原則	Stated Policies Scenario 既定政策情境	Net Zero Emissions by 2050 Scenario 二零五零淨零排放情境	Management Approaches 管理方針
<p><b>Technology 技術</b></p> <p>Factor: Mandates on and Regulation of Existing Products and Services 因素：對現有產品和服務的授權及監管</p>	<p>For carbon intensive companies whose business is highly dependent on prevailing regulatory measures, they could face increased costs or reduced revenue due to the dynamic evolution of domestic climate change regulatory developments. 對於業務受現行監管措施高度影響的碳密集型企業而言，鑒於國內氣候變化監管發展的流變，其可能面臨成本增加或收入減少的情況。</p>	<p>While there is no current climate-related mandates specific on both waste-to-energy and waste water treatment industries in the PRC, as relevant emission-related environmental regulations become increasingly stringent, it might compel Everbright Environment to invest more in relevant technologies and equipment. 雖然中國目前沒有專門針對垃圾發電及水務產業的氣候變化相關法規，但隨著與碳排放相關的法律日益收緊，這可能導致光大環境須增加相關技術和設備的投資。</p>	<p>International Energy Agency expects that around 90% of energy supply will be provided by renewables by 2050. The government will likely impose additional regulatory measures such as carbon emission cap on waste-to-energy and waste water treatment operators. 國際能源總署預計到二零五零年，約90%的能源供應將由可再生能源提供。政府可能會實施額外的監管措施，例如為垃圾發電及污水處理運營商制定碳排放上限。</p>	<p>Explore and implement initiatives to reduce carbon intensity and increase green electricity consumption. 探索並實施有助於減少碳排放的舉措，並探索增加綠色電力消耗的可能性。</p>
<p><b>Technology 技術</b></p> <p>Factor: Transitioning to Lower Emissions Technology 因素：向低排放技術過渡</p>	<p>Companies are facing the market trend towards green production and transportation where various lower emissions options are available. These include low-carbon operation mode, improved energy efficiency, use of renewable energy, switch to cleaner fuels, adoption of electric vehicles, etc. If a company fails to transition to lower emissions options in meeting its ambitious decarbonisation target (or such target does exist), its market competitiveness will inevitably be affected under the realm of climate change. 公司面對綠色生產和運輸的市場趨勢，有多種較低排放的選擇，包括低碳營運模式、提高能源效率、使用再生能源、改用清潔燃料、採用電動車等。如果企業未能過渡到較低排放方案以實現其脫碳目標（若該目標存在），在氣候變遷的背景下，其市場競爭力將不可避免地受到影響。</p>	<p>Recent policy guidelines have been issued to encourage waste-to-energy and water utility companies to adopt lower emissions technologies, Everbright Environment has demonstrated a proactive approach by spearheading the experimentation and implementation of these measures and technologies, in line with its market peers. 最近推出的政策指引鼓勵垃圾發電和水務企業採用低排放技術。光大環境也與同行一道，率先試驗和實施這些措施和技術，展現了積極主動的態度。</p>	<p>Under the ambition to transition towards net zero, Everbright Environment will encounter increased demands and expectations from the clients, government, investors, and the public, necessitating more frequent and stringent commitments to ambitious carbon reduction goals. As a result, Everbright Environment might be required to pay extra decarbonisation efforts in construction and operation, even though the effectiveness of such efforts in such domain may be constrained. 在向淨零排放轉型的雄心壯志下，光大環境將面臨客戶、政府、投資者和公眾日益增長的要求和期望，需要對碳減排目標作出更頻繁、更嚴格的承諾。因此，光大環境在建設和運營中必須付出額外的脫碳努力，儘管此類努力效果可能有限。</p>	<p>Enhance adoption of lower emissions technology in company projects. 在公司項目中加強採用較低排放技術。</p>



Responding to Climate Change  
應對氣候變化

Aspect & Factor 方面及因素	Rationale 原則	Stated Policies Scenario 既定政策情境	Net Zero Emissions by 2050 Scenario 二零五零淨零排放情境	Management Approaches 管理方針
<p><b>Technology</b> 技術</p> <p>Factor: Investment in Technological Breakthroughs 因素：投資技術突破</p>	<p>Investment in low-carbon technological breakthroughs such as microbial fuel cells can be impactful but new technology developments could have an associated risk of being unsuccessful.</p> <p>對微生物燃料電池等低碳技術突破的投資可能會取得顯著進展，但新技術的開發也可能存在不成功的風險。</p>	<p>For Everbright Environment, upcoming transformative factors include the adoption of application of solar water heater and heat drying of waste, allowing for decreasing GHG emissions. Another potentially disruptive technology for Everbright Environment's businesses is the implementation of artificial intelligence (AI), which enables enhanced automation and optimisation of process controls. Advancements such as those above have the potential to generate long-term reductions in electricity and resource consumption.</p> <p>對光大環境而言，即將出現的轉型因素包括採用太陽能熱水器和廢物熱乾燥技術，從而減少溫室氣體排放。另一個可能具備顛覆性影響的技術包括人工智能，其有助於增強自動化，優化程序控制過程。上述進步在長遠上有可能減少電力和資源消耗。</p>	<p>Under the rapid change of regulatory and market landscapes, Everbright Environment may have to venture into emerging technologies as an attempt to pursue all possible means to curb carbon emissions. Especially in areas where options are limited, new technologies such as carbon capture will have to be adopted prior to their maturation.</p> <p>監管和市場格局快速變化，光大環境可能需要涉足新興技術，盡全力抑制碳排放。在選擇有限的領域尤為如此，須在如碳捕集等新技術成熟前採用。</p>	<p>Enhance investment in relevant R&amp;D as well as industry-academia collaboration, leading to the adoption of big-data based waste-to-energy management systems.</p> <p>加強相關研發投入及產學合作，推廣基於大數據的垃圾發電廠管理系統。</p>
<p><b>Market &amp; Reputation</b> 市場及聲譽</p> <p>Factor: Increased Cost of Raw Materials 因素：原料成本增加</p>	<p>The fluctuations in the price of raw materials and fuel can be caused by climate change. Projects that depend significantly on such material will therefore be exposed to risks of higher production costs in the future.</p> <p>氣候變遷可能導致原料和燃料價格波動。因此，嚴重依賴此類材料的項目未來將面臨生產成本上升的風險。</p>	<p>Decreasing solid waste feedstock as a result of increased recycling awareness might lead to a lack of raw materials for Everbright Environment's waste-to-energy-related business unit.</p> <p>由於回收意識的提高，作為原料的固廢數量減少，可能會導致光大環境垃圾發電相關業務部門缺乏原料。</p>	<p>Net zero ambitions will result in an overwhelming call for use of clean production mechanisms and renewable energies throughout the supply and transportation chain, which will be translated into significant cost implications to the construction and operation of Everbright Environment's projects.</p> <p>淨零目標將導致民衆強烈呼籲在整個供應和運輸鏈中使用清潔生產機制及可再生能源，這將對光大環境項目的建設和運營產生較大成本影響。</p>	<p>Enhance budgetary preparedness for potential supply chain disruptions and increased costs of energy and raw materials. Take feedstock prediction into account when planning new waste-to-energy and waste water treatment plants projects.</p> <p>做好預算準備，應對潛在的供應鏈中斷以及能源和化學品等原材料成本增加。規劃新的垃圾發電和污水處理項目時將原料預測納入考量。</p>

Overall Risk / Opportunity

整體風險／機會

Legend

圖例

Aspect 方面	Factor 因素	Stated Policies Scenario 既定政策情境		Net Zero Emissions by 2050 Scenario 二零五零淨零排放情境	
		2030 二零三零年	2050 二零五零年	2030 二零三零年	2050 二零五零年
Sector 行業	Underlying Sector Risk and Stigmatisation of Sector 潛在的產業風險與產業污名化	Neutral	Neutral	Low Opportunity	Low Opportunity
Regulatory 法規	Carbon Pricing Mechanisms 碳定價機制	Neutral	Low Opportunity	Low Opportunity	Low Opportunity
	Enhanced Emissions-Reporting Obligations 排放報告義務日益強化	Low Opportunity	Low Opportunity	Low Opportunity	Low Opportunity
	Exposure to Litigation 訴訟風險	Neutral	Neutral	Low Opportunity	Low Opportunity
	Mandates on and Regulation of Existing Products and Services 對現有產品和服務的授權及監管	Low Opportunity	Low Opportunity	Low Opportunity	Low Opportunity
Technology 技術	Transitioning to Lower Emissions Technology 向低排放技術過渡	Neutral	Low Opportunity	Low Opportunity	Low Opportunity
	Investment in Technological Breakthroughs 投資技術突破	Neutral	Low Opportunity	Low Opportunity	Low Opportunity
Market & Reputation 市場及聲譽	Increased Cost of Raw Materials 原料成本增加	Low Opportunity	Low Opportunity	Low Opportunity	Low Opportunity

Other Climate-related Opportunities

其他氣候相關機遇

Aspect 方面	Major Opportunities 主要機遇	Potential Financial and/or Operational Opportunities 在財務及／或運營影響	Management Approach in the Next Five Years 未來五年管理方針
Market & Reputation 市場及聲譽	<p><b>ESG investments</b>  <b>ESG投資</b></p> <p>Climate change leads to ESG investment opportunities, and investors will make investment considerations based on the corporate's ESG performance. 氣候變化帶來ESG方面的投資機遇，投資者會依照企業的ESG方面的績效作投資考慮。</p>	<ul style="list-style-type: none"> <li>Increase value of assets 提高資產價值</li> <li>Enhance the Group's reputation and competitiveness 提高本集團聲譽及競爭地位</li> </ul>	<ul style="list-style-type: none"> <li>Adopt international best practices in sustainability reporting. 採用國際的最高標準撰寫可持續報告。</li> <li>Increase transparency in ESG information disclosure. 增加披露ESG資料的透明度。</li> <li>Incorporate ESG considerations into the Group's operations. 於本集團的運營中納入ESG的考慮。</li> <li>To grasp green financing should opportunities arise. 及時把握出現的綠色融資機會。</li> </ul>
Market & Reputation 市場及聲譽	<p><b>Sustainable waste treatment solutions</b>  <b>可持續的廢棄物處理方案</b></p> <p>In the era of climate change, the market has been looking for more effective and sustainable waste treatment solutions that facilitate landfill diversion and generate green electricity, which is in line with Everbright Environment's business practice. 在氣候變化的時代下，市場趨勢與光大環境的業務工作一致，均在尋覓一個更有效與可持續的廢棄物處理方案，以促進廢棄物從填埋場的分流與綠色電力的生產。</p>	<ul style="list-style-type: none"> <li>Increase in demand of sustainable waste solutions 對可持續廢棄物管理方案的需求大增</li> <li>Enhance the Group's reputation and market position 提高本集團聲譽及市場地位</li> </ul>	<ul style="list-style-type: none"> <li>Waste-to-energy will remain a core business of Everbright Environment. The Group will step up the efforts in technology R&amp;D in order to improve operational efficiencies in waste treatment and supply of green electricity. 垃圾發電仍然將會是光大環境未來的核心業務，本集團將會加強在技術研發的努力，以改善其在廢棄物處理及供應綠色電力的運營效率。</li> <li>The Group will actively explore alternative waste management models such as waste sorting and resource recycling to support the development of "Zero-waste Cities". 本集團會積極探索廢棄物管理的替代模式，如垃圾分類及資源回收，以支持「無廢城市」的發展。</li> </ul>

Aspect 方面	Major Opportunities 主要機遇	Potential Financial and/or Operational Opportunities 在財務及／或運營影響	Management Approach in the Next Five Years 未來五年管理方針
<p><b>Market &amp; Reputation</b> 市場及聲譽</p>	<p><b>Changing Customer Behaviours</b> 客戶行為模式改變</p> <p>If the services are elastic and there are competitors in the market, clients have the option to choose an alternative provider for the same services. It is probable for clients to lean towards services that are more climate friendly.</p> <p>如果服務具有彈性且市場上有競爭對手，客戶可以選擇提供相同服務的替代提供者。而客戶可能會傾向於更氣候友善的服務。</p>	<ul style="list-style-type: none"> <li>• Everbright Environment's key business operations involve waste-to-energy and waste management, which represents an essential public utility that possesses an inelastic nature, making it irreplaceable. 光大環境的核心業務是垃圾發電和廢物處理，其作為重要的公共設施，具有非彈性的特點，因此不可替代。</li> <li>• As cities continue to grow and environmental laws become increasingly stringent in the PRC, waste-to-energy presents itself as a greener alternative to landfills for waste treatment, Everbright Environment is presented with stable opportunities – particularly in country-level regions where waste management infrastructures are not yet equipped. 隨著中國城市日益擴大，環境法規日益嚴格，垃圾發電作為相比堆填而言更為綠色的垃圾處理方式的角色日益凸顯，並為光大環境提供了穩定機會—尤其是在及垃圾處理基建尚不成熟的縣域。</li> </ul>	<ul style="list-style-type: none"> <li>• Seize the opportunity to provide green waste management solutions, and remain steadfast to our commitment to provide green waste management solutions to our clients. 把握提供綠色垃圾處理方法的機會，堅定不移地履行為客戶提供清潔水供應的承諾。</li> </ul>

### Metrics and Targets

The Group has used the internationally recognised CDM under the *United Nations Framework Convention on Climate Change* (“UNFCCC”) to estimate the projects’ GHG emissions and avoidance. Data on the Group’s GHG emissions and avoidance are available in the chapter of “Environmental Protection” in the Report.

GHG emissions (scope 1) from the incineration of household waste are calculated based on the fraction of fossil carbon in total carbon content of the household waste. It is not feasible for the Group to set an overall reduction target for Scope 1 GHG emissions as the amount of such emissions may substantially fluctuate from time to time due to the varying composition of the household waste received, which is beyond Everbright Environment’s control.

The Group has commissioned the Hong Kong Quality Assurance Agency as a third-party certification and audit agency to conduct independent audit and verification on the Group’s GHG inventory during the Reporting Period in accordance with ISO 14064-1. The relevant verification statement is appended to the Report. This demonstrates that the Group is committed to its responsibility of managing, quantifying and reporting GHG emissions, and has taken an important step towards promoting a low-carbon economy. In order to further improve its GHG accounting framework, the Group is establishing a Scope 3 GHG emission calculation framework, so as to establish a more comprehensive role for environmental performance in the corporate value chain.

### 指標和目標

本集團使用受國際認可的《聯合國氣候變化框架公約》(「UNFCCC」)下的CDM溫室氣體排放計算方法來估算項目的溫室氣體排放量及避免量。本集團溫室氣體排放及避免的數據可在本報告的「環境保護」章節中取得。

焚燒生活垃圾所導致的溫室氣體排放(屬於範疇一)的計算基礎是以生活垃圾中化石碳佔總碳的比例。考慮到生活垃圾成分的差異以及其對溫室氣體排放不時造成大幅波動，這些氣體的排放不屬於光大環境的控制範圍之內。因此，本集團目前無法為範疇一溫室氣體排放定下總體減排目標。

本集團已委託香港品質保證局作為第三方核證審核機構，並按照ISO 14064-1為本集團於報告期內的溫室氣體清單進行獨立審計及認證。其相關審核聲明已附載於本報告中，展示出本集團正履行管理、量化及報告溫室氣體排放的責任，並為推動低碳經濟邁出重要的一步。為進一步完善溫室氣體核算框架，本集團正在建立範疇三溫室氣體排放計算框架，務求更加全面地確立企業價值鏈的整體環境表現。





Under the guidance of the national “Dual Carbons” goals, Everbright Environment adheres to the four-in-one development strategy of “environment, resources, energy and climate”, adheres to innovation-led development, actively explores low-carbon development paths, and makes great efforts to explore and make good progress in “pollution and carbon reduction” and “synergy”. To drive long-term decarbonisation to align with the *Paris Agreement*, we are actively considering setting relevant emissions reduction targets for different business sectors. Besides, we are actively looking into comprehensively evaluating our asset’s baseline fuel and electricity consumption, such that we can look for opportunities to set decarbonisation goals in long run. Specific targets are currently under development and details will be disclosed in due course.

在國家「雙碳」目標引領下，光大環境秉承「環境、資源、能源、氣候」四位一體的發展戰略，堅持創新引領發展，積極探索低碳發展路徑，在「減污降碳」與「協同增效」兩方面著力探索並取得良好進展。為了推動長期脫碳以符合《巴黎協定》設定的目標，我們正在積極考慮為不同業務板塊設定對應的減排目標。此外，我們正在積極研究對我們資產的基準線燃料和電力使用量進行全面評估，以便尋找長期內設定減碳目標的機會。我們目前正在制定具體目標中，有關細節將在適當時候披露。





# ENVIRONMENTAL PROTECTION

## 環境保護



Implementing green operation,  
protecting blue sky and lush water  
實行綠色運營 • 保護藍天碧水





Since the Company transformed its major business to environmental protection in 2003, Everbright Environment has been focusing on this sector for two decades, with its main businesses covering waste-to-energy and synergistic waste treatment, integrated biomass utilisation, hazardous and solid waste treatment, new energy, environmental remediation, water environment management, equipment manufacturing, waste sorting, environmental sanitation integration, resource recycling, development of zero-waste cities, analysis and testing, ecological and environmental planning and designing, R&D relating to green technologies, as well as environmental protection industrial parks.

本公司自二零零三年起將環境保護作為主營業務。二十年來光大環境涉足垃圾發電與協同處置、生物質綜合利用、危廢和固廢處置、新能源、環境修復、水環境綜合治理、裝備製造、垃圾分類、環衛一體化、資源循環利用、無廢城市建設、分析檢測、生態環境規劃設計、綠色技術研發、環保產業園等業務。



While focusing on the development of environmental protection business, Everbright Environment also actively adopts measures to reduce negative impacts on the environment and natural resources arising from its operations. We came up with the notion of “Reduce pollution and carbon to enhance green performance together” and are committed to providing high-quality environmental services, continuously improving human settlements and the ecological environment, maintaining the original development plan while actively implementing the national “Peaking Carbon Emissions” and “Achieving Carbon Neutrality” goals, and at the same time fulfilling our responsibilities as a corporate citizen and promoting a community of interests between the government, enterprises and the people through cooperation with all sectors of the society. Our goal is to jointly build an ecological society, promote green and low-carbon development with practical actions, and fully support the country’s environmental protection initiatives to address climate change.

在發展環保業務的同時，光大環境亦積極實施多項措施以減少公司運營對環境和自然資源的負面影響。我們提出「減污築綠、降碳添綠、共建共融」的概念，致力於提供優質環境服務，持續改善人居及生態環境；並在保持原有發展規劃的同時積極踐行國家「碳達峰」和「碳中和」的目標；同時透過與社會各界的合作，履行企業公民之責，促進「政企民」利益共同體。我們的目標是共建生態社會，以實際行動推動綠色低碳發展，全力支持國家應對氣候變化的環保活動。

Everbright Environment was included in the Dow Jones Sustainability Emerging Markets Index for the eighth consecutive year  
光大環境連續第八年入選道瓊斯可持續發展新興市場指數

Highlights  
亮點

2023

With its continuous outstanding performance, Everbright Environment has been selected into the Dow Jones Sustainability Emerging Markets Index for the eighth consecutive year. It is one of the only five companies from the PRC that have been included in the index this year. 光大環境憑藉持續優異表現，連續第八年入選道瓊斯可持續發展新興市場指數，為入選的五家中國內地企業之一。





### Everbright Environment's Harbin Waste-to-energy Project Won the Luban Award 光大環境哈爾濱垃圾發電項目榮獲魯班獎

In 2023, the Harbin waste-to-energy project won the Luban Prize, the highest award in the national construction engineering industry, becoming the fifth environmental protection project of the Group to receive this authoritative honor after the Danzhou project in Hainan, the Quzhou project in Zhejiang, the Ji'nan project in Shandong and the Hangzhou project in Zhejiang, fully demonstrating the outstanding capabilities of the Group in the field of environmental protection, especially in project planning, construction and management. So far, a total of 15 waste-to-energy projects in the PRC have won the Luban Prize, of which five projects belong to Everbright Environment, accounting for one-third of the total, fully demonstrating the company's outstanding capabilities in the planning, construction and operation of environmental protection projects.

哈爾濱垃圾發電項目於二零二三年內獲得國家建築工程行業最高獎項魯班獎，成為繼海南儋州項目、浙江衢州項目、山東濟南項目、浙江杭州項目後，本集團第五個獲此權威榮譽的環保項目，充分體現了本集團及環保能源在環保領域工程規劃、建設和管理方面的卓越能力。截至目前，中國獲得魯班獎的垃圾發電項目總共15個，其中光大環境所屬項目就有5個，佔比達到三分之一，充分彰顯了公司在環保工程規劃、建設和運營上的卓越能力。

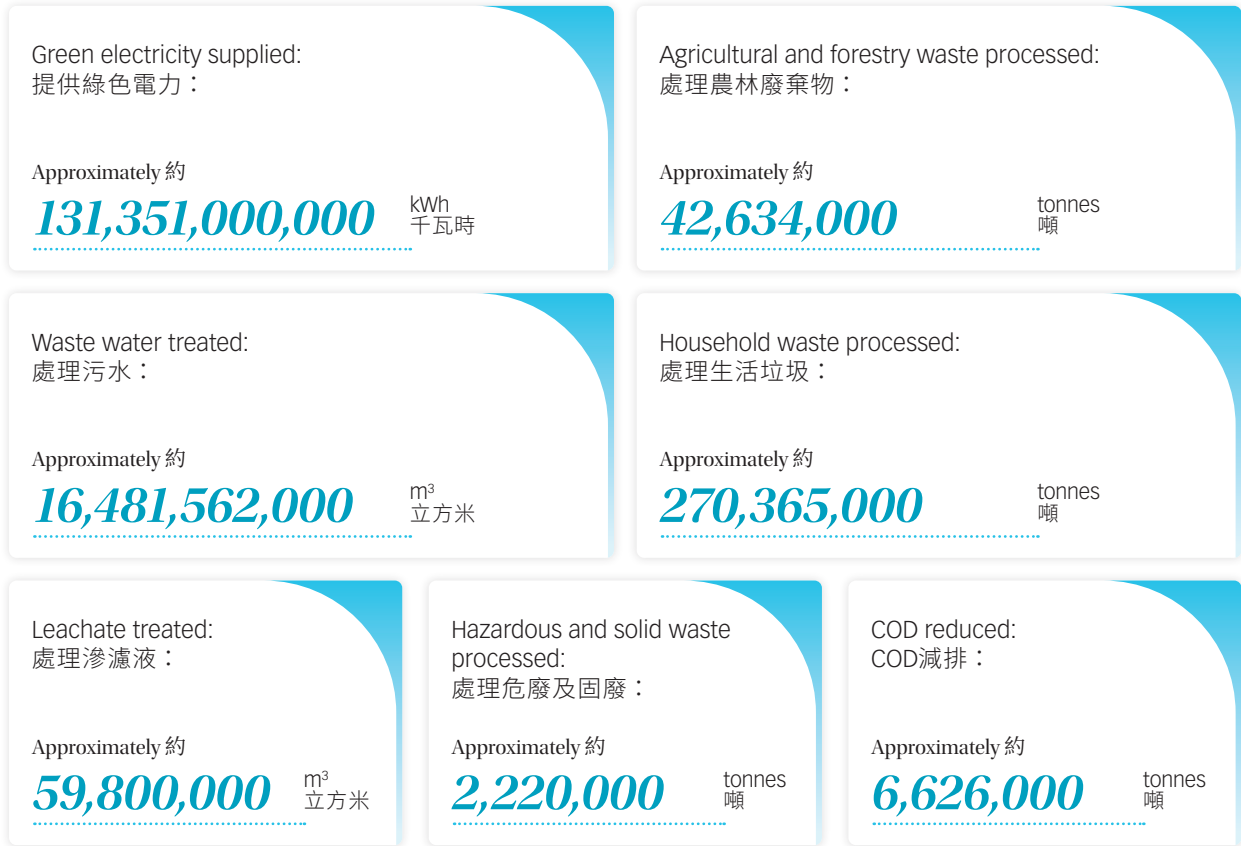
The Harbin waste-to-energy project adopts a six-stage reciprocating mechanical grate furnace, which was independently developed by Everbright Environment, to extend the retention time of waste on the grate and improve the overall incineration efficiency. The project also adopts an innovative steam-type lithium bromide absorption heat pump, which can extract 120,000 GJ of low-level heat from circulating water in a year, equivalent to saving 4,095 tonnes of standard coal. This project effectively realises the reduction, recycling, and harmlessness of waste disposal, and comprehensively improves the level of waste disposal and renewable energy production capacity.

哈爾濱垃圾發電項目針對高寒地區的特點進行宏觀運籌，採用了光大環境自主研發的六段式往復式機械爐排爐，以延長垃圾在爐排上的停留時間，提高整體焚燒效率；同時選用創新蒸汽型溴化鋰吸收式熱泵，一年可從循環水中提取低位熱能12萬吉焦，相當於節約標煤4,095噸。有效實現垃圾處理減量化、資源化、無害化，全面提升垃圾處置水準及再生能源生產能力。

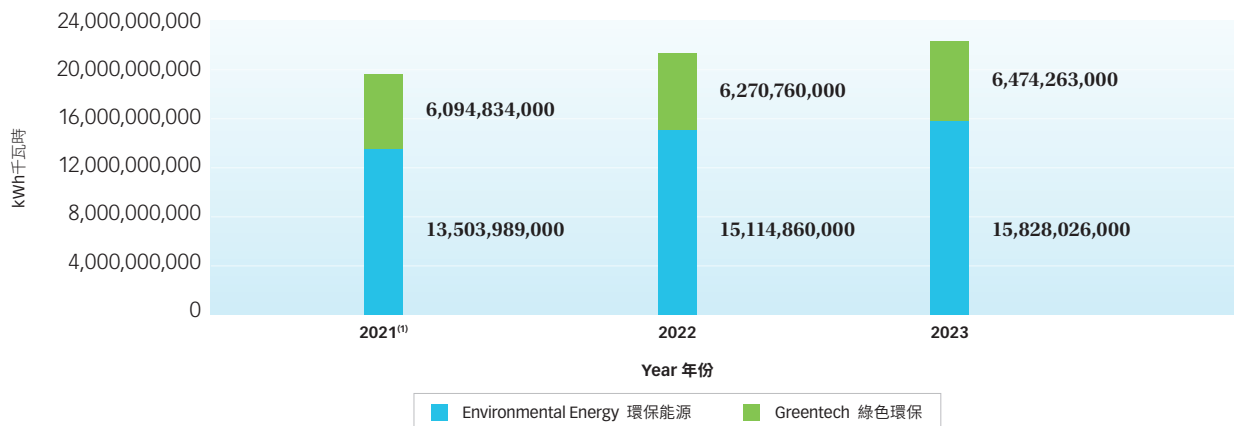
During the construction process, Everbright Environment adopted 13 green building design and production processes, used more than ten types of green and energy-saving materials, and applied more than 40 "Four Sections and One Environmental Protection" measures to create an environmentally friendly waste-to-energy plant, turning the blueprint of the "Green Factory" into a vivid reality, and was recognised by awards such as the "Heilongjiang Provincial Green Construction Model Site" and the "Two-Star Project of the Green Construction Level Evaluation of the China Construction Enterprise Association".

在建設過程中，光大環境採用了綠色建築設計及生產流程13種，使用綠色、節能材料10餘種，應用「四節一環保」措施40餘項，得以創造了一座環境友善的垃圾發電廠，將「綠色工廠」的藍圖變成生動現實，並獲得黑龍江省綠色施工樣板工地、中施企協綠色建造施工水平評價二星項目等獎項認可。

Since the commissioning of the Group's first environmental protection project in 2005  
自二零零五年本集團首個環保項目運行以來



On-grid Green Electricity Sold by Sector  
按板塊分類的綠色上網電量





## Environmental Management Overview

The Group adheres to the development goal of “To Become a World-class Integrated Environmental Service Provider with Chinese Characteristics”, and attaches great importance to the environmental impacts of business operations. The Group upholds its mission of being “Devoted to Ecology and Environment for a Beautiful China” and its core value of “To Create Investment Value and Undertake Social Responsibility”. We pay close attention to the environmental impacts brought by our operations and keep an eye on the environmental management of all projects.

*Corporate Policy on Environmental Management* provides an important framework for the implementation of the Group’s environmental management, striving to minimise the burden on the environment and natural resources imposed by the Group. The policy also provides detailed guidance on the management of environmental impacts arising from the Group’s operations. The Group has developed various policies and manuals and provided policy trainings to ensure their effective execution. These included the *Overall Framework of Safety and Environmental Management, Regulations on the Structure and Responsibilities of Safety and Environmental Management, Regulations on Safety Accident and Environmental Accident, the Manual of Technical Support to Safety Operation and Pollutants Control, Regulations on Fire Prevention Management, Regulations on Occupational Health, and the Regulations on Flooding Prevention, etc.*

## 環境管理概覽

本集團堅守「打造具有中國特色的世界一流環境綜合服務商」的發展目標，高度重視企業運營帶來的環境影響，秉持「情繫生態環境，築夢美麗中國」的企業使命，以「創造投資價值，承擔社會責任」為企業追求，在所有項目中對環境管理嚴格把關。

《環境管理企業政策》作為我們的重要綱領，為公司環境管理提供了框架，並有利於推進環境管理的實施，減輕光大環境對環境及自然資源造成的負擔。此外，該政策亦提供了詳盡具體的指引，清晰呈現本集團運營中涉及的環境影響。本集團亦制定了多項制度及指引，同時提供制度培訓以確保制度之有效落實。相關制度與指引包括《安全環境管理總則》、《安全與環境管理機構設置及其職責的規定》、《安全與環境事故及環境事件管理規定》、《安全生產與污染防治技術保障工作指引》、《消防管理規定》、《職業健康管理規定》、《防洪防汛工作管理規定》等。

### Six Key Areas of the Corporate Policy on Environmental Management 《環境管理企業政策》的六大領域



**Compliance**  
合規

Air and GHG emission  
廢氣及溫室氣體排放



**Risk management and due diligence**  
風險管理和盡職調查

Discharges into water and land  
向水及土地的排污



**Environmental protection**  
環境保護

Generation and treatment of hazardous and non-hazardous waste  
有害及無害廢棄物的產生及處置方法



**Health and safety**  
健康和安安全

Energy  
能源



**Supply chain**  
供應商管理

Water resource  
水資源



**Monitoring and communication**  
監察和溝通

Use of raw material  
原材料使用

The Group continues to thoroughly enforce the ESHS Management System, ISO 14001 Environmental Management System and other environmental and safety systems, and extensively utilises technology to enhance the operational effectiveness of the entire systems. The Group also set up the Safety and Environmental Management Committee, in order to further enhance the efficiency and reliability of environmental monitoring work.

此外，光大環境堅持全面且深入地落實ESHS管理體系、ISO 14001環境管理體系、各環境與安全制度，並廣泛利用科技，增強全系統的運營成效。本公司亦成立安全與環境管理委員會，進一步提升環保監察工作的效率與可靠性。



### Promote ESHS Management System and strictly implement various environmental and safety systems

#### 推動ESHS管理體系，嚴格執行各環境與安全制度

Apply standardised management throughout project investment, construction and operation management, improving overall operational efficiency and effectiveness.

促進項目投資、建設及運營管理流程中各環節的規範化管理，加強整體運營效率和成效。



### Promote ISO 14001 Environmental Management System in the operating projects

#### 推行ISO 14001環境管理體系於運營項目

Regularly review the collected environment-related data, evaluate the effectiveness of the environmental management process, and continuously improve the environmental management system.

定期審查所收集的環境相關數據，評估環境管理流程的有效性，並持續改善環境管理體系。



### Set up Safety and Environmental Management Committee

#### 成立安全與環境管理委員會

Regulate, monitor and supervise the implementation of environmental and safety measures across all business sectors of the Group.

重點規範、監督、督導本集團各板塊環境及安全工作的實施。



### Strengthen environmental management through technology

#### 以科技加強環境管理

Through connecting with the database of the Ministry of Ecology and Environment, data and information regarding air emissions and effluent discharge of all projects of Everbright Environment are linked directly to the relevant platforms for real-time disclosure; adopt new management models of "Internet +" and "Digitalisation and Intelligence", utilise new technologies such as cloud computing, Internet of Things (IoT) and big data, to develop a new online environmental management information platform.

通過與生態環境部資料庫聯網，實時更新光大環境下各項目廢氣和廢水的排放數據；並採用「互聯網+」和「資訊化、智慧化」的新型管理模式，透過雲計算、物聯網、大數據等新技術建立新型在線環境管理信息平台。

## Environmental Protection

### 環境保護

Meanwhile, the Group screens the relevant environmental and social risks before making an investment in any projects and ensures that all required permits and environmental impact assessment approvals are obtained before construction. During the construction stage and after commencement of operation, all projects are subject to surveillance by local environmental authorities in accordance with relevant environmental laws and regulations, including real-time continuous emissions monitoring, regular environmental sampling and analysis, ad hoc environmental due diligence audit, etc. Through these monitoring and auditing efforts, we are able to identify and address potential environmental issues in a timely manner and minimise their impacts.

## Community Development

During the planning stage of each project, the project company has to prepare a stakeholder participation plan, which provides important reference for monitoring and reporting on the community development efforts of each project. The stakeholder participation plan covers identification of stakeholders, proposed consultation method and frequency, resources and responsibilities planning, and key performance indicators. The participation plan is to be updated and maintained throughout the entire lifecycle of a project, from planning till operation. Aided by the use of participation plans, the Group is committed to:

- identifying local stakeholders and their needs, as well as supporting and collaborating with local community groups;
- establishing a method of consultation with the community, as well as actively and effectively allocating resources to community development programs that address community needs;
- creating job opportunities for local communities to foster long-term economic growth; and
- encouraging employees to support community development through volunteering and using their expertise to benefit the local communities.

與此同時，本集團在投資前會對項目的環境和社會風險進行全面的評估，並確保在項目開工前獲得必要的許可證和環評報告。在項目建設階段和竣工投產的每一個階段，都會確保嚴格遵守相關環保法律法規，並定期接受當地環保部門的監測，這包括環境排放連續在線監測、定期接受環境採樣分析，以及不定期環境盡職審核等。通過這些監測和審核工作，我們得以及時發現並解決潛在的環境問題並將影響最小化。

## 社區發展

在項目的規劃階段，持份者參與計劃是項目公司必須制定的材料，也是監測和匯報每個項目的社區發展工作的重要參考。其中需要涵蓋的內容有如何辨認持份者、建議協商方法和頻率、資源和責任規劃以及關鍵績效指標。此份參與計劃將在項目的整個生命週期（從規劃到運營）中不斷進行管理及更新。在參與計劃的幫助下，本集團致力於：

- 明確當地持份者及其需求，並支持當地社區團體並與之合作；
- 確立與社區協商的方法，積極為解決社區需求的社區發展計劃有效分配資源；
- 為當地社區創造就業機會以促進長期經濟增長；及
- 積極鼓勵員工參與各類志願服務支持社區發展，並運用他們的專業知識造福當地社區。

## Developing Environmental Protection Business

The Group's environmental protection business can be mainly divided into three major sectors: environmental energy, environmental water and greentech. Our environmental energy business is the largest core business sector of the Group, which helps reduce the adverse per capita environmental impact and preserves precious urban land resources via green incineration of municipal household waste. Environmental water's business helps solve the water quality and sanitation problems by effectively treating municipal and industrial waste water, following stringent national standards and producing high-quality reclaimed water for non-potable uses. Greentech's business reduces air pollution in rural areas by converting biomass raw materials such as agricultural and forestry waste into electricity and heat, hence avoiding open burning of agricultural and forestry straw. Among these, both environmental energy and greentech businesses increase the share of renewable energy in the PRC's energy mix, demonstrating Everbright Environment's dedication to the green energy era in the PRC. In addition, as the engine of Everbright Environment's technology, envirotech continues to promote the strategic vision of technological innovation to lead development, aiming at international cutting-edge environmental protection technologies, and is a platform for Everbright Environment's core technological innovation and achievement transformation. On the other hand, the equipment manufacturing sector has been upgraded to build a "Zero-carbon Factory" based on the national "Green Factory", promoting the in-depth integration of advanced manufacturing and modern services, and building a new development paradigm for the "Intelligently Made by Everbright".

The not-in-my-backyard ("NIMBY") effect is an important topic for waste disposal companies. With the goal of "building high-quality products and creating brands", Everbright Environment strives to achieve four aspects of performance in each project, namely, plant appearance (garden-like factory), odour management (no peculiar smell), noise control (no noise) and emissions standard (meeting emission standards). The Group's 17 waste-to-energy projects in Suzhou, Nanjing, Wujiang, Changzhou, Changzhou Xinbei, Ningbo, Sanya, Boluo, Weifang, Rizhao, Yiyang, Ma'anshan, Hangzhou, Lantian, Tengzhou, Shenyang and Xiqing have been awarded the "National AAA-Rated Waste-to-Energy Plants", fully affirming the Group's efforts to improve the quality and environmental performance of the projects.

In addition, envirotech has actively promoted the pilot development of carbon assets under the international VCS Program, and has completed the VCS registration for its Wuwei waste-to-energy project in Gansu Province and the collection and collation of relevant data for more than ten of its waste-to-energy projects, in preparation for the resumption of the CCER scheme.

## 打造環保業務

本集團的環保業務主要可以分為環保能源、環保水務、綠色環保三大板塊。環保能源業務是本集團最具規模的核心業務板塊，主要透過綠色模式處理生活垃圾，減少人均環境影響並致力保護城市珍貴的土地資源；環保水務業務嚴格按照國家標準，有效處理城市及工業污水，生產高質量的工業用回用水，改善水質和衛生問題；綠色環保業務則利用農林廢棄物等生物質原材料，轉化成電力和熱能，避免農林秸稈的露天焚燒，從而減少農村地區的空气污染。其中，環保能源和綠色環保業務兩項業務有助於增加中國可再生能源的使用比重，體現光大環境對中國綠色能源發展的貢獻。此外，環境研究院作為光大環境科技的引擎，持續推動科技創新引領發展的戰略構想，瞄準國際環保前沿技術，是光大環境核心技術創新及成果轉化平台；而另一方面，裝備製造板塊以國家「綠色工廠」為基礎升級打造「零碳工廠」，促進先進製造與現代服務深度融合，構建「光大智造」發展新格局。

對於垃圾處理企業來說，「鄰避效應」是一個重要話題。光大環境以「建精品、創品牌」為目標，力爭每個項目做到「四個經得起」，即經得起看（花園式工廠）、經得起聞（沒有異味）、經得起聽（沒有噪音）、經得起測（達標排放）。本集團在蘇州、南京、吳江、常州、常州新北、寧波、三亞、博羅、濰坊、日照、益陽、馬鞍山、杭州、藍田、滕州、瀋陽及西青等17個垃圾發電項目，已獲得國家「AAA級生活垃圾焚燒廠」評定，對本集團一直以來為提升項目品質和環境表現作出的努力給予充分肯定。

此外，環境研究院積極推進國際VCS計劃的碳資產開發試點工作，並已完成旗下甘肅武威垃圾發電項目的VCS註冊備案以及旗下十餘個垃圾發電項目相關資料的收集整理，為國家核證自願碳減排的重啟做好準備。

### GHG Emissions

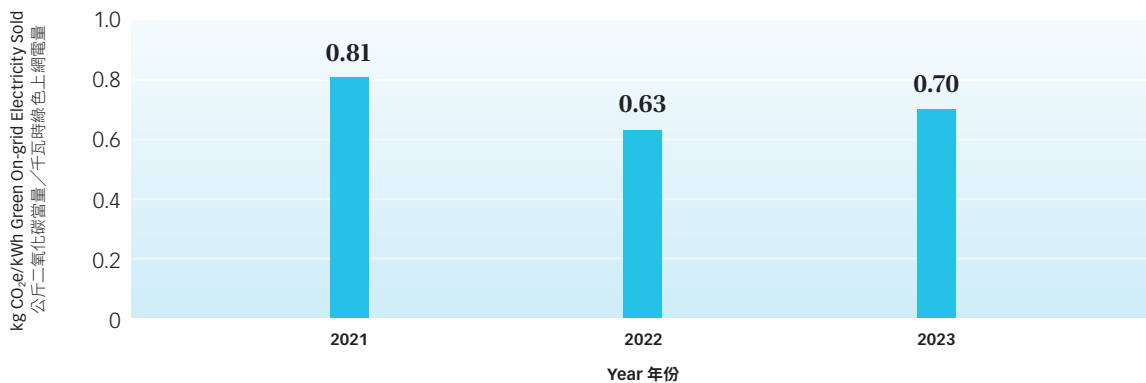
Everbright Environment discloses all three carbon emissions scopes in absolute figures and intensities. In 2023, the Group generated 0.7 kg of CO<sub>2</sub> equivalent (“CO<sub>2</sub>e”) per kWh of on-grid green electricity sold.

### 溫室氣體排放

光大環境積極披露碳排放三個範圍的絕對數值和強度。二零二三年，本集團每提供一度上網綠色電力便產生0.7公斤二氧化碳當量。

### GHG Emissions Intensity in the Past Three Years

#### 過往三年溫室氣體排放強度



The scope 1 emissions were increased due to the increase in the number of operating projects each year. The huge project portfolio implies the increase in total GHG emissions. Furthermore, we have continued to expand our scope 3 emissions reporting boundary and improve the accuracy of third-party data since 2021, including indirect emissions from third-party transportation of waste and biomass to project companies, as well as indirect emissions from the transportation of stabilised fly ash and bottom ash from project companies to final disposal points.

由於本集團每年運營的項目數量在增加，整體範疇一的排放量也隨之增加。龐大的項目組合意味著溫室氣體總排放量的增加。為實現碳排放披露的全面透明，我們自二零二一年起持續擴大範疇三排放的匯報範圍和改善第三方數據準確度，包含第三方運送垃圾及生物質至項目公司的間接排放，以及從項目公司運送穩定化處理後的飛灰和爐渣至最終處置點的間接排放。

### GHG Emissions and Avoidance Calculation Methodology

The calculation of GHG emissions and avoidance is referenced to CDM methodologies *ACM0022: Alternative Waste Treatment Processes (Version 2.0)*, *AM0080: Mitigation of Greenhouse Gases Emissions with Treatment of Wastewater in Aerobic Wastewater Treatment Plants (Version 1.0)*, *ACM0018: Electricity Generation from Biomass Residues in Power-Only Plants (Version 3.0)*, *ACM0006: Electricity and Heat Generation from Biomass (Version 14.0)* and *AMS-I.C.: Thermal Energy Production With or Without Electricity (Version 20.0)*. GHG emissions from air travel are calculated by the International Civil Aviation Organization (“ICAO”) Carbon Emissions Calculator.

### 溫室氣體排放量及避免量計算方法

溫室氣體的排放及避免的計算參照CDM方法《ACM0022：多選垃圾處理方式（2.0版）》、《AM0080：透過在有氧污水處理廠處理污水減少溫室氣體排放（1.0版）》、《ACM0018：純發電廠利用生物廢棄物發電（3.0版）》、《ACM0006：生物質熱電聯供（14.0版）》及《AMS-I.C.：電力或非電力用戶提供熱能（20.0版）》。飛機差旅的溫室氣體排放，以國際民航組織的碳排放計算器計算得出。



Scope 1 – Reference was made to the *Household Waste Incineration Engineering Technology* by Bai Liang Cheng regarding household waste incineration-related emissions, by adopting relevant carbon content data of various waste types that are instead more in line with the PRC's conditions, and applying measured moisture content for household waste; scope 2 – emissions related to purchased electricity from non-renewable sources were based on the *Regional Baseline Grid Emissions Factor for Emission Reduction Projects in China 2019*, which is more in line with the local operating conditions. In addition, the weighted average of the operating margin (OM) and build margin (BM) as stated in CDM's *Methodological Tool – Tool to Calculate the Emission Factor for an Electricity System* was adopted; and for emissions avoidance related to waste-to-energy projects, the methane conversion factors (MCF), the fractions of degradable organic carbon (DOCj), and the decay rates (Kj) of various waste types that are more in line with the PRC's conditions were adopted instead of the CDM default values.

The emissions factors used to calculate emissions related to energy combustion correspond to data in the *2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories*. Electricity emissions factors follow the *Regional Baseline Grid Emissions Factor for Emission Reduction Projects in China 2019* issued by the Ministry of Ecology and Environment of the PRC.

During the Reporting Period, we followed the same calculation methods for GHG emissions and avoidance as last year. The calculation principle was primarily based on CDM methodologies, however, some of the coefficients or emission factors that are more in line with the PRC's situation were adopted. This year, we have adopted the use of measured moisture content for household waste to reflect the actual condition and improve data accuracy, replacing the use of a higher default water content of household waste from last year. There were no discrepancies in GHG emissions and avoidance data.

範疇一—生活垃圾焚燒的相關排放參考白良成著作《生活垃圾焚燒處理工程技術》，改用較符合國情的各類垃圾碳含量相關數據，應用了實測的生活垃圾含水率；範疇二—外購非再生能源電力的相關排放採用更符合當地營運情況的《二零一九年度減排項目中國區域電網基線排放因子》，並根據CDM發布的指南《方法學工具—計算電力系統排放因子的工具》，採用電量邊際排放因子及容量邊際排放因子的加權平均；與垃圾發電項目相關的排放避免量取用符合國情的甲烷轉換因子(MCF)、可降解有機碳比例(DOCj)及各類垃圾的降解率(Kj)，而非CDM的默認數值。

用於計算與能源燃燒有關的排放因子與《二零零六年IPCC國家溫室氣體清單指南二零一九年修訂版》中的數據相對應。電力排放因子遵循中華人民共和國生態與環境部發布的《二零一九年度減排項目中國區域電網基線排放因子》。

報告期內，我們沿用與去年相同的溫室氣體排放和避免量計算方法。我們的計算原則主要是基於CDM方法，但採納了一些更符合中國國情的系數和排放因子。今年我們採用了實測生活垃圾含水率來反應實際情況並提高數據準確性，取代了去年所採用的較高的生活垃圾含水率缺省值。溫室氣體排放和避免數據沒有不相符之處。

**GHG Emissions Statistics in 2023**  
二零二三年溫室氣體排放統計

Unit: tonnes of CO<sub>2</sub>e  
單位：噸二氧化碳當量

Operation Unit 運營單位	Emission Sources 排放來源	Emissions 排放量
<b>Total GHG Emissions</b> 溫室氣體排放總量		<b>15,644,043</b>
<b>— Total Scope 1 (Direct Emission)</b> 範疇一(直接排放) 排放總量		<b>14,800,577</b>
— Environmental Energy 環保能源	Fuel consumption by operation of facilities; incineration of household waste <sup>(1)</sup> 設施運營的燃料消耗、生活垃圾焚燒 <sup>(1)</sup>	13,191,707
— Environmental Water 環保水務	Fuel consumption by operation of facilities; fugitive methane emissions from waste water treatment projects; nitrous oxide emissions from the biological treatment process 設施運營的燃料消耗、污水處理項目的無組織甲烷排放、生物處理過程中的氧化亞氮排放	31,198
— Greentech 綠色環保	Fuel consumption by operation of facilities; incineration of household waste; combustion of biomass raw materials 設施運營的燃料消耗、生活垃圾焚燒 <sup>(1)</sup> 、生物質原材料燃燒	1,572,665
— Others <sup>(2)</sup> 其他 <sup>(2)</sup>	Fuel consumption by operation of facilities 設施運營的燃料消耗	5,008
<b>— Total Scope 2 (Energy Indirect Emission)</b> 範疇二(能源引致的間接排放) 排放總量		<b>519,563</b>
— Environmental Energy 環保能源		18,232
— Environmental Water 環保水務		422,777
— Greentech 綠色環保	Consumption of purchased non-renewable electricity 消耗的外購非再生能源電力	66,155
— Others <sup>(2)</sup> 其他 <sup>(2)</sup>		12,398

Operation Unit 運營單位	Emission Sources 排放來源	Emissions 排放量
<b>— Total Scope 3 (Other Indirect Emission) 範疇三 (其他間接排放) 排放總量</b>		<b>323,903</b>
— Environmental Energy 環保能源	Fuel consumption from the delivery of waste by third parties; fuel consumption for the delivery of stabilised fly ash by third parties; fuel consumption for the delivery of bottom ash by third parties; air travel by employees 第三方運送垃圾至項目公司的燃油消耗、第三方運送穩定化的飛灰的燃油消耗、第三方運送爐渣的燃油消耗、員工飛機差旅	236,828
— Environmental Water 環保水務	Fuel consumption for the transportation of sludge by third parties; nitrous oxide released from effluent; air travel by employees 第三方運送污泥的燃油消耗、從出水中釋放的氧化亞氮、員工飛機差旅	29,605
— Greentech 綠色環保	Fuel consumption from the delivery of biomass and waste by third parties; fuel consumption for the delivery of stabilised fly ash by third parties; fuel consumption for the delivery of bottom ash by third parties; air travel by employees 第三方運送生物質原材料及垃圾至項目公司的燃油消耗、第三方運送穩定化的飛灰的燃油消耗、第三方運送爐渣的燃油消耗、員工飛機差旅	56,865
— Others <sup>(2)</sup> 其他 <sup>(2)</sup>	Air travel by employees 員工飛機差旅	606
<b>GHG emissions intensity (kg CO<sub>2</sub>e/kWh) 溫室氣體排放強度 (公斤二氧化碳當量 / 千瓦時綠色上網電量)</b>		<b>0.70</b>
<b>GHG emissions avoidance (Tonne CO<sub>2</sub>e)<sup>(3)</sup> 溫室氣體排放避免量<sup>(3)</sup></b>		<b>26,049,149</b>
— Environmental Energy 環保能源	Waste-to-energy 垃圾發電	20,342,156
— Environmental Water 環保水務	Sludge methane-to-energy, reducing N <sub>2</sub> O released from effluent through waste water treatment 污泥沼氣發電、減少從出水中釋放的氧化亞氮	118,085
— Greentech 綠色環保	Integrated biomass utilisation, hazardous and solid waste incineration energy, solar energy, wind power 生物質綜合利用、危廢及固廢焚燒發電、光伏發電、風力發電	5,588,908
— Others <sup>(2)</sup> 其他 <sup>(2)</sup>	NA 不適用	—
<b>GHG emissions reduction (Tonne CO<sub>2</sub>e)<sup>(4)</sup> 溫室氣體減排量<sup>(4)</sup></b>		<b>10,405,106</b>

Notes:

- (1) GHG emissions (scope 1) from the incineration of household waste are calculated based on the fraction of fossil carbon in total carbon content of the household waste. Therefore, the amount of such GHG emissions may substantially fluctuate from time to time due to the varying composition of the household waste received, which is beyond Everbright Environment's control.
- (2) Other operation units include envirotech, equipment manufacturing, headquarters, representative offices and offices.
- (3) "GHG Emissions Avoidance" refers to the emissions that could otherwise have been produced from sources such as the use of fossil fuel power and from waste decomposition at the landfills, in the absence of Everbright Environment's key projects (Waste-to-energy and integrated biomass utilisation in particular). It is an optimistic estimation based on referenced CDM methodologies. The actual contribution is dependent on the "without project" scenario of each location, which may vary case by case. The value is not a confirmation of GHG removal from the atmosphere and is for reference only.
- (4) GHG emissions reductions refer to total GHG emissions avoidance minus total GHG emissions. This figure is for reference only.

附註：

- (1) 生活垃圾焚燒引致的溫室氣體排放(範疇一)以生活垃圾中化石碳佔總碳的比例為計算基礎。因此，生活垃圾成分的差異可對此溫室氣體排放不時造成大幅波動，這不屬於光大環境的控制範圍之內。
- (2) 其他運營單位包括了環境研究院、裝備製造、總部、代表處及辦事處。
- (3) 「溫室氣體排放避免量」是指在沒有光大環境的重點項目(尤其是垃圾發電和生物質綜合利用)的情況下原本可能產生的排放量，例如使用化石燃料發電和垃圾在填埋場分解產生的溫室氣體排放。這是基於參考CDM方法得出的一個樂觀估計。實際貢獻取決於每個地點的「沒有項目」情境，而個別具體狀況可能會有所不同。該值並非從大氣中移除溫室氣體的確認值，數字僅供參考。
- (4) 溫室氣體減排量是指溫室氣體排放避免總量減去溫室氣體排放總量。該數字僅供參考。

## Case studies 個案分享

### Project Development under the International VCS Program

Everbright Environment has been at the forefront in the areas of carbon asset management and carbon emission reduction. In 2022, envirotech launched the project developmental work under the international VCS Program. Envirotech is committed to proactively developing and managing the carbon assets by working closely with the operation department of the environmental energy sector, in order to convert the GHG emission reductions and removals from certified projects into tradable carbon credits under voluntary emission reduction and trading mechanisms. VCS is a voluntary emission reduction mechanism established by the non-profit organisation VERRA and is the most widely used and largest voluntary emission reduction mechanism in the world. Everbright Environment has opened an official VCS carbon asset management account and is qualified for independent trading. The Gansu Wuwei waste-to-energy project (“Wuwei project”) has completed the emission reduction project identification, the project design document preparation, and the third-party review, which has successfully been registered as a VCS project. According to preliminary estimates, the Wuwei project can contribute an average of about 37,200 tonnes of carbon emission reduction per year, with a total of about 372,000 tonnes in ten years. In addition, envirotech has also independently developed a carbon emission and carbon asset management system, which has obtained phased progress, and is currently promoting the trial of some functional modules, including the project management system for waste-to-energy emission reduction, corporate carbon emission accounting, as well as accounting and trading strategic support. The research and development of this system will assist with developing the VCS project and help us realise the systematic, process-based and digital management of carbon assets.

### 國際VCS計劃下的項目開發

光大環境在碳資產管理和碳減排領域一直走在行業前沿。環境研究院於二零二二年開展國際VCS計劃下的項目開發工作，通過與環保能源板塊運營部緊密合作，在自願減排和自願碳排放權交易的機制下，將認證項目中的溫室氣體減排量和清除量轉化為可交易的碳信用額，致力於對碳資產進行積極主動的開發與管理。VCS是由非盈利組織VERRA設立的自願減排機制，也是全球範圍內使用最廣、規模最大的自願減排機制。光大環境已開設VCS官方碳資產管理帳戶，並具備自主交易資格，其旗下的甘肅武威垃圾發電項目（「武威項目」）也已經完成減排項目識別、項目設計文件編制以及項目的第三方審核工作，並成功注冊備案為VCS項目。初步測算，武威項目年平均可貢獻的碳減排量約3.72萬噸，十年共計約37.2萬噸。此外，環境研究院還自主開發了一個碳排放與碳資產管理系統，並取得了階段性成果，目前環境研究院正在推進部分功能模組的試用，包括垃圾發電減排項目管理系統、企業碳排放核算，以及核算與交易策略支持等功能。該系統的研發有助於配合正在開發的VCS項目，幫助企業實現碳資產的系統化、流程化、數字化管理。



## Air Emissions Management

With the continuous advancement of industrialisation and urbanisation, the severity of air pollution is becoming more and more serious, which has brought many new challenges to society. Facing the new challenges brought by air pollution, Everbright Environment will bear more social responsibilities, improve local environmental quality and sustainable development, and strive to reduce the negative impacts of air emissions on the environment.

Through implementing stringent operational procedures with frequent inspection and extensive supervision, the Group strictly controls stack emissions such as particulate matter (PM), sulphur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) in all combustion operations. The Group also pays attention to the effective control of fugitive air emissions at our projects to prevent air pollution. In particular, all odour-generating areas are maintained under negative pressure to ensure that odourous gases are properly collected and treated.

## 大氣排放管理

隨著工業化和城市化的不斷推進，空氣污染問題的嚴峻性日益顯著，給社會帶來了許多新挑戰。在應對空氣污染問題的方面，光大環境積極履行社會責任，致力於推動國內環境質量改善和可持續發展，努力減少廢氣排放對環境的負面影響。

本集團通過一系列嚴謹的操作程序、高頻率的檢查和細緻的監督，確保在燃燒過程中所排放的所有大氣排放物如顆粒物(PM)、二氧化硫(SO<sub>2</sub>)及氮氧化物(NO<sub>x</sub>)等得到有效控制。同時，本集團亦關注對項目無組織排放的控制，在各臭氣產生區域均保持負壓狀態，以確保合理收集和處理臭味氣體，避免造成空氣污染。

### Waste-to-energy Projects 垃圾發電項目

The Group's waste-to-energy projects are designed and operated fully in compliance with all applicable national environmental regulations and standards, including the *Standard for Pollution Control on the Municipal Solid Waste Incineration* (GB 18485-2014), local standards, as well as other requirements as set forth in the environmental impact assessment reports approved by the local government<sup>(1)</sup>, while the daily average values of online continuously monitored parameters are well below the respective emissions limits as stipulated under the *Industrial Emissions Directive* (2010/75/EU) and its relevant annexes and amendments ("EU 2010 Emission Standards").

本集團的垃圾發電項目的設計和運營完全符合所有適用的國家環境規例和標準，當中包括《生活垃圾焚燒污染控制標準》(GB 18485-2014)、相關地方標準及獲當地政府審批的環境影響評價報告中的其他要求<sup>(1)</sup>。煙氣在線監測指標日均值更全面優於歐盟《工業排放指令》(2010/75/EU)及其相關附表／修訂中的相關排放限值（「歐盟2010排放標準」）。

### Integrated Biomass Utilisation Projects 生物質綜合利用項目

Apart from household waste incineration operations as explained above, all of the Group's biomass combustion operations meet the *Emission Standard of Air Pollutants for Thermal Power Plants* (GB 13223-2011), local standards, as well as other requirements as set forth in the environmental impact assessment reports approved by the local government<sup>(2)</sup>.

除上述生活垃圾焚燒運營概況外，本集團生物質燃燒的運營則達《火電廠大氣污染物排放標準》(GB 13223-2011)、相關地方標準及獲當地政府審批的環境影響評價報告中的其他要求<sup>(2)</sup>。

#### Notes:

- <sup>(1)</sup> Air pollutants regulated by relevant national laws and regulations mainly include dioxins, PM, SO<sub>2</sub>, NO<sub>x</sub>, hydrogen chloride, carbon monoxide, mercury and other heavy metals (and their chemical compounds), odour pollutants.
- <sup>(2)</sup> Major air pollutants regulated by relevant national laws and regulations include PM, SO<sub>2</sub>, NO<sub>x</sub>.

#### 附註：

- <sup>(1)</sup> 受相關國家法律及規例規管的大氣污染物主要包括二噁英、顆粒物、二氧化硫、氮氧化物、氯化氫、一氧化碳、汞和其他重金屬（及其化合物）、惡臭污染物。
- <sup>(2)</sup> 受相關國家法律及規例規管的大氣污染物主要包括顆粒物、二氧化硫、氮氧化物。

In addition, other air pollutants such as dioxins and various heavy metals are tested by Everbright Environment with frequencies much higher than the national requirements. For instance, the testing of dioxins for all the Group's waste-to-energy projects in the PRC is conducted at least four times a year, which is significantly higher than the national requirement of once per year. Dioxin concentrations of all samples are substantially lower than the emissions limits of the *Standard for Pollution Control on the Municipal Solid Waste Incineration* (GB 18485-2014). The respective environmental emissions and discharge concentration targets and the attainment statuses of the Group's operating waste-to-energy projects can be found at the "Environmental Management" section of Everbright Environment's website at [www.cebenvironment.com](http://www.cebenvironment.com). During the Reporting Period, environmental emissions and discharge targets of all projects were met.

Besides, following the application of the self-developed technologies to the Group's integrated biomass utilisation projects, e.g. low-nitrogen combustion, flue gas recirculation, enhanced selective non-catalytic reduction (SNCR) and ozone oxidation, the combustion of biomass has successfully achieved ultra-low emissions (with NO<sub>x</sub> emissions concentration below 50 mg/m<sup>3</sup>), which can guarantee the compliant emissions of flue gas from the projects.

The Group strives to ensure that all stakeholders can conveniently access its projects' environmental performance information. Since August 2015, the Group continued timely disclosing emissions data and environmental management information of its projects on Everbright Environment's website, including the hourly average emissions rates of all the Group's operating waste-to-energy projects. This is a ground-breaking initiative that enhances the real-time and transparency of information disclosure. In accordance with the environmental management requirements of the Ministry of Ecology and Environment of the PRC, since 2 January 2020, the daily average values of the five indicators of flue gas and furnace temperature data from the operation of waste-to-energy projects have been connected to the automatic monitoring data information disclosure platform of the Ministry of Ecology and Environment of the PRC: <https://ljgk.envsc.cn/index.html>. In addition, the Group is also devoted to improving the information sharing platform which connects with the Group's Hong Kong and Shenzhen headquarters for real-time capture of projects' operational information to ensure compliant operation, and to timely report the performance of the Group's projects to the stakeholders.

此外，光大環境對煙氣二噁英和重金屬等其他污染物的監測頻率均以高於國家要求。其中，本集團在中國的所有垃圾發電項目的煙氣二噁英的檢測頻率高至每年至少四次，遠高於國家每年一次的要求，所有煙氣二噁英檢測樣本濃度均低於《生活垃圾焚燒污染控制標準》(GB 18485-2014)中所列的限值。各運營垃圾發電項目的環境排放濃度目標及達標表現可於光大環境網站「環境管理」部份([www.cebenvironment.com](http://www.cebenvironment.com))查看。在報告期內，光大環境所有項目的環境排放均能達標。

此外，由本集團在生物綜合利用項目中廣泛應用自主研發的低氮燃燒、煙氣再循環、選擇性非催化還原脫硝技術(SNCR)優化、活性分子氧化等技術。我們致力於推進生物質的燃燒實現超淨排放(NO<sub>x</sub>排放濃度低於50 mg/m<sup>3</sup>)，保證項目煙氣的達標排放。

為確保各持份者能夠隨時隨地了解我們的項目環境表現信息，自二零一五年八月起，本集團主動落實對項目的排放數據和環境管理信息實施適時披露，包括每小時於光大環境網站更新所有運營垃圾發電項目的煙氣在線監測均值。這個舉措極具開創性，有利於增強信息披露的實時性與透明度。自二零二零年一月二日起，本集團按照國家生態環境部環境管理要求，確保所有運營垃圾發電項目煙氣五項指標日均值和爐膛溫度數據已連接國家生態環境部自動監測信息公開平台：<https://ljgk.envsc.cn/index.html>。此外，為了提升信息共享效能，本集團積極改進信息共享平台，旨在讓香港及深圳總部能夠實時掌握所有項目運營狀況，確保所有項目達標運營，並能迅速地向本集團持份者報告項目的運營表現。

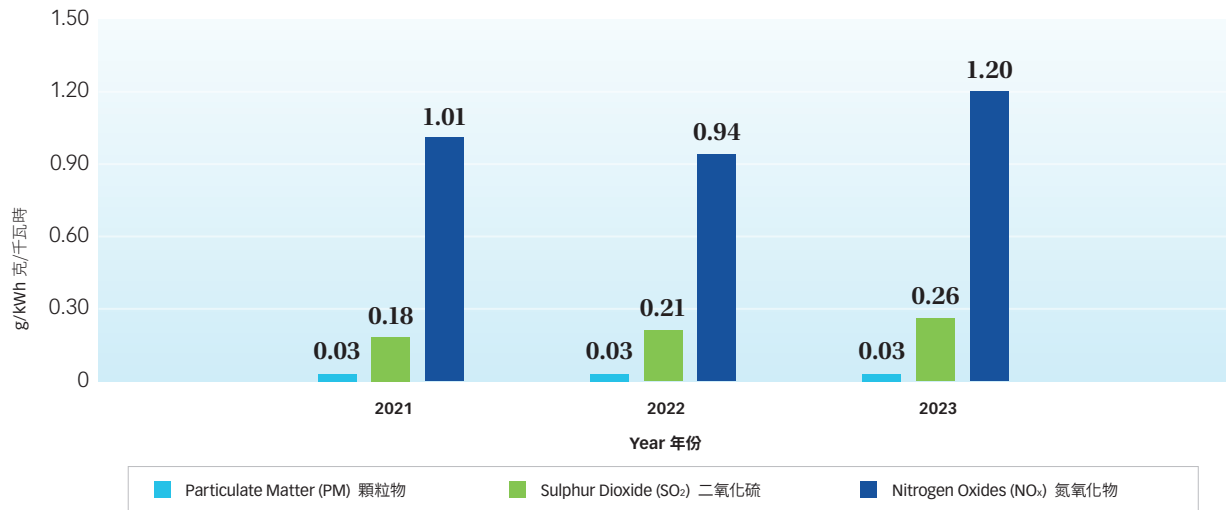
### Key Air Emissions in 2023

#### 二零二三年主要煙氣



### Air Emissions per kWh of Green Electricity Generated in the Past Three Years

#### 過往三年每千瓦時產生綠色電量的煙氣排放量



## Energy and Materials Usage

In terms of energy conservation and consumption reduction, the Group actively explores low-carbon and low-energy consumption demonstration projects focusing on waste-to-energy green technologies, including the waste-to-energy and methane-to-energy projects in the environmental energy sector; and the integrated biomass utilisation projects, solar energy and wind power projects in the greentech sector, all of which make use of the projects' own electricity to minimise the consumption of purchased electricity from non-renewable energy sources. On the other hand, due to the characteristics of the projects, waste treatment projects of environmental energy and greentech sectors pay special attention to the performance and efficiency of the boilers. Through regular maintenance and the use of advanced environmental protection and energy-saving technologies, the effective use of energy can be ensured, while at the same time reducing the use of boiler fuel and the consumption of energy and materials. In addition, the project companies of the Group also formulate various energy-saving measures according to their own circumstances, such as implementing electronic processes to reduce the number of official documents and the scale of meetings, formulating concrete energy-saving targets and measures, setting up dedicated energy-saving and consumption-reducing leading group to supervise energy saving practices, etc.

To ensure a proper energy and inventory management, the Group records in detail the monthly energy and main materials consumption of each project company, with the regional management centre coordinating the integration work. Through the collected data, the Group could clearly understand the resource utilisation situation in the business development process, thus allocate and adjust the energy and material usage accordingly. Data recording is also conducive to the Group's long-term resource management strategy to reduce resource wastage, so as to achieve sustainable energy saving and consumption reduction in the long run.

## 能源及物料使用

在節能降耗方面，本集團圍繞垃圾發電綠色技術等積極探索低碳低能耗示範項目，例如環保能源板塊的垃圾發電及沼氣發電項目、綠色環保板塊的生物質綜合利用、光伏發電及風電項目等，這些項目都可以自產電力來盡量減少外購源自非再生能源的電力。另一方面，出於對項目特質的考慮，鍋爐的性能與效率是環保能源及綠色環保的各類垃圾處理項目中非常重要的因素。通過定期維護保養及採用先進的環保節能技術，可有效節約鍋爐的燃料並減少能源及物料的消耗，從而確保能源的有效利用。除此之外，本集團的各項目公司亦會按照各自情況自行制定針對性的節約措施，如採用電子辦公的方式減少公文數量及會議規模、制定具體的節能目標並採取行動、設立專門的節能降耗工作領導小組以監督節能工作等。



每月本集團都會詳盡記錄各項目公司的能源和主要材料消耗量，並由區域管理中心協同整合工作，以確保能源的妥善利用和庫存的有效管理。通過收集到的數據，本集團得以清晰地了解各類資源在公司運營過程中的使用情況，進而可以相應地分配和調整能源和材料。此外，這些數據記錄有助於本集團制定防止資源浪費的長期資源管理計劃，以實現長期可持續的節能降耗。

## Ideas on Energy Conservation

During the Reporting Period, project companies under the Group all implemented the *Annual Energy Saving and Consumption Reduction Plan and Management Measures* to actively carry out energy-saving and consumption reduction activities as well as implementing effective energy-saving measures. In the meantime, a number of projects even established their own energy-saving targets and evaluation systems. The key measures and targets are detailed below:

### Energy-saving Measures

- Phase out outdated and inefficient electrical appliances, and install industrial frequency converters for high-power motors in the production system to reduce electricity consumption
- Retrofit the cooling fans of the boilers' auxiliary burners to reduce their power consumption rates
- Strengthen the inspection and cleaning of the dust accumulation in the flue pipes to prevent them from being blocked, thereby reducing the energy consumption of the fans
- Incorporate equipment energy consumption management into the procurement process, and use equipment and spare parts with low energy consumption as much as possible
- Strengthen the management of waste water and overflow water in the plant areas so as to reduce the use of rainwater pump and thus the corresponding power consumption

## 節能巧思

報告期內，本集團旗下的各項目公司均根據自身情況落實了《年度節能降耗計劃及管理措施》，積極展開內部的節能降耗活動及推進有效的節能措施。同時，更有多個項目自行建立了節能目標及評價考核制度。重點措施及目標詳列如下：

### 節能措施

- 淘汰落後低效的電器設備，並為生產系統的大功率電機加裝工業變頻調速器，降低用電消耗
- 對鍋爐輔助燃燒器的冷卻風機進行改造，以降低廠用電率
- 加強檢查及清理煙道的積灰，防止煙道堵塞，從而減少風機的運行耗能
- 將設備耗能管理納入採購流程，盡量採用低能耗的設備和備件
- 加強廠區排污及溢流水管理，減少雨水泵啟動次數，降低雨水泵電耗





In 2023, the Group's electricity consumption was **3,929,074,262 kWh**; the proportion of self-generated electricity consumption was **78%**.  
二零二三年，本集團的電力消耗為**3,929,074,262**千瓦時；自發用電量比例為**78%**。

.....

### Energy-saving Targets

- The leachate transformers and waste circulation water transformers in the plants shall attain Grade II efficiency as specified in *Minimum Allowable Values of Energy Efficiency and the Energy Efficiency Grades for Power Transformers* (GB 20052-2020)
- The main transformer in the plants shall attain Grade II efficiency as specified in *Minimum Allowable Values of Energy Efficiency and the Energy Efficiency Grades for Power Transformers* (GB 20052-2020)
- Strive to reduce power consumption continuously and to increase the proportion of self-generated electricity consumption within the projects
- Retrofit the lighting system in the plant area so that the switching time is adjusted according to the hours of sunlight

### 節能目標

- 廠內的滲濾液變壓器、垃圾循環水變壓器需達到《電力變壓器能效限定值及能效等級》(GB 20052-2020)中二級能效要求
- 廠內的主變壓器需達到《電力變壓器能效限定值及能效等級》(GB 20052-2020)規定的二級能效要求
- 致力不斷降低電力消耗及提高項目自發用電比例
- 技術改造廠區照明系統，根據日照時間變化調整開關時間

## Environmental Protection

### 環境保護

Several waste-to-energy projects from the Group were shortlisted in the first batch of green PPP project case studies by the National Development and Reform Commission of the PRC. These PPP projects aim to play a leading role for other waste-to-energy projects, and at the same time advocate advanced green technologies and concepts to both the industry and society, and enhance the effect of ecological construction and environmental protection. The shortlisted projects include the Jiangsu Changzhou waste-to-energy project ("Changzhou project"), Hainan Sanya waste-to-energy project and Hunan Yiyang waste-to-energy project. The three projects generate electricity through the combustion of waste, providing green electricity in a total of about 580 million kWh per year.

本集團的多個垃圾發電項目入選中國國家發展改革委首批綠色PPP項目典型案例，旨在能夠在其他環保能源項目發揮帶動作用，同時希望向產業及社會推廣綠色先進技術和理念，提升生態建設和環境保護效果。入選項目包括：江蘇常州垃圾發電項目（「常州項目」）、海南三亞垃圾發電項目，以及湖南益陽垃圾發電項目。這三個項目透過焚燒垃圾發電，每年共提供綠色電力約5.8億千瓦時。

## Energy Consumption Statistics in 2023<sup>(1)</sup>

### 二零二三年能源消耗統計<sup>(1)</sup>

Unit: GJ  
單位：吉焦

Operation Unit	Diesel	Gasoline	Natural Gas	Liquefied Petroleum Gas	Non-renewable Electricity	Renewable Electricity
運營單位	柴油	汽油	天然氣	液化石油氣	非再生能源電力	可再生電力消耗
<b>Environmental Energy</b> 環保能源	977,401	44,448	227,143	4	106,457	10,645,251
<b>Environmental Water</b> 環保水務	1,416	5,319	279	2	2,584,837	40,387
<b>Greentech</b> 綠色環保	417,449	13,539	326,606	3	413,023	283,873
<b>Others<sup>(2)</sup></b> 其他 <sup>(2)</sup>	60,205	3,717	542	1	61,131	9,707
<b>Total</b> 總計	<b>1,456,471</b>	<b>67,023</b>	<b>554,570</b>	<b>9</b>	<b>3,165,449</b>	<b>10,979,218</b>

Notes:

<sup>(1)</sup> Relevant energy conversion factors from *China Energy Statistical Yearbook 2022* are adopted.

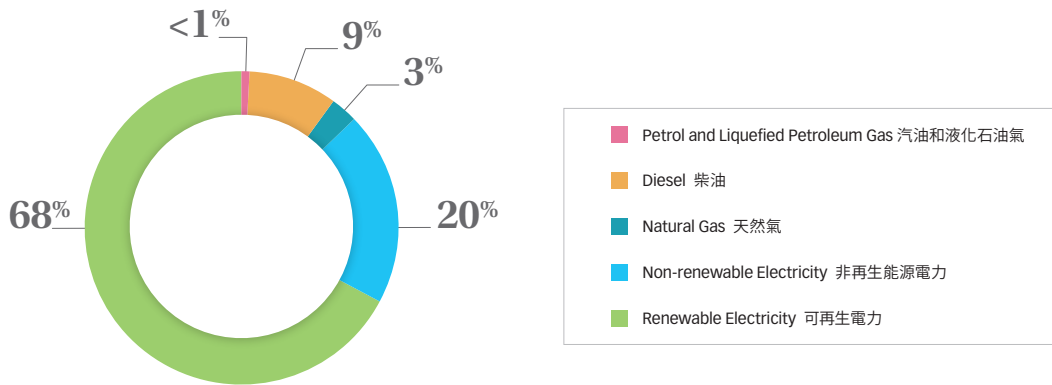
<sup>(2)</sup> Other operation units include envirotech, equipment manufacturing, headquarters, representative offices and offices.

附註：

<sup>(1)</sup> 能源單位根據《中國能源統計年鑒2022》的參考系數作換算。

<sup>(2)</sup> 其他運營單位包括了環境研究院、裝備製造、總部、代表處及辦事處。

### Energy Consumption Statistics in 2023 二零二三年能源消耗統計



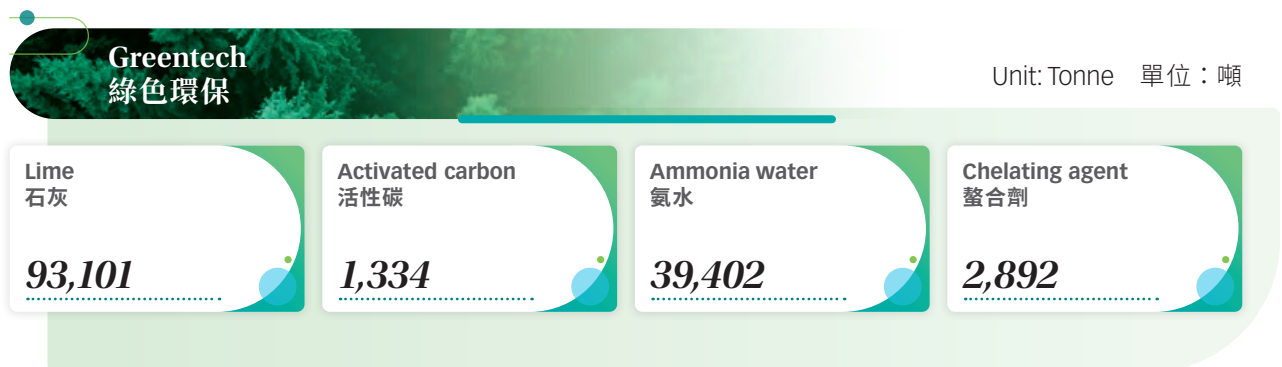
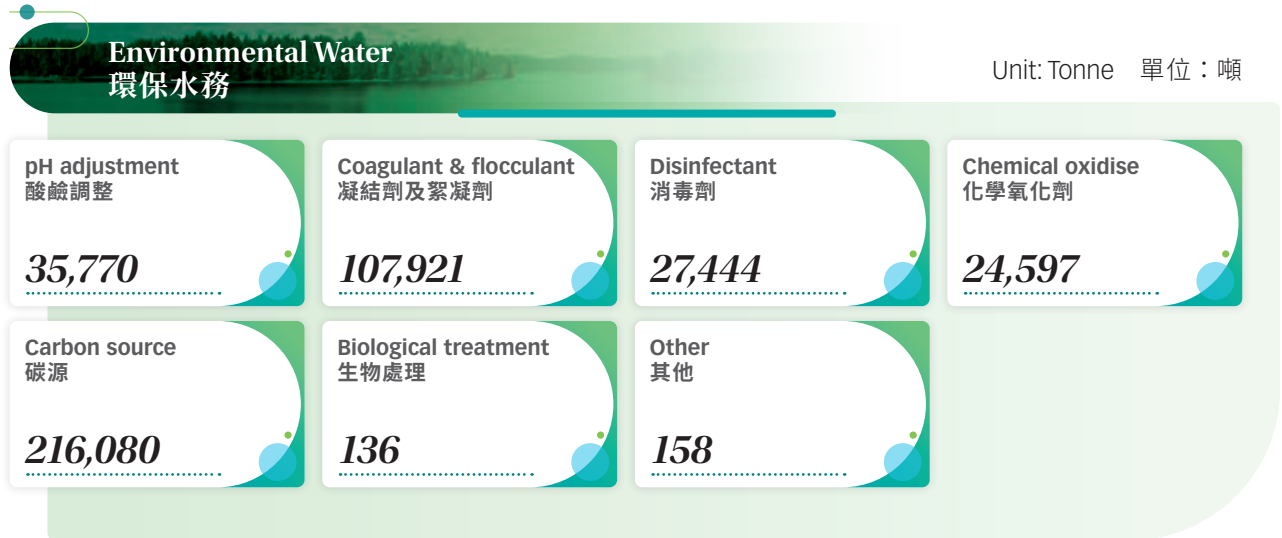
Total Energy Consumed  
能源消耗總量

**16,222,741** GJ  
吉焦

Key Production Materials Consumption in 2023

二零二三年主要生產物料使用統計





## Water Use and Management

Water scarcity is an increasingly severe crisis. However, the daily operation of Everbright Environment such as drinking water, cleaning, washrooms, etc.; and various production process, such as unit cooling for waste-to-energy projects and integrated biomass utilisation projects, as well as preparing chemical solvents for various projects including waste water treatment projects, etc., require the use of a large amount of water resources. Therefore, as a responsible enterprise, Everbright Environment pays close attention to the relevant national water conservation policies, while at the same time strives to reduce the water consumption among projects and ensure the proper treatment of waste water. When conducting environmental impact assessment, we also take into consideration of water resource related impacts so as not to deprive the rights to use water resources of other stakeholders.

## 水資源使用及管理

水資源短缺是人類面對的日益嚴峻的生態環境問題。然而，光大環境的日常營運中需要運用到大量的水資源，例如飲用水、清潔、洗手間等；且多個生產過程中也需要大量用水，例如垃圾發電項目及生物質綜合利用項目的機組冷卻、污水處理項目在內的各項目製備化學溶劑等。因此，作為負責任的企業，光大環境積極響應國家相關的用水節水政策，致力減少項目耗水並確保污水妥善處理。在各項目的環境影響評估過程中，我們亦會考慮水資源的相關影響，確保項目不會剝奪其他持份者使用水資源的權利。





## Environmental Protection

### 環境保護

During the Reporting Period, we used the Water Risk Filter published by the World Wildlife Fund (WWF) to assess water stress of the Group's projects, and to formulate action plan for project companies with high water stress.

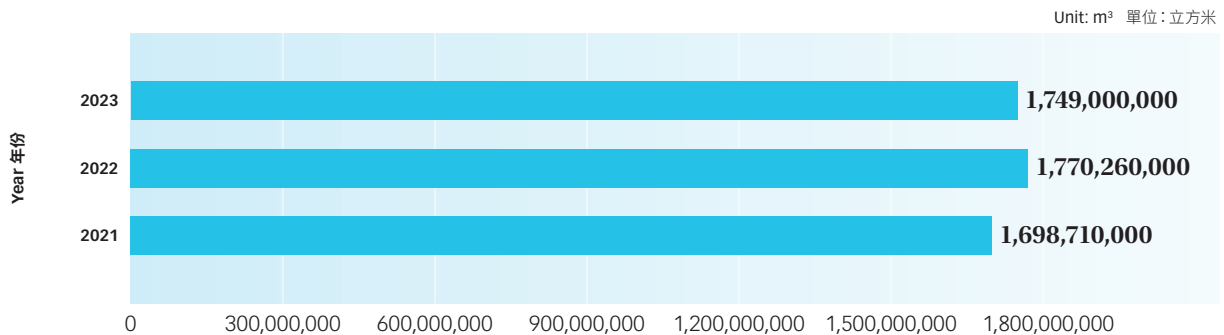
In addition, through the network of environmental water's project companies across the country, and a series of water environment integrated treatment projects, including municipal and industrial waste water treatment, reusable water, waste water source heat pump and river-basin treatment projects, the Group continues improving the environmental and hygiene conditions of water bodies in the PRC. The projects have greatly minimised the environmental damage caused by waste water discharge, and protect the health and well-being of the public, demonstrating the Group's social responsibility in water management.

報告期內，我們採用世界自然基金會發布的水風險篩檢工具對本集團各項目的水資源壓力進行全面的評估，並為存在於高水資源壓地區的项目公司制定相應的對策。

此外，通過環保水務遍布全國的项目公司分布網絡，包括市政和工業污水處理、中水回用、污水源熱泵、流域治理等一系列的水環境綜合治理項目，本集團持續提升中國水體狀況的環境和衛生標準，大幅地減少污水排放對環境造成的破壞，保障民眾健康福祉。這一系列舉措彰顯了本集團在水資源管理方面的社會責任。

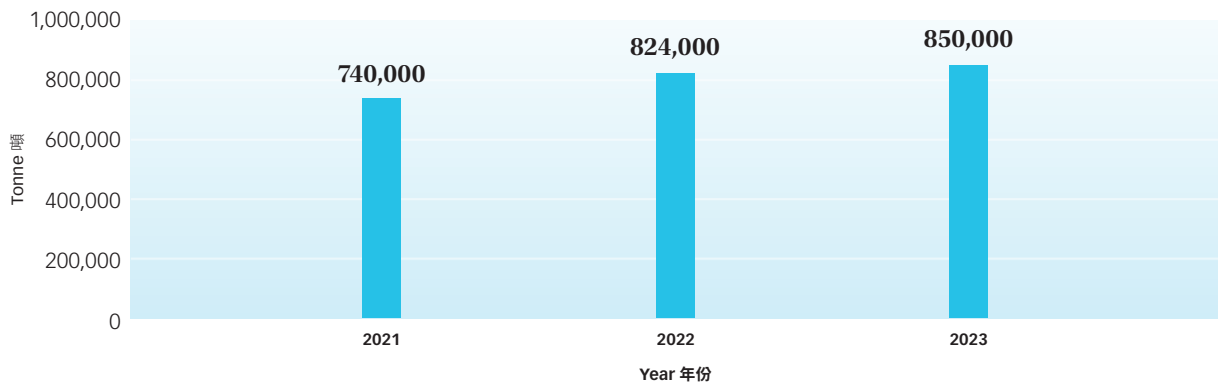
## Waste Water Treated in the Past Three Years

### 過往三年的污水處理量



## COD Discharge Reduced in the Past Three Years

### 過往三年的COD減排量



## Discharge Standards and Water Quality Testing

The Group's waste-to-energy projects treat leachate and municipal waste water in accordance with *Reuse of Urban Recycling Water – Water Quality Standard for Industrial Uses* (GB/T 19923-2005)<sup>(1)</sup>, *Reuse of Urban Recycling Water – Water Quality Standard for Scenic Environment Use* (GB/T 18921-2002) or other relevant standards. We will also take corresponding considerations into the environmental impact assessment based on the water bodies receiving the effluent from each project.

All of the Group's waste water treatment projects adopt stringent discharge standards. Through continuous upgrading works, effluent discharged from all of the Group's waste water treatment projects complies with the requirements as stipulated in the environmental impact assessment reports approved by the local governments<sup>(1)</sup>, whilst the majority of the projects comply with Grade 1A standard of *Discharge Standard of Pollutants for Municipal Wastewater Treatment Plant* (GB 18918-2002). To guarantee the highest standard of the water quality of the effluent, all waste water treatment projects of the Group have installed systems that are rapid, reliable and continuous to monitor the water quality of the effluent. Third-party laboratories are also appointed regularly to perform testing on effluent samples, striving to reduce environmental pollution and burden brought to the ecological environment. Addressing the problem of odours generated by waste water treatment plants, the Group's new biological deodourisation technologies are capable of adjusting the processing parameters in response to different types of odorous gases, reducing odour released from waste water treatment plants and making the facilities more efficient and environmentally friendly.

Besides being reused internally by project companies and being supplied to third parties as reclaimed and/or reusable water, the Group's waste water is mainly discharged to waste water treatment plants operated by third parties, the sea, and rivers and lakes. Following stringent effluent discharge standards could ensure that no negative impacts would be caused on downstream users of the water bodies (including agricultural, public recreation or potable uses, etc.).

Note:

<sup>(1)</sup> Major effluent parameters regulated by relevant national regulations and standards include COD, biological oxygen demand, suspended solids, animal fats and vegetable oils, total nitrogen, ammoniacal nitrogen, total phosphorus, pH, colour, *Escherichia coli*, mercury and other heavy metals (and their chemical compounds).

## 排放標準及水質檢測

本集團的垃圾發電項目嚴格依照《城市污水再生利用工業用水水質》(GB/T 19923-2005)<sup>(1)</sup>以及《城市污水再生利用景觀環境用水水質》(GB/T 18921-2019)以及其他水循環標準處理滲濾液及生活污水。在進行環境影響評估時，我們亦會根據接收各項目出水的水體作出對應的考量。

本集團的所有水處理項目均採用嚴格的出水標準。在符合當地政府批准的環境影響評估報告中所有相關要求<sup>(1)</sup>的基礎上，我們力爭大多數項目的出水水質通過持續的提標改造工程達到《城鎮污水處理廠污染物排放標準》(GB 18918-2002)的一級A標準。除此之外，為了最大程度地保證出水水質，本集團的所有污水處理項目均安裝了快速、可靠、無間斷記錄出水水質資料的監測系統，並定期聘請第三方廠商化驗監測出水樣本，從而有效減少對環境造成的污染並減輕給生態環境帶來的負擔。針對污水處理廠產生的臭氣問題，本集團採用新型生物除臭系統，該系統可以根據不同類型的氣體對處理參數作出調整，減少污水處理廠的臭氣釋放，提高設施的效率和環保性能。

我們污水處理項目的水資源不僅可以用作項目公司內部重用，亦可供應至第三方作再用水及／或回用水使用。剩餘的污水主要排放至第三方機構運營的污水處理廠、大海、河流及湖泊。與此同時，我們嚴格遵循排放地的出水標準，以確保水體的下游使用者（如農業灌溉、公眾休憩或飲用等）不會受到負面影響。

附註：

<sup>(1)</sup> 受相關國家規例及標準規管的出水指標主要包括化學需氧量、生物需氧量、懸浮物、動植物油、總氮、氨氮、總磷、酸鹼值、色度、大腸桿菌數量、汞及其他重金屬（及其化合物）。

## Leachate Treatment and Reuse

Based on the combination of advanced processes such as ultrafiltration, nanofiltration, softening, high-pressure reverse osmosis, and separating membrane, the Group embarks its research on the fourth-generation leachate treatment technology, in which the ammonia distillation process is used to realise the resource utilisation of ammonia nitrogen in leachate, to simplify operation and maintenance workflow, reduce energy consumption and related costs, site area, as well as achieving fully quantified management. Leachate meeting reusable water standards are recirculated in the Group's waste-to-energy projects, while the reverse osmosis concentrate is used in other processes, such as lime preparation, promoting full resource utilisation of urban reclaimed water. In 2023, around 82% of the treated leachate at the Group was reused.

## Water Conservation

Each project company of the Group has formulated their water-saving measures for 2023, established a water-saving management system, and established a dedicated water-saving leading group; measures are also more stringent in areas with high water stress. Through various actions, Everbright Environment strives to make the best use of the precious water resources and protect water environment by improving water use efficiency. The key measures are detailed below:

### Water-saving Measures

- Periodically measure the temperature of the drains of main steam, water supply, ventilation, bypass, discharge and other systems and the drain valves of steam turbine to monitor the tightness of the drains, so as to facilitate timely detection of leakage defects in the drain system and to avoid leakage.
- Maintain the control system for steam temperature and pressure running at designed parameters with automatic settings, so as to reduce the usage of cooling water.
- Reuse condensate from completed water treatment process to the desalinated water tank, thus reducing costs of purchasing desalinated water while avoiding the wastage of discharging condensate of water treatment process.
- Reuse high-temperature steaming water, domestic waste water, in-plant floor-rinsing water, and rainwater to the quench tower of the incineration line.
- After retrofitting, the slag conveyor could utilise self-backwashing water from the integrated units to reduce water consumption.

In 2023, the Group mainly withdrew fresh water from municipal water supplies or other water facilities, followed by rivers, lakes and groundwater.

## 滲濾液處理及回用

本集團研發的第四代滲濾液處理技術通過蒸氨工藝實現滲濾液中氨氮的資源化利用，基於組合超濾、納濾、軟化、高壓反滲透、物料分離膜等先進工藝，該技術可以有效降低運行能耗費用，減少佔地面積，極大地減輕了人力物力的負擔，並有助實現滲濾液的全量化處理。達到循環補充水水質標準的反滲透出水將回用作為垃圾發電項目循環補充水，而濃水則回用於石灰漿製備等其他工藝，可推動城市再生水利用和充分資源化。二零二三年，本集團經處理的滲濾液回用比例超過約82%。

## 節約用水

本集團各項目公司推行了針對二零二三年的節水策略，建立了節水管理體系，甚至創建了獨具特色的節水領導小組。我們的節水策略在水資源壓力更高的地區亦更加嚴格。光大環境致力於通過各種措施提高用水效率，最大限度地利用有限的水資源、保護水環境。主要行動詳列如下：

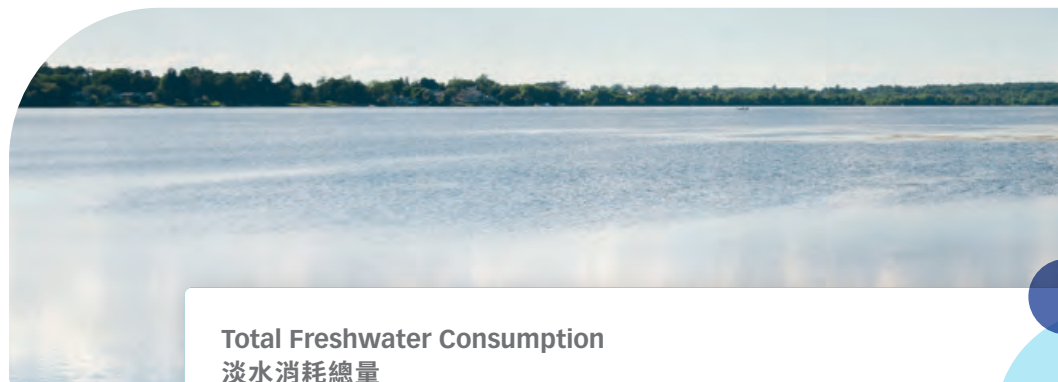
### 節水措施

- 對主汽、給水、抽汽、旁通管路、排污等系統的疏水和汽輪機缸體的疏水閥門定期測溫，以監視疏水閥的嚴密性，便於及時發現疏水系統的洩漏缺陷及避免洩漏情況。
- 控制汽溫汽壓的調節保持壓紅線運行，盡可能自動設置在設計值，從而減少冷卻水用量。
- 將完成水處理冷凝水回用至除鹽水箱，節約了外購除鹽水的費用，同時避免水處理冷凝水外排造成浪費的現象。
- 將高溫蒸餾廢水、生活污水、廠區地面沖洗水以及初期雨水回用至焚燒線的急冷塔。
- 經技術改造後撈渣機用水採用一體化自反洗出水以節約用水。

二零二三年，本集團取用的淡水主要源自市政供水或其他水務設施，其次為河流及湖泊和地下水。

Freshwater Consumption by Source in 2023<sup>(1)</sup>  
二零二三年按來源劃分的淡水消耗量<sup>(1)</sup>

Operation Unit 運營單位	Rivers and Lakes 河流及湖泊	Groundwater 地下水	Municipal Water Supplies or Other Water Facilities 市政供水或 其他水務設施
Environmental Energy 環保能源	35,435,249	228,117	21,692,134
Environmental Water 環保水務	19,720	170,096	1,070,599
Greentech 綠色環保	15,026,618	611,618	5,777,397
Others <sup>(2)</sup> 其他 <sup>(2)</sup>	–	–	133,980
<b>Total 總計</b>	<b>50,481,587</b>	<b>1,009,831</b>	<b>28,674,110</b>



Total Freshwater Consumption  
淡水消耗總量

**80,165,527** m<sup>3</sup>  
立方米

Notes:

<sup>(1)</sup> Environmental water's river-basin ecological restoration projects, raw water protection project, water supply projects and reusable water projects were excluded from the calculation of freshwater consumption. This is with due consideration that those projects' key objectives are to purify water for use by the public/clients, therefore the freshwater processed were not considered as consumed.

<sup>(2)</sup> Other operation units include envirotech, equipment manufacturing, headquarters, representative offices and offices.

附註：

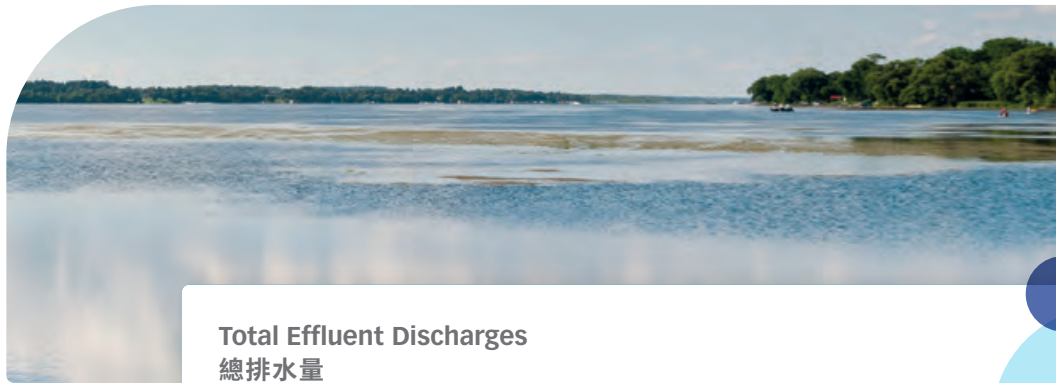
<sup>(1)</sup> 淡水消耗的計算並不包括環保水務旗下的流域治理項目、原水保護項目、供水項目及中水回用項目。這是考慮到這些項目的主要目標是淨化水資源供公眾／客戶使用，因此，涉及的淡水處理並不視為被消耗。

<sup>(2)</sup> 其他運營單位包括了環境研究院、裝備製造、總部、代表處及辦事處。

Effluent Discharge by Destination in 2023  
二零二三年按目的地劃分的排水量

Unit: m<sup>3</sup> 單位：立方米

Operation Unit 運營單位	Surface Water 地表水	Groundwater 地下水	Sea 大海	Waste Water Treatment Plants Operated by Third Parties 第三方機構運營的污水處理廠	Water Supplied to Third Parties for Use as Reclaimed Water and/or Reusable Water 作回用水供應至第三方使用
Environmental Energy 環保能源	413,821	-	-	5,325,182	-
Environmental Water 環保水務	1,163,251,557	-	139,823,329	134,031,855	58,408,706
Greentech 綠色環保	370,896	-	-	3,501,289	-
Others <sup>(1)</sup> 其他 <sup>(1)</sup>	-	-	-	105,324	-
<b>Total 總計</b>	<b>1,164,036,274</b>	<b>-</b>	<b>139,823,329</b>	<b>142,963,650</b>	<b>58,408,706</b>



Total Effluent Discharges  
總排水量

**1,505,231,959** m<sup>3</sup>  
立方米

Note:

<sup>(1)</sup> Other operation units include envirotech, equipment manufacturing, headquarters, representative offices and offices.

附註：

<sup>(1)</sup> 其他運營單位包括了環境研究院、裝備製造、總部、代表處及辦事處。



## Case studies 個案分享

### Waste Water Treatment Project: EPCO Project of Industrial Wastewater Treatment Plant in Lianshui Airport Industrial Park

As one of the main development platforms of Lianshui Economic Development Zone, Lianshui Airport Industrial Park aims to build a comprehensive area integrating advanced manufacturing and bonded logistics such as aircraft manufacturing and services, modern logistics industry, biomedicine, new materials, and electronic information. In order to ensure that the industrial wastewater in the park is treated efficiently and safely, the construction plan of Lianshui Airport Industrial Park came into being. The plant is designed as an industrial wastewater treatment project with a total capacity of 60,000 m<sup>3</sup> per day and will be built in two phases. The first phase is designed to treat industrial wastewater at a capacity of 30,000 m<sup>3</sup> per day. The water quality indicators of the effluent of the project, including COD<sub>cr</sub> (chemical oxygen demand), NH<sub>3</sub>-N (ammonia nitrogen) and TP (total phosphorus), will meet the IV standard in the *Environmental Quality Standard for Surface Water* (GB 3838-2002), of which TN (total nitrogen) is not higher than 10 (12) mg/L, and the other main indicators will meet the first-class A standard of *Pollutant Discharge Standard for Urban Sewage Treatment Plants* (GB 18918-2002).

The implementation of the Lianshui Airport Industrial Park EPCO project is the first EPCO project implemented by Everbright Water since it actively explored new business tracks and promoted the simultaneous development of light and heavy businesses. The adoption of the EPCO model will help the company share its own experience and advantages in operation management, and further enrich the company's asset-light business experience.

### 污水處理項目範例：漣水空港產業園工業污水處理廠EPCO項目

漣水縣空港產業園作為漣水經濟開發區的主要發展平台之一，以打造集航空器製造與服務、現代物流產業、生物醫藥、新材料、電子信息等先進製造業及保稅物流為一體的綜合片區為發展目標。為了確保園區內工業污水得到高效、安全的處理，漣水空港產業園廠的建設計劃應運而生。該廠被設計為一個工業污水處理項目，總規模為每日6萬立方米，將分兩期進行建設。第一期設計的工業污水處理規模為每日3萬立方米。項目出水的水質指標，包括COD<sub>cr</sub>（化學需氧量）、NH<sub>3</sub>-N（氨氮）、TP（總磷），將達到《地表水環境質量標準》(GB 3838-2002)中的IV標準，其中TN（總氮）不高於10(12)毫克/升，其他主要指標將達到《城鎮污水處理廠污染物排放標準》(GB 18918-2002)的一級A標準。

此次落實漣水空港產業園EPCO項目是光大水務積極探索業務新賽道、推動輕重業務同步發展以來，落實的首個EPCO項目。採用EPCO模式有助於公司在運營管理方面分享自身的經驗和優勢，進一步豐富公司的輕資產業務經驗。

## Case studies 個案分享

**Water-saving Project: Nanjing Water Company Won the Honor of “Nanjing Water-saving Enterprise”**

Nanjing Municipal Water Affairs Bureau officially awarded Nanjing Water Company the honorary title of “Nanjing Water-saving Enterprise”. This is another honor won by Nanjing Water in the field of municipal water conservation after Liuhe Plant won the title of “Nanjing Water Conservation Education Hub”. At the press conference of the “Water-saving Pukou Line” held on 23 May 2023, Ms. Zheng Hengping, Director of the Pukou District Water Affairs Bureau, presented the first batch of “Water-saving Pukou Line” cooperation units to Mr. Cao Lei, director of Nanjing Pukou waste water treatment project (“Nanjing project”). At the press conference, the video footage of Nanjing project opening up to the public was played. Theme panels were also displayed around the venue, demonstrating Nanjing project’s commitment to science and technology to protect water and build a beautiful and clean world. The exhibition board introduces in detail that Nanjing project adopts advanced reclaimed water reuse technology, which greatly saves tap water consumption and becomes a water-saving enterprise in Nanjing. Through the way open to the public, promote the importance of water conservation, love and cherish water resources.

Nanjing project will continue to consolidate the achievements of the establishment, continuously improve the level of water-saving management, give full play to the role of demonstration and leadership, comprehensively improve the level of water-saving enterprise construction, and make efforts to create a water-saving enterprise in Jiangsu Province. This honor will further promote Nanjing’s water conservation work and promote the effective use and sustainable development of water resources.

**節水項目公司範例：南京水務公司獲得「南京市節水型企業」榮譽**

南京市水務局正式授予南京水務公司「南京市節水型企業」的榮譽稱號。這是南京水務繼六合廠獲得「南京市節水教育基地」稱號後，又一項在市級節水領域獲得的殊榮。在二零二三年五月二十三日舉行的「節水浦口行」線路發布會上，浦口區水務局局長鄭恒萍女士向南京浦口區珠江污水處理項目（「南京項目」）廠長曹磊先生頒發了「節水浦口行」首批合作單位的標牌。發布會現場播放了南京項目對公眾開放接待社會大眾的影像畫面。會場周圍還陳列著主題展板，展示了南京項目致力於科技護水、共建美麗清潔世界的理念。展板中詳細介紹了南京項目採用先進的中水回用技術，大幅度節約自來水用量，成為南京市節水型企業。通過對公眾開放的方式，宣傳節水、愛水、珍惜水資源的重要性。

南京項目將繼續鞏固創建工作成果，不斷提高節水管理水平，充分發揮示範帶頭作用，全面提升節水型企業建設水平，為創建江蘇省節水型企業做出努力。這一榮譽將進一步推動南京市的節水工作，促進水資源的有效利用和可持續發展。

## Waste Management

The concept of “Zero-waste Cities” was born in the *Plan for Pilot Development of “Cities”* issued by the The General Office of the State Council of the PRC in 2019, which provides a sustainable urban management concept and plays a positive role in guiding urban waste treatment and resource recycling. As an environmental protection company, Everbright Environment has always regarded resource conservation and waste reduction as an important part of the company. The Group strives to achieve environmentally sound management of all wastes throughout their life cycles, and significantly reduce their release to air, water and soil through comprehensive recycling and resource utilisation schemes. We monitor various waste data through the in-plant weighbridge that is regularly calibrated, and properly record it in the monthly production or environmental reports. At the same time, we only hire qualified downstream contractors or recyclers, and regularly check their trip tickets to ensure that waste is legally and properly handled.

Everbright Environment’s ecological resources and environmental planning is an important part of the environmental protection and energy sector, which includes waste sorting and zero-waste cities, urban and rural integrated sanitation services, and renewable resource recycling, realising a full-value solid waste industry chain business system from source collection to terminal disposal. With the goal of becoming a “Zero-waste City” with zero waste, zero landfill and zero incineration, Everbright Environment is committed to creating a unique technical roadmap and business model for source reduction, waste sorting, recycling, and end-of-line harmless disposal, so as to achieve synergy and improvements in source materials, waste and carbon reduction.

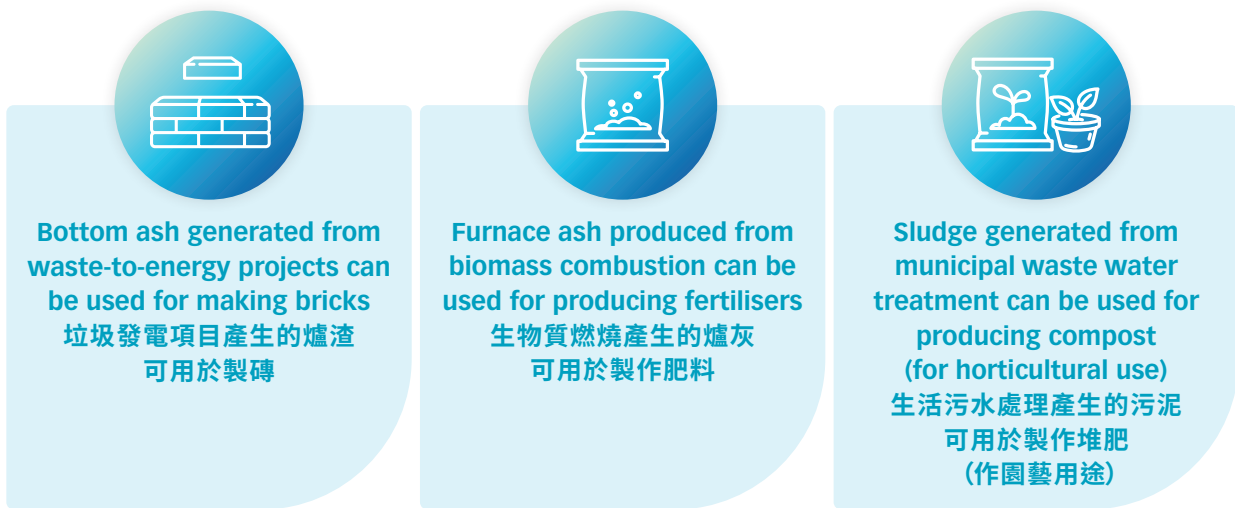
## 廢棄物管理

「無廢城市」的概念誕生於國務院辦公廳在二零一九年印發的《「無廢城市」建設試點工作方案》，這一概念給予可持續發展的城市管理理念，對於城市廢物處理及資源循環利用有積極指導作用。光大環境作為一家環保企業，始終將節約資源、減少廢棄物視作企業的重要一環。本集團致力於實現對所有廢物全生命週期的綠色管理，透過全面的回收及資源化利用計劃，減少向空氣、水和土壤的廢棄物排放。透過廠內定期校正的磅橋，我們得以監測各類廢棄物的數據，並在月度生產或環保報告內做到妥善紀錄。在供應鏈管理方面，我們只會僱用合資格的下游承辦商或回收商，並定期檢查他們的運載紀錄，以確保全部廢棄物得到合法、妥善處理。

光大環境的生態資源及環境規劃是環保能源板塊的重要組成部分，包括了垃圾分類及無廢城市、城鄉綜合環衛服務、再生資源回收利用業務，實現了從源頭收集至末端處置的固廢全產業鏈業務體系。光大環境以零丟棄、零填埋、零焚燒的「無廢城市」為目標，致力創建源頭減量、垃圾分類、循環利用、末端無害化處置的獨有的技術路線和商業模式，從而實現源頭減量、推進減污降碳協同與協同增效。

## Resource Utilisation and Recycling

The Group is committed to reducing waste generation and encouraging resource utilisation and recycling. In terms of waste generated from the projects, the Group attaches great importance to recycling the by-products arising from the Group's operations in various fields and contributing to green construction as well as urban greening. Bottom ash generated from our waste-to-energy projects is recycled to make bricks to support green construction; furnace ash produced from biomass combustion can be used as fertilisers, while sludge generated from municipal waste water treatment can be used for producing compost, supporting horticultural greening.



## 資源利用及回收

本集團致力減少廢物產生，並積極推動各類資源的有效利用和回收。針對項目生產的廢棄物，我們特別重視各行業活動產生的副產品的循環使用，從而對綠色建築和城市綠化做出積極貢獻。其中，我們的垃圾發電項目將爐渣回收用於製磚，有利於推進綠化建設；我們還將由生物質燃燒產生的灰燼製成肥料，或將生活污水處理產生的污泥用於製作堆肥，而這些舉措均有助於園景綠化。

### “Zero-waste Cities” Project: Tengzhou Waste-to-energy Project

In 2023, the Shandong Provincial Department of Housing and Urban-Rural Development issued the *Notice on the Construction and Operation of Waste Treatment Facilities in Shandong Province in 2022*, and Tengzhou waste-to-energy project (“Tengzhou project”) successfully passed the AAA harmless rating of household waste incineration treatment facilities in Shandong Province. In the evaluation process, the expert group carried out a strict evaluation from the aspects of project construction level and operation management, and carefully inspected all aspects of Tengzhou project. They agreed that Tengzhou project met the requirements of the AAA harmless rating and provided guidance for the subsequent development of the project. In the future, Tengzhou project will take this opportunity to continue to work hard, adhere to high standards of operation, and make outstanding contributions to the construction of Tengzhou as a “Zero-waste City”.

### 「無廢城市」項目示範：滕州垃圾發電項目

二零二三年，山東省住房和城鄉建設廳發布了《關於二零二二年度全省垃圾處理設施建設運行情況的通報》，滕州垃圾發電項目（「滕州項目」）成功通過山東省生活垃圾焚燒處理設施的AAA無害化等級評定。在評定過程中，專家組從項目工程建設水平和運行管理等方面展開了嚴格的評估，認真考察了滕州項目的各個方面。他們一致認為，滕州項目的垃圾發電廠符合AAA無害化等級評定的要求，並為項目的後續發展提供了指導性意見。未來，滕州項目將以此為契機，繼續努力，堅持高標準運營，為滕州市的「無廢城市」建設做出卓越貢獻。

**Fly Ash<sup>(1)</sup> and Furnace Ash Generated and Processed in 2023**  
二零二三年飛灰<sup>(1)</sup>及爐灰產生量及處置方式

Unit: tonne 單位：噸

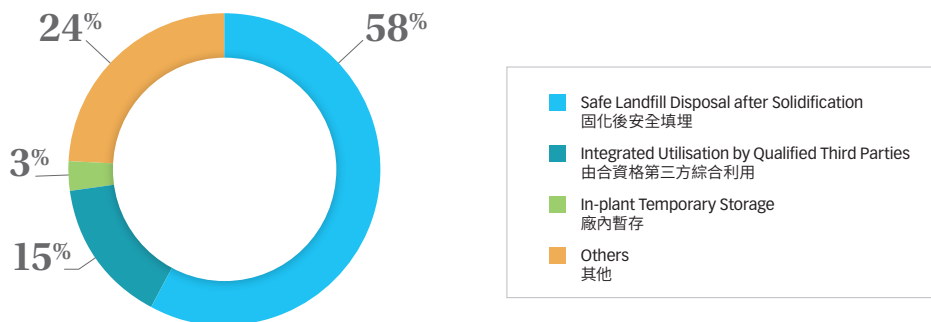
Operation Unit 運營單位	Source 來源	Safe Landfill Disposal after Solidification 固化後安全填埋	Integrated Utilisation 綜合利用	In-plant Temporary Storage 廠內暫存	Others 其他
<b>Fly Ash</b> 飛灰					
Environmental Energy 環保能源	Waste-to-energy Projects 垃圾發電項目	1,237,071	132,683	63,141	162,788
Greentech 綠色環保	Integrated Biomass Utilisation Projects (Waste-to-energy) 生物質綜合利用項目 (垃圾發電)	115,338	-	-	-
	Hazardous Waste Incineration Projects 危廢焚燒項目	18,456	-	-	-
<b>Furnace Ash</b> 爐灰					
Greentech 綠色環保	Integrated Biomass Utilisation Projects 生物質綜合利用項目	86,217	241,606	-	449,132
<b>Total</b> 總計		<b>1,457,082</b>	<b>374,289</b>	<b>63,141</b>	<b>611,920</b>

Note:

<sup>(1)</sup> Refers to the amount of fly ash after solidification.

附註：

<sup>(1)</sup> 指固化後的飛灰量。



**Total Fly Ash and Furnace Ash Generated**  
飛灰及爐灰產生總量

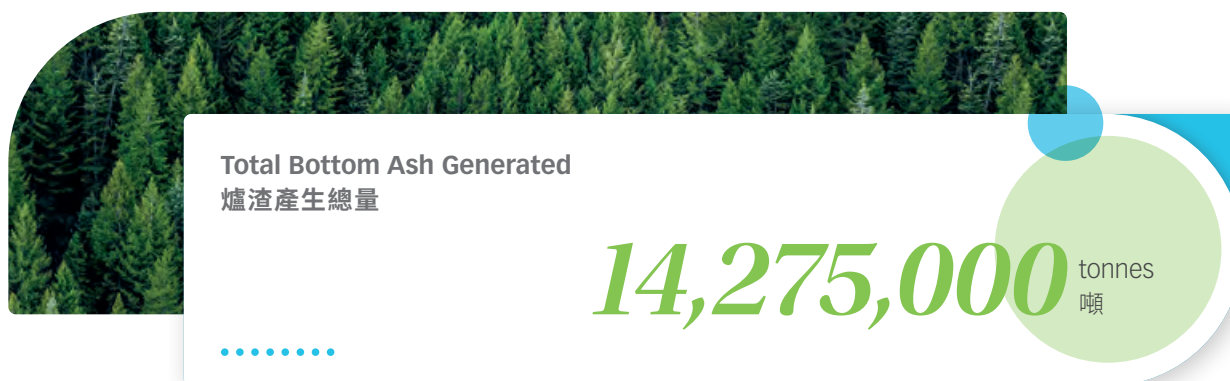
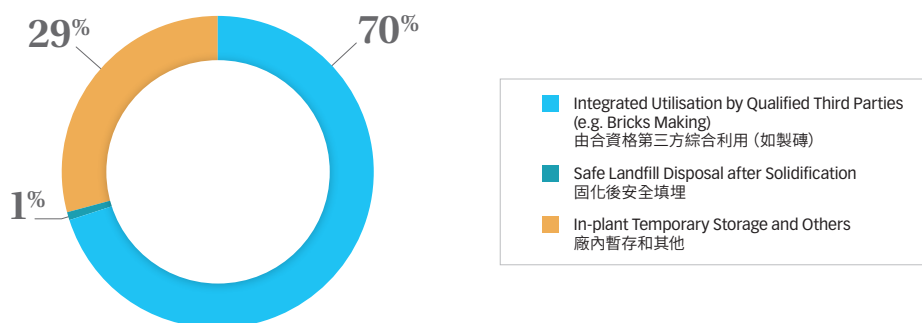
**2,506,432** tonnes  
噸



Bottom Ash Generated and Processed in 2023  
二零二三年爐渣產生量及處置方式

Unit: tonne 單位：噸

Operation Unit 運營單位	Source 來源	Integrated Utilisation by Qualified Third Parties (e.g. Bricks Making) 由合資格第三方綜合利用 (如製磚)	Safe Landfill Disposal after Solidification 固化後安全填埋其他	In-plant Temporary Storage 廠內暫存	Others 其他
Environmental Energy 環保能源	Waste-to-energy Projects 垃圾發電項目	8,707,980	12,000	590	3,083,840
Greentech 綠色環保	Integrated Biomass Utilisation Projects 生物質綜合利用項目	1,247,611	49,560	–	1,112,988
	Hazardous Waste Incineration Projects 危廢焚燒項目	–	60,431	–	–
<b>Total 總計</b>		<b>9,955,591</b>	<b>121,991</b>	<b>590</b>	<b>4,196,828</b>



In the fields of sludge treatment and disposal, the Group continues to conduct technological R&D and properly dispose of the sludge it produces. Most of the sludge treatment technologies consist of recycling measures, so as to achieve energy recovery and resource recycling, promoting sustainable waste management. The municipal wastewater treatment projects of the Group strictly comply with the national standards such as *Discharge Standard of Pollutants for Municipal Wastewater Treatment Plant* (GB 18918-2002) for the treatment of sludge. These operating projects under environmental water also consider relevant international standards including the World Bank Group's *General Environmental Health and Safety Guidelines* and *Environmental, Health and Safety Guidelines for Water and Sanitation* to reduce their environmental impacts. Most of the treated sludge with satisfactory testing results are sent to qualified third parties for further treatment, reuse and/or integrated utilisation, such as the production of compost, utilisation as construction materials, etc. A small amount of sludge that cannot be utilised is sent to designated landfills for disposal after undergoing dewatering process for the reduction of water content and volume. In order to promote the concept of sustainable waste management to the downstream of our value chain, the Group only hires qualified third-party organisations for further treatment of sludge produced by our project companies, ensuring that the sludge treatment and disposal process complies with national environmental laws and regulations.

在污泥處理處置等領域，光大集團持續推進技術研發並保證其生產的污泥得到妥善處理。多數污泥處理技術更進一步採用循環措施，以實現能源回收及物料再生利用，推動可持續廢棄物管理。本集團的市政污水處理項目嚴格遵從國家標準，如《城鎮污水處理廠污染物排放標準》(GB 18918-2002)等。此外，為了減少環保水務的運營項目對環境的影響，我們還將相關國際標準如世界銀行集團的《通用環境、健康和安全管理指南》及《水與衛生環境、健康與安全管理指南》等納入考慮。經處理並通過檢測的大部分污泥會被送到合資格第三方作進一步處理、循環再用或作綜合利用，如製作堆肥、建材利用等；對於少數無法循環再用的污泥，我們會進行脫水工序以減低含水量及體積，然後送到指定填埋場作填埋處理。為了使價值鏈下游同樣符合可持續廢棄物管理理念，本集團僅僱用合資格的第三方進一步處理項目公司所產生的污泥，確保污泥處理及處置流程遵循國家環保法律及規例。

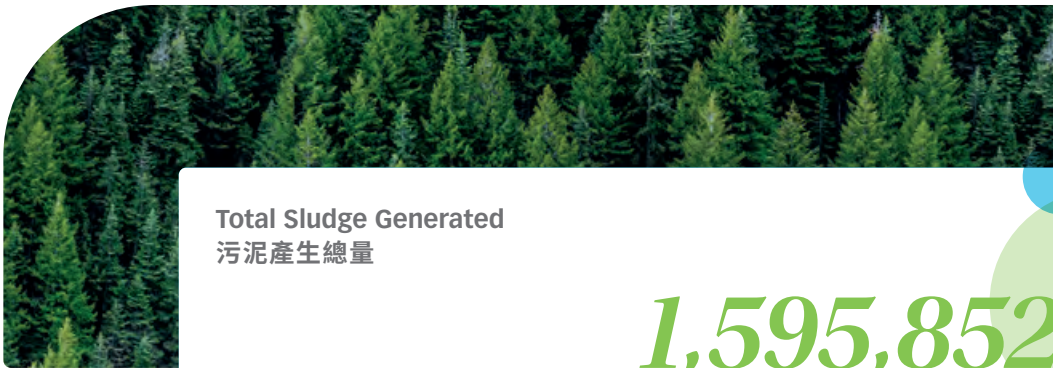
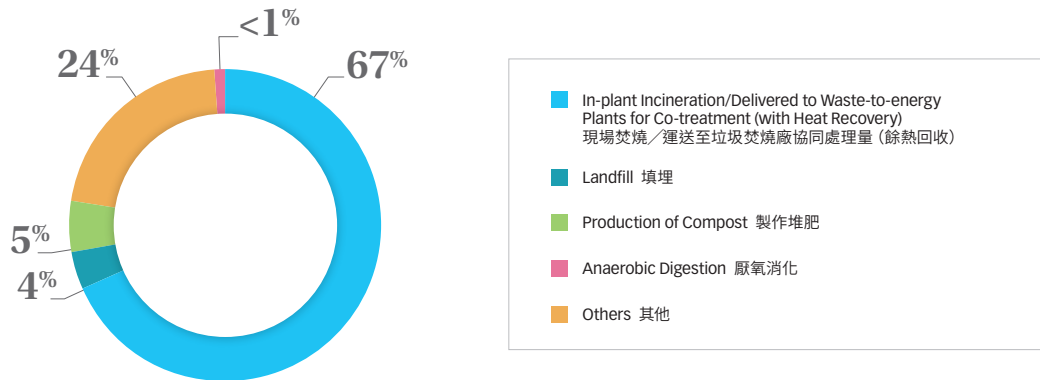
## Amount and Methods of Disposal of Sludge Generated in 2023 二零二三年污泥產生量及處置方式

Unit: tonne 單位：噸

Operation Unit 運營單位	Source 來源	In-plant Incineration/ Delivered to Waste-to-energy Plants for Co-treatment (with Heat Recovery) 現場焚燒/ 運送至垃圾焚燒廠協同處理量(餘熱回收)	Anaerobic Digestion 厭氧消化	landfill 填埋	Production of Compost 製作堆肥	Others 其他
Environmental Energy 環保能源	Waste-to-energy Projects 垃圾發電項目	516,247	-	-	-	-
Environmental Water 環保水務	Waste Water Treatment Projects 污水處理項目	523,986	8,488	58,083	86,623	378,598
Greentech 綠色環保	Integrated Biomass Utilisation Projects 生物質綜合利用項目	22,636	-	-	-	-
	Solid Waste Treatment Projects 固廢處置項目	1,190	-	-	-	-
<b>Total 總計</b>		<b>1,064,059</b>	<b>8,488</b>	<b>58,083</b>	<b>86,623</b>	<b>378,598</b>

Ultimate Treatment/Disposal Methods of Sludge Generated in 2023

二零二三年所產生的污泥最終處理／處置的方式



Total Sludge Generated  
污泥產生總量

1,595,852 tonnes  
噸

Everbright Environment’s waste policy also applies to the daily workplace, and we encourage our employees to actively participate in resource recovery activities, and fully implement the waste recovery and recycling policy in our production sites, offices, dormitories, etc., such as consciously recycling recyclable waste such as paper, metal, plastic and food waste. All general waste is handled by dedicated external waste collectors and recyclers to prevent illegal waste disposal.

光大環境的廢棄物政策同樣適用於日常辦公場所，我們鼓勵員工積極參與資源回收活動，在生產場所和辦公室、宿舍等全面執行廢物回收和循環再用政策，比如有意識地回收紙張、金屬、塑料和廚餘等可回收廢棄物。為避免非法垃圾處理，所有一般廢物均交由專門的外部廢物收集者和回收者管理。

## Consumption and Recycling of Office Materials, Plant Area Materials, and Packaging Materials in 2023 二零二三年辦公室物料、廠區物料、包裝材料使用量和回收量統計

Unit: Kg 單位：公斤

Category 類別	Material Consumption 物料使用	Material Recycling 物料回收
Paper Products <sup>(1)</sup> 紙製品 <sup>(1)</sup>	148,651	4,110
Plastics <sup>(2)</sup> 塑料 <sup>(2)</sup>	12,125	567
Metal <sup>(3)</sup> 金屬 <sup>(3)</sup>	110	5,080
Packaging materials paper products, plastics, foam and wood board <sup>(4)</sup> 包裝材料 (包括紙製品、塑料、泡沫及木板) <sup>(4)</sup>	900	–

Notes:

<sup>(1)(2)</sup> Only applicable to office areas.

<sup>(3)</sup> Only applicable to plant areas.

<sup>(4)</sup> Only applicable to the equipment manufacturing sector.

附註：

<sup>(1)(2)</sup> 僅適用於辦公區域。

<sup>(3)</sup> 僅適用於廠區。

<sup>(4)</sup> 僅適用於裝備製造板塊。

### Hazardous and Solid Waste Treatment

The Group's hazardous and solid waste treatment projects process over 90% of hazardous waste types listed in the *National Catalogue of Hazardous Wastes* by ways of incineration, landfill, physico-chemical treatment and integrated utilisation, ensuring that hazardous chemicals are properly detoxified before disposal. All of the Group's hazardous and solid waste treatment projects operate in compliance with respective requirements stipulated in the environmental impact assessment approved by the government as well as national standards, including *Standard for Pollution Control on the Security Landfill Site for Hazardous Wastes* (GB 18598-2019) and the *Pollution Control Standard for Hazardous Wastes Incineration* (GB 18484-2020)<sup>(1)</sup>. The Group did not import or export any hazardous waste from/to foreign countries during the Reporting Period.

Note:

<sup>(1)</sup> Key air pollutants regulated by relevant national laws and regulations include smoke blackness, particulate matter, carbon monoxide, sulphur dioxide, hydrogen fluoride, hydrogen chloride, nitrogen oxides, mercury and other heavy metals (and their compounds), and dioxins.

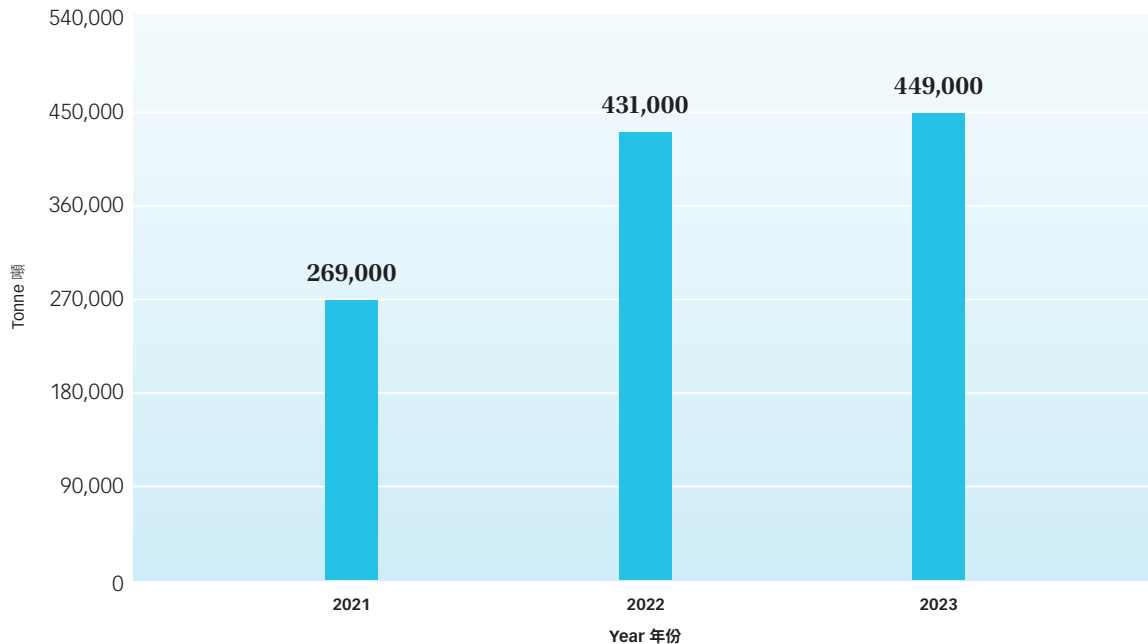
### 危廢及固廢處置

通過採用焚燒、填埋、物化處理及綜合利用等方式，本集團的危廢及固廢處置項目安全妥善地處置《國家危險廢物目錄》中超過九成的危廢種類，以確保危險化學物質在棄置前進行適當的無害化工序。本集團所有危廢及固廢處置項目均嚴格遵照政府部門批准的環境影響評價的相關規定，並符合《危險廢物填埋污染控制標準》(GB 18598-2019)及《危險廢物焚燒污染控制標準》(GB 18484-2020)<sup>(1)</sup>等國家標準的相關要求。報告期內，本集團沒有從國外輸入或向其輸出任何危險廢物。

附註：

<sup>(1)</sup> 受相關國家法律及條例規管的大氣污染物主要包括煙氣黑度、懸浮物、一氧化碳、二氧化硫、氟化氫、氯化氫、氮氧化物、汞和其他重金屬 (及其化合物) 及二噁英。

**Hazardous and Solid Waste Processed in the Past Three Years**  
過去三年危廢及固廢處置統計



**Committing to “No Net Loss” of Biodiversity**

Biodiversity is one of the nine planetary limits that are affected by human activities, and protecting biodiversity is an important factor that needs to be considered in business operations. Everbright Environment are considering integrating biodiversity risk assessment into the multi-disciplinary company-wide risk management process, and we are driven by our commitment to ensure no net deforestation and no net loss of biodiversity across the Group’s business. To safeguard ecosystems, we further commit ourselves to applying suitable mitigation hierarchy (including avoidance, minimisation, restoration and offset) when operating in areas in close proximity to critical habitats.

Many of our projects have already embedded the concept of “no net loss” in their mode of operation:

- Our waste-to-energy projects enabled landfill diversion and avoided dumping of household waste in the rural areas which would otherwise pollute the land and ecosystems;

**致力達至生物多樣性「無淨損失」**

生物多樣性是地球九大受人類活動影響的地球限度之一，保護生物多樣性是企業業務運營需要考量的重要因素。光大環境按實際需要對新項目進行生物多樣性風險評估，確保整個集團業務不會引致森林的淨砍伐生物多樣性破壞和生物多樣性破壞森林的淨砍伐。我們進一步承諾在關鍵棲息地的鄰近區域作業時，項目工作人員應當應用適當的緩解架構（包括避免、最小化、恢復和抵銷）以保護當地的生態環境。

我們的許多項目已經在其運營模式中嵌入了「無淨損失」的概念：

- 我們的垃圾發電項目成功將垃圾從填埋場分流，防止將生活垃圾傾倒在鄉郊地方，有效避免對鄉村地區對土地和生態系統的污染；



- Our municipal waste water treatment plants effectively treated municipal waste water and returned them to the freshwater bodies at similar or higher water quality, so as to protect the freshwater ecosystems; and
- Our river-basin ecological restoration projects aim at establishing an aesthetically pleasant, healthy and comprehensive river ecosystem at large scale through aquatic ecological enhancement.
- 我們的市政污水處理廠有效地處理了城市污水，並將處理過的污水以同等或更高的水質輸回淡水體，以保護淡水生態系統；
- 我們的流域治理項目旨在透過河道水質改善、河流疏濬等生態修復活動，建立美觀、健康、全面的河流生態系統。

All our projects are regularly reviewed under the guidance of the *Environmental and Social Management System*, so as to ensure group-wide compliance with biodiversity and forest regulations and mandatory standards. To extend the effort across the supply chain, we are committed to engaging with suppliers and business partners to manage and mitigate biodiversity and deforestation risks.

### Biodiversity Risk

The “Kunming-Montreal Global Biodiversity Framework”, passed and adopted at the 15th meeting of the Conference of the Parties to the *United Nations Convention on Biological Diversity* (“COP15”) in December 2022, aims to address issues such as biodiversity loss, ecosystem restoration, and the protection of indigenous peoples’ rights. The 3030 targets set out in the framework are conducive to promoting the implementation of concrete actions to protect biodiversity and address climate change. Following the framework, the Ministry of Ecology and Environment (of the PRC) issued the *China National Biodiversity Conservation Strategy and Action Plan (2023-2030)* in January 2024, which provides scientific guidance for comprehensively improving biodiversity governance. The “14th Five-Year Plan” formulated by the PRC emphasises ecological and environmental protection, with green development as the main theme, coordinating and balancing high-quality economic development with high-level ecological and environmental protection. These measures fully reflect the fact that international community is attaching great importance to the protection of the earth’s ecosystems, as well as the PRC’s determination to implement practical actions to protect biodiversity, providing clear directional support for the Group’s business development.

我們所有的項目均在《環境和社會管理體系》的指導下定期接受審查，以確保其完全遵守生物多樣性、森林有關法則和強制性規範。另外，我們加強與供應商和其他業務夥伴的合作，積極監控和降低生物多樣性和森林砍伐的風險，將我們保護生物多樣性的努力擴大至整個供應鏈。

### 生物多樣性風險

《聯合國生物多樣性公約》第十五次締約方大會（「COP15」）於二零二二年十二月舉行並通過了「昆明－蒙特利爾全球生物多樣性框架」，旨在解決生物多樣性喪失、恢復生態系統、保護原住民權利等議題。該框架制訂的「3030目標」有利於推進保護生物多樣性和應對氣候變化具體行動的落實。中國生態環境部亦於二零二四年一月隨之發布《中國生物多樣性保護戰略與行動計劃（2023-2030年）》，為全面提升生物多樣性治理水平提供了科學指引。國家制訂的「十四五」規劃強調生態環境保護，以推動綠色發展為主調，協同推進經濟高品質發展和在生態環境高水平保護中推動綠色發展。這些舉措充分反映出國際社會對保護地球生態系統的重視，以及中國落實保護生物多樣性切實行動的決心，為本集團的業務發展提供了清晰的方向支持。

## Environmental Protection

### 環境保護

Everbright Environment is committed to actively practicing ecological and environmental protection throughout the life cycle of its projects. Before the commencement of new projects, we comprehensively assessed the local ecological environment and biodiversity, trying to avoid building facilities close to natural habitats and ecologically sensitive areas, as well as to establish ecological buffer zones according to the actual situation to reduce the impact on the local biological environment. At the same time, the Group uses the Integrated Biodiversity Assessment Tool ("IBAT") to assess the potential impacts of the Group's economic activities on biodiversity in accordance with the IUCN Red Book of Endangered Species, the World Protected Areas Database and the Key Biodiversity Areas Database. As a result of this series of activities, we have been able to develop effective investment and operational strategies that minimise the damage to biodiversity in our operations.

### Findings of IBAT Assessment

Protected areas are areas recognised and managed through legal or other effective means to achieve the long-term conservation of nature with associated ecosystem services and cultural values. From the Group's analysis, about 75% of the Group's projects are not located in or adjacent to any protected area; around 13% and 7% of the Group's projects are recognised to be located within 50 km to one and two protected areas, respectively. Only around 5% of our projects are located in proximity to three or more protected areas.

光大環境堅持在項目的整個生命週期都積極踐行生態環境保護。在新項目開工前，我們會全方面評估當地生態環境和生物多樣性，盡量避免在靠近自然棲息地和生態極度敏感區域建設項目設施；為減少對當地生物環境的影響，我們亦根據實際情況建立生態緩衝區。同時，本集團使用綜合生物多樣性評估工具（「IBAT」），遵守世界自然保育聯盟瀕危物種紅皮書、世界保護區資料庫及生物多樣性關鍵區域資料庫，評估本集團的經濟活動對生物多樣性的潛在影響。基於這一系列活動，我們得以制定有效的投資及運營策略，盡可能地降低本集團業務對生物多樣性的損害。

### IBAT評估調查結果

保護區是通過法律或其他有效手段劃分和管理的地區，用作實現具有相關生態系統服務和文化價值的長期自然保育。根據本集團的分析，約75%旗下的項目並不位於或鄰近保護區；約13%及7%項目的50公里範圍內有一至兩個保護區。我們只有約5%的項目鄰近於三個或以上的保護區。

**Number of Protected Areas within 50 km of Projects, by% of Number of Projects**

**項目50公里範圍內的保護區數目，按項目數目百分比**

Number of Protected Areas within 50 km of Projects 項目50公里範圍內的保護區數目	% of Number of Projects 項目數目百分比
0	75%
1	13%
2	7%
3	<1%
4	1%
≥5	3%

Key biodiversity areas are sites contributing significantly to the global persistence of biodiversity, including terrestrial, freshwater and marine ecosystems. About 44% of the Group's projects are not located in or adjacent to any key biodiversity area; around 24% and 15% of the Group's projects are recognised to be located within 50 km to one and two key biodiversity areas, respectively. Around 17% of our projects are located in proximity to three or more key biodiversity areas.

生物多樣性關鍵區是對維持全球生物多樣性具有重要意義的地區，當中包括陸地、淡水及海洋生態系統。約44%本集團旗下的項目並不位於或鄰近任何生物多樣性關鍵區；約24%及15%項目的50公里範圍內有一至兩個生物多樣性關鍵區域。我們的項目當中有約17%鄰近於三個或以上的生物多樣性關鍵區域。

**Number of Key Biodiversity Area within 50km of Projects, by % of Projects**

**項目50公里範圍內的生物多樣性關鍵區數目，按項目數目百分比**

Number of Key Biodiversity Area within 50km of Projects 項目50公里範圍內的生物多樣性關鍵區域數目	% of Number of Projects 項目數目百分比
0	44%
1	24%
2	15%
3	9%
4	2%
≥5	6%

The Group's projects strictly comply with the national and international environmental standards to ensure that no adverse impact would be caused to the nearby ecosystems and wildlife. During the Reporting Period, no significant impact on biodiversity and species on IUCN Red List of Threatened Species from the Group was observed. The Group will continue to monitor any potential impact of our projects on biodiversity in the future.

本集團的項目嚴格遵循國家及國際環境標準，以確保對項目所在地鄰近的生態系統及野生生物不會受到負面影響。於報告期間，本集團並沒有發現對生物多樣性及瀕危物種紅皮書上的物種造成顯著影響。本集團將於未來繼續監察我們的項目對生物多樣性的潛在影響。

## Case studies 個案分享

## Xiong'an Waste Integrated Treatment Project

Invested and built by the Group, Xiong'an New Area waste integrated treatment project phase I is a large-scale semi-underground integrated treatment facility equipped with a full set of treatment processes and techniques. The project adopts a semi-underground hidden design: the underground part is a operation area, consisting of waste-to-energy facilities, integrated solid waste, organic waste and sludge treatment facilities, fly ash melting facilities, slag comprehensive utilisation facilities, waste water treatment facilities, comprehensive tank farms, sanitation parking garages and other functional areas, while the above-ground part is equipped with environmental protection education hubs, leisure and entertainment areas, greenhouse parks and undulating mountain landscapes. Through technological innovation, the project realises ultra-low flue gas emission after waste treatment in order to meet the ecological and environmental protection requirements. Landscape with grassland and trees was constructed in the central square of the above-ground part. The project connects the circulating cooling water of the facilities with the ground landscape water body to form an environment that is comprised of mountains, rivers, forests and grasses, thereby enabling the industrial treatment facilities to be invisible in the Longwan Country Park. Among them, the wetland islands in the water landscape can provide an eco-friendly habitat and ecological corridor for a variety of local birds and fish, reduce the fragmentation level of wildlife habitats, minimise the damage to local biodiversity, and realise the harmonious coexistence between the industrial facilities and the surrounding environment.

## 雄安垃圾綜合處理項目

雄安新區垃圾綜合處理設施一期工程項目是由本集團投資建成的大規模、全工藝、半地下的垃圾綜合處理項目。項目採用半地下隱藏式設計：地下部分為生產區，設有垃圾焚燒發電設施、綜合固廢有機垃圾處理和污泥處理設施、飛灰熔融設施、爐渣綜合利用設施、污水處理設施、綜合罐區、環衛停車庫等功能區域；地上部分則設有環保教育基地、休閒娛樂區、溫室樂園以及起伏山地景觀。項目通過技術創新，實現了垃圾處理後的煙氣超低排放，以符合生態環境保護的要求，同時在地上部分的中心廣場建設綠化景觀，將設施循環冷卻水與地面景觀水體相結合，形成山水林草微環境，使得工業處理設施隱藏於龍灣郊野公園之中。其中綠化景觀水系內的濕地島能夠為當地多種鳥類和魚類等生物提供生存友好的棲息地和生態廊道，減少野生動植物生境的破碎化程度，使得對當地生物多樣性的破壞降至最少，實現工業功能和外圍環境的和諧共生。





## Case studies 個案分享

### Qidu Town Waste Landfill Integrated Treatment Project

The waste landfill integrated treatment project in Qidu Town, Wujiang District, Suzhou City, is a Jiangsu provincial supervised rectification project for environmental protection, with the bid won by Everbright Greentech. The project adopts the solutions of in-situ aerobic accelerated stabilisation and site closure, the construction contents of which include aerobic accelerated stabilisation facilities, landfill membrane, rain-sewage diversion, leachate conduction and drainage, landfill air conduction and other basic equipment, achieving the effect of accelerated stabilisation of waste dumps, pollution control, site closure for environmental protection and ecological restoration, and solving the pollution problem from the source. A total of about 401,000 m<sup>2</sup> of waste within the landfill area can be ecologically restored, and the aerobic ecological restoration area reaches 62,000 m<sup>2</sup>. The Qidu town landfill integrated treatment project not only greatly facilitates the biodegradation and stabilisation rate of landfill waste, but also reduces the emission of GHGs such as methane, thereby minimising the impact of the greenhouse effect. The landfill using aerobic biological stabilisation technology will stabilise the household waste in about two to five years, and the GHG emissions will be reduced by about 50%~90%. In the long run, the Qidu town landfill integrated treatment project can reduce the secondary pollution to the adjacent land and water bodies caused by waste and leachate, effectively protect the habitat of organisms around the site, and reduce the damage to local biodiversity. The restored site can be reused for the construction of mountain parks or other landscapes, and can further provide more liveable habitats for local wildlife.

### 七都鎮垃圾填埋綜合治理項目

蘇州市吳江區七都鎮的垃圾填埋綜合治理項目是光大綠色環保中標建設的江蘇省級環保督察整改項目。項目採用了原位好氧加速穩定化和封場的方案，建設的內容包括好氧加速穩定化設施、填埋場覆膜、雨污分流、滲濾液導排、填埋氣導排以及基礎設備，達到了垃圾堆體加速穩定化、污染控制、環保封場以及生態修復的效果，從源頭上解決了污染問題。項目總共對填埋場範圍內整體約40.1萬平方米的垃圾進行生態修復，好氧生態修復面積達6.2萬平方米。七都鎮的垃圾填埋綜合治理項目不僅大大地加快了填埋垃圾的生物降解和穩定速率，還能減少甲烷等溫室氣體的排放，將對溫室效應的影響降至最低。採用好氧生物穩定化技術的填埋場，場內生活垃圾達到穩定的時長約為2~5年，溫室氣體排放量減少約50%~90%。從長遠角度來看，七都鎮的垃圾填埋綜合治理項目能夠減少垃圾堆和滲濾液對臨近土地和水體所造成的二次污染，有效保護場地周圍生物的棲息場所，降低對當地生物多樣性的破壞。生態修復後的場地能夠再利用於建設山地公園等場所，也能進一步為當地野生動植物提供更多更宜居的生境。





## Case studies 個案分享

### Yingtian City Domestic Waste Sanitary Landfill Closure Project for Ecological Purposes

Everbright Greentech participated in the construction of the Yingtian City household waste sanitary landfill closure project for ecological purposes. The project has enhanced the landfill surrounding environment via transforming the previously polluted land into an ecological landscape area full of greenery, which improved approximately 71,000 m<sup>2</sup> of land area and effectively mitigated the landfill odour. The project has been successfully completed and passed the construction of the inspection. The household waste sanitary landfill is located in Matangwo, Yangbi Village, Tongjia Town, Yuehu District, Yingtian City, Jiangxi Province, the climatic condition of which is good and the vegetation is abundant. During the closure period, the landfill is planted with lawn, ornamental vegetation and shrubs, mostly using local plants, forming a green landscape with ecological values throughout the four seasons. The restored land is organically connected with the surrounding water bodies and woods, expanding the space for local wildlife activities, as well as reducing the impacts of land occupation and odours caused by the landfill on the local flora and fauna diversity. During the later stage of the project, when the leachate is collected, it is expected that more trees will be planted in the green landscape, forming a vertically multi-layered landscape that provides more ecological niches for a variety of plants and animals, which can largely enhance the local biodiversity.

### 鷹潭市生活垃圾衛生填埋場生態封場項目

光大綠色環保參與建設了鷹潭市生活垃圾衛生填埋場的生態封場項目。項目通過垃圾減容、堆體整形、封場覆蓋、氣體導排以及滲濾液導排等設施的建設，以及生態修復的方式打造綠化景觀，進一步優化了垃圾填埋場的周邊環境，改善了約7.1萬平方米面積的土地，使原來受污染的土地轉變為遍布綠茵的生態景觀區，垃圾填埋的氣味也得到了有效的改善。該項目目前已經順利竣工並通過驗收。鷹潭市生活垃圾衛生填埋場位於江西省鷹潭市月湖區童家鎮楊碧村馬塘窩，該地氣候條件良好且植被豐富，在生態封場期間，填埋場內栽植了草坪、觀賞植被及灌木，多採用當地適生植物，形成具有生態價值的四季綠化景觀。生態修復後的土地與周圍水體和樹林有機融合在一起，擴展了當地野生動物的可活動空間，降低了原來垃圾填埋場所占據的土地和產生的氣味對當地動植物多樣性的影響。項目後期待滲濾液收集完畢後，更有機會在綠化景觀中種植喬木，形成垂直角度上多層次的綠化景觀，有助於提供更多生態位給不同的動植物，提高當地的生物多樣性。



## Valuing Technology R&D and Applying Innovative Technologies

Adhering to scientific and technological innovation and enhancing endogenous driving force and core competitiveness are the unwavering goals of Everbright Environment. Everbright Environment has continuously strengthened its technological empowerment, promoted the improvement of scientific research management, strengthened the construction of scientific research platforms, and enhanced the level of digital management. Everbright Environment further optimised its R&D structure and identified the important role of R&D in leading and driving the Group's development. Everbright Environment and Qingdao University of Technology have jointly established the Everbright Qingdao Institute of Technology Environmental Technology, which is the first engineering research centre in Shandong Province to focus on dioxin detection and control, and has been awarded the "Laboratory of Excellence" certification by the Environmental Resources Association of the United States and the China National Accreditation Service for Conformity Assessment (CNAS). Everbright Environment also guides citizens to conserve resources and protect the environment through the project's public opening and environmental protection publicity activities. As a result, a number of Everbright Environment's environmental protection projects have been awarded the honorary titles of Public Open Unit and Environmental Science Popularisation Hub at the Shandong province, as well as municipal and county levels.

In the future, the Group will take the technological R&D system of envirotech as the core, and promote the technological R&D of the four centres in Hong Kong, Shenzhen, Nanjing and Qingdao, with technological R&D as the continuous focus and major breakthrough point. In order to better promote enterprise development and environmental protection, we are further committed to establishing a world-class green technology innovation and technology transformation centre.

## 重視科技研發應用創新技術

秉持科技創新，提升內生驅動力 and 核心競爭力是光大環境不變的方針。光大環境不斷強化科技賦能，推進科研管理提升，加強科研平台建設，提升數字化管理水平。光大環境進一步優化自身技術研發結構，並明確技術研發在引領和推動集團發展中的重要作用。光大環境與青島理工大學合作成立了光大青島理工環境技術研究院，該研究院是山東省首個專注於二噁英檢測與控制的工程研究中心，並已獲得美國環境資源協會的「卓越實驗室」榮譽認證以及中國合格評定國家認可委員會(CNAS)的認證。光大環境還通過項目的公眾開放和環保宣傳活動，引導市民節約資源、保護環境。因此，光大環境的多個環保項目榮獲了山東省、市、縣級的公眾開放單位和環保科普基地等榮譽稱號。

未來，本集團將以環境研究院的技術研發體系為核心，以技術研發為持續關注點和主要突破口，推進香港、深圳、南京和青島等地研究所的技術研發工作。為進一步推動企業發展和環境保護，我們更致力於打造世界級的綠色技術創新與技術轉化中心。





# TALENT DEVELOPMENT

## 人才發展



Caring our people & creating  
the path to success  
關懷員工 • 共創成功之路





Everbright Environment adheres to the “People-oriented” management principle, and is committed to creating a fair, harmonious, and healthy working environment for its employees. We strive to provide employees with professional training and career development opportunities, offering them a platform to fully demonstrate their potential.

光大環境奉行以「以人為本」為核心的管理理念，致力於打造一個公正、和諧且有益於健康的工作環境。我們積極努力，提供員工專業培訓和職業發展機會，以賦予他們充分展現潛能的平台。

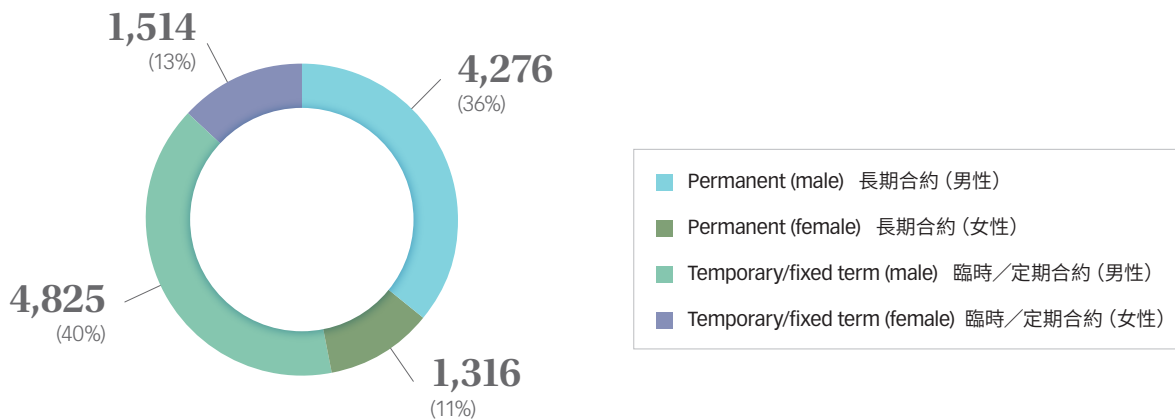
### Our Professional Team

The Group’s continuous business growth is attributed to our professional team that strives for excellence. As at 31 December 2023, the Group had a total of 11,931<sup>(1)</sup> employees, who give a full play to their abilities in different areas.

### 我們的專業團隊

本集團的穩步業務發展與我們精益求精的專業團隊有著密不可分的關係。截至二零二三年十二月三十一日，本集團共有11,931<sup>(1)</sup>名員工於不同領域群策群力，各展所長。

### By Employment Contract and Gender 按合約類型及性別劃分



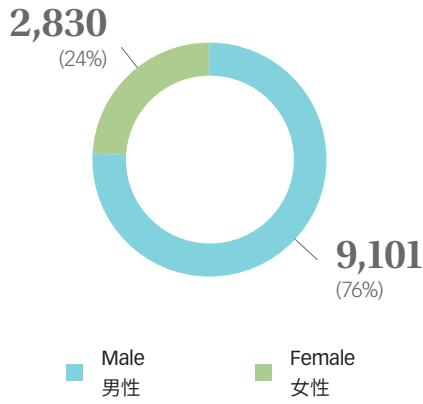
Note:

<sup>(1)</sup> All employees were full-time employees.

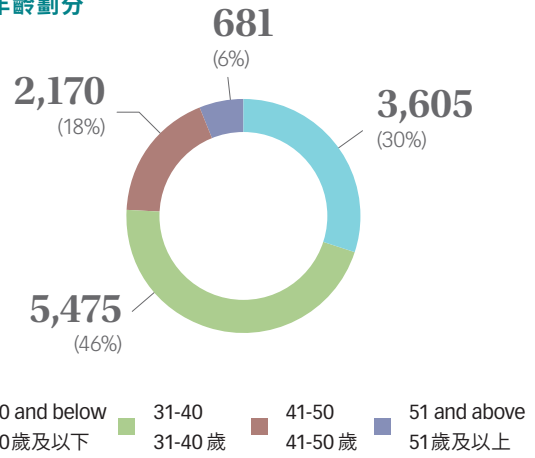
附註：

<sup>(1)</sup> 所有員工均為全職員工。

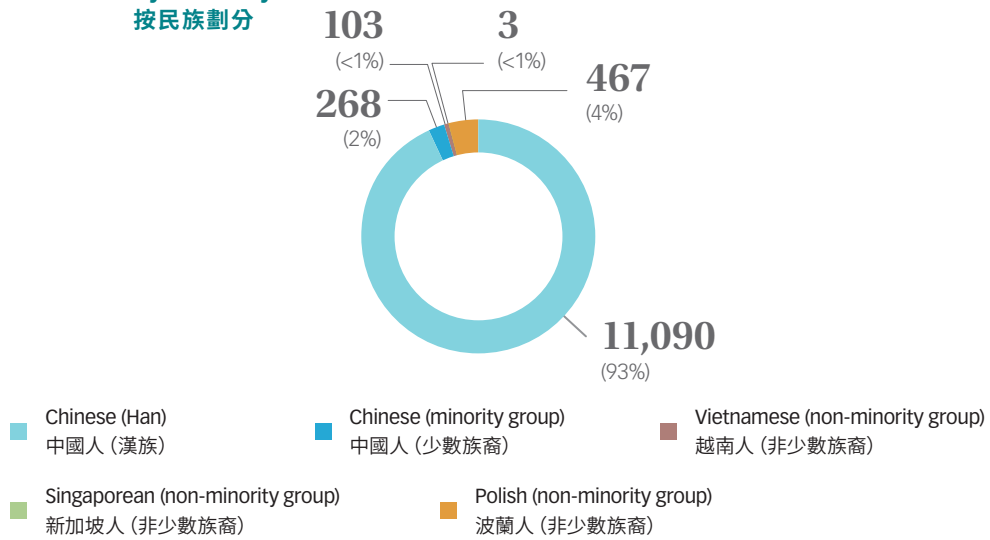
**By Gender**  
按性別劃分



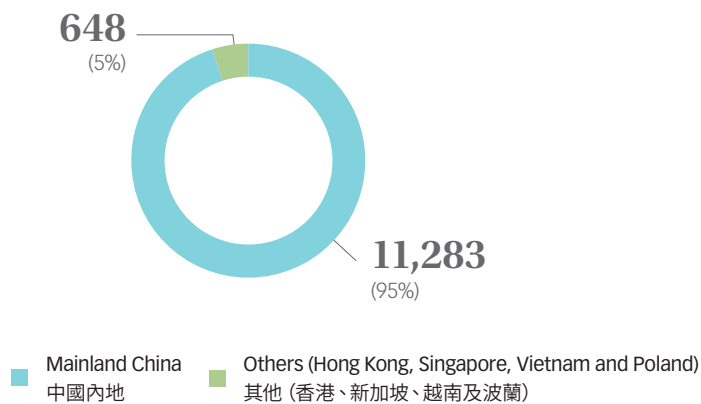
**By Age**  
按年齡劃分



**By Ethnicity**  
按民族劃分

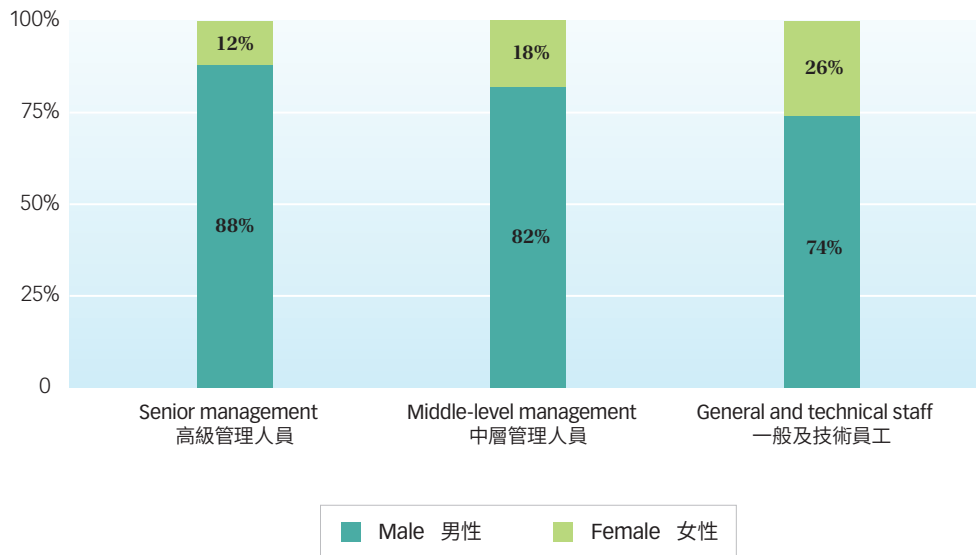


**By Geographical Region**  
按地區劃分

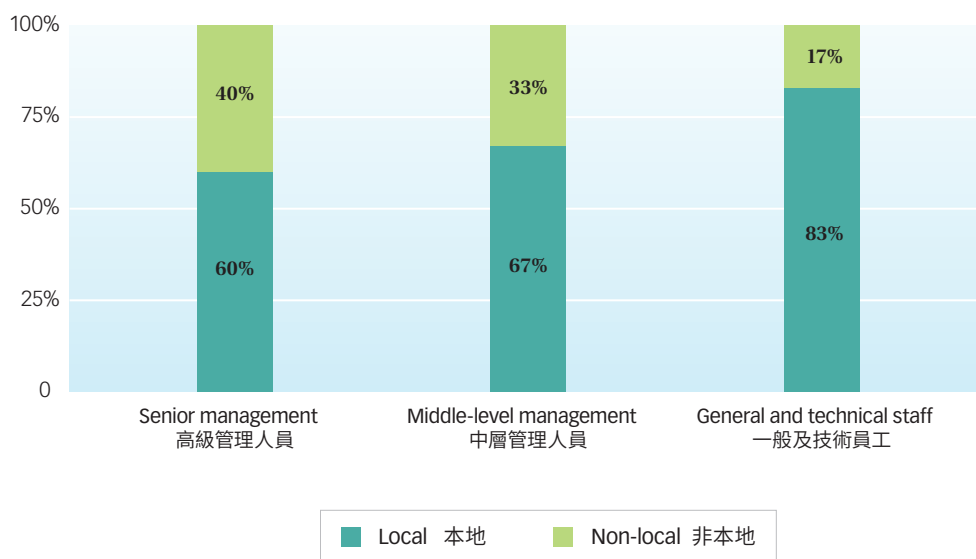




### Male to Female Ratios by Employee Ranking 各員工職級的男女比例



### Employees Hired by Geographical Region<sup>(1)</sup> 按地區劃分的受僱員工<sup>(1)</sup>



Note:

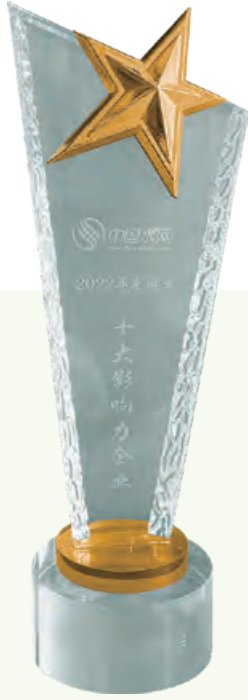
<sup>(1)</sup> Employees hired from the same province in mainland China are regarded as local employees, whereas the employees hired from other provinces in mainland China are regarded as non-local employees.

附註：

<sup>(1)</sup> 在中國內地同省受聘的員工被視為本地員工，而在中國內地外省受聘的員工則被視為非本地員工。

## Highlights of 2023

## 二零二三年亮點



### ***Everbright Water Awarded the “Top Ten Influential Enterprises in China’s Water Industry” Prize for the Sixth Consecutive Year*** **光大水務連續六年榮獲「中國水業十大影響力企業」獎項**

On 23 March 2023, E20 Environment Platform and the “Dual Centennial Leap” Wastewater Treatment Benchmark Alliance co-hosted the 21st Water Industry Strategy Forum in Beijing. In 2022, Everbright Water focused on both its traditional and emerging business sectors, strengthened technological and digital empowerment, steadily built a new development pattern, and made efforts to create a second growth curve, achieving a new round of high-quality and sustainable development goals. With its outstanding business innovation capability and comprehensive brand strength, Everbright Water was honoured with the “Top Ten Influential Enterprises in China’s Water Industry” award for the sixth consecutive year. Mr. Hu Yanguo, the then Vice President of Everbright Environment and Chairman of Everbright Water, attended the event and delivered a keynote speech titled “Driving High-Quality Industry Development through Service-oriented Products.” He discussed the third wave of industry transformation with peers, and they jointly explored the path of industry upgrading in the context of high-quality development.

E20環境平台與「雙百跨越」污水處理標桿聯盟於二零二三年三月二十三日在北京聯合主辦了第二十一屆水業戰略論壇。光大水務在二零二二年聚焦傳統業務和新興業務兩個方向，加強科技和數字化賦能，穩步構建發展新格局，努力打造第二個增長曲線，實現了新一輪高質量和可持續發展的目標。憑借其卓越的業務創新能力和綜合品牌實力，光大水務連續六年榮獲「中國水業十大影響力企業」獎項。時任光大環境副總裁兼光大水務董事長胡延國先生出席了此次活動，並發表了題為「以產品服務化驅動行業高質量發展」的主旨演講。他與行業同仁共同探討了第三次行業浪潮，並共同尋求在高質量發展背景下產業升級的道路。



**Xinzheng Project "A0 Tank Jet Aerator Technology Upgrade" Project Awarded the Second prize in the 3rd Zhengzhou City Workers' "Five Small" Innovation Achievement Evaluation**  
**新鄭項目「A0池射流曝氣器技改」項目榮獲第三屆鄭州市職工「五小」創新成果評選二等獎**

The Group has always actively encouraged and promoted a spirit of service innovation and technological innovation among its employees. Through practical work and innovative exploration, it has contributed to the high-quality development of the enterprise. On 26 April 2023, the "A0 Tank Jet Aerator Technology Upgrade" project of Xinzheng waste-to-energy project ("Xinzheng project") won the second prize in the third Zhengzhou Workers' "Five Small" Innovation Achievement Evaluation, jointly organised by the Zhengzhou Federation of Trade Unions, Zhengzhou Industrial and Information Technology Bureau, Zhengzhou Science and Technology Bureau, Zhengzhou Science and Technology Association, and Zhengzhou Human Resources and Social Security Bureau. The term "Five Small" refers to collective employee innovation activities that includes "small innovations, small inventions, small creations, small designs, and small suggestions". This innovative technological upgrade, which was part of the 2022 environmental energy pilot project, provided an efficient and feasible aeration method for aerobic treatment of leachate, promoting innovation, efficiency, and energy-saving in the aerobic aeration technology in the leachate treatment industry. Changing the angle of air/water mixture injection from horizontal to downwards can not only improve the oxygen supply efficiency of the air blower, increase the concentration of dissolved oxygen in the air/water mixture, but also reduce energy consumption, and ensure that no dead zones or sedimentation exists in the entire aeration tank. This can help addressing practical operational issues and ensure smooth implementation of the technological upgrade. Based on Xinzheng project scale of 1,000 tonnes/day, this can save approximately RMB200,000 in annual costs. The recognition and encouragement received by Xinzheng project through this award is a testament to the company's innovative capabilities, acknowledged and supported by relevant authorities in Zhengzhou city.

本集團一向積極鼓勵和發揚員工的服務創新和技術創新精神，通過真抓實幹、開拓創新，為企業的高質量發展助力。在二零二三年四月二十六日，新鄭垃圾發電項目（「新鄭項目」）的「A0池射流曝氣器技改」項目榮獲鄭州市總工會、鄭州市工業和信息化局、鄭州市科學技術局、鄭州市科學技術協會、鄭州市人力資源和社會安全局聯合組織的第三屆鄭州市職工「五小」創新成果評選二等獎。「五小」指的是「小革新、小發明、小創造、小設計、小建議」。該項創新技改是二零二二年環保能源試驗推廣項目，為垃圾滲濾液的好氧處理提供了高效、可行的曝氣方法，推動了垃圾滲濾液處理行業好氧曝氣技術的創新、高效和節能。汽水噴射角度由水平噴射改為斜向下噴射，提高風機供氧的利用率，提高汽水比例，降低能耗，整個曝氣池無淤氣死角，降低能耗，整個曝氣池無淤積，可以解決項目實際運行中產生的問題，可操作性強，技改實施無障礙。以新鄭項目1,000噸/日的規模計算，全年可省費用開支約人民幣20萬元。新鄭項目榮獲此獎，是鄭州市相關單位對公司創新能力的肯定和鼓勵。

## Human Rights and Ethics

The Group has formulated the *Human Rights Policy* to support all international norms and codes regarding human rights, including the “UN’s Universal Declaration of Human Rights, “Guiding Principles on Business and Human Rights” and related regulations of the “UN Global Compact” and the International Labour Organisation. The policy upholds human rights and sets specific guidelines for diversity and inclusion, equal opportunity, reasonable working hours, gender equal pay, workplace health and safety, freedom of association, and collective employee-employer negotiations. The policy covers all employees of the Group, including but not limited to women and migrant workers. The Group adopts a zero-tolerance attitude towards child labour, forced labour and human trafficking; and at the same time strictly follows the requirements of the main human rights declaration and labour regulations. The Group is committed to providing adequate living security for its employees. The average salary level of employees is much higher than the local salary level. In addition, considering that medical expenses directly affect the living standards of employees, the Group provides employees with additional medical insurance, physical examination, accident insurance, etc. The Group also has established the Employee Health Fund which provided additional monetary support for employees, who were suffered from accidents or serious illnesses, to cope with large medical expenses. Furthermore, the Group may consider committing to living wage in the future in order to ensure the living security of its employees.

During the Reporting Period, there were no violations of human rights or the use of child labour or forced labour, and no young workers were exposed to hazardous work. The Group conducts human rights performance review annually to ensure that the above human rights issues will not be triggered.

## 人權與道德

本集團制定了《人權政策》，以支持所有國際人權標準和規範，例如「聯合國世界人權宣言」、「工商業與人權指導原則」以及「聯合國全球契約」和國際勞工組織的相關條款。該政策尊重人權，並規定了多樣性和包容性、平等機會、合理工作時間、性別平等薪酬、工作場所健康和 safety、結社自由及全部僱員與僱主集體商量訂立了具體指導方案。本政策適用於本集團全部員工，包括但不限於女性和外地勞工等群體。同時，本集團對童工、強迫勞動和人口販賣採取零容忍的政策，嚴格遵守關鍵人權宣言和勞動法規的要求，不使用任何童工或強制勞工。本集團致力於為員工提供體面的生活標準，員工的工資標準皆比該地區的工資標準高。此外，本集團理解到醫療支出直接影響員工維持生活質量的能力，所以為員工提供補充醫療保險、體檢、意外保險等。本集團亦設有員工健康基金，為發生意外或重大疾病的員工提供額外的經濟援助，以幫助他們管理高昂的醫療費用。此外，本集團將考慮未來承諾生活工資，以確保其員工的生活保障。

於報告期內，本集團並沒有任何侵犯人權或存在使用童工或強迫／強制勞動之事件，亦沒有年少工作者從事危險工作。本集團每年進行人權表現回顧，以確保不會引發上述人權問題。

The Group highly values the ethical, personal and professional conduct standards of its employees. We require all employees to strictly comply with the Group's *Employee Code of Conduct*, including avoiding conflicts of interest, discrimination, and sexual and non-sexual harassment as well as bribery (including any form of facilitating payment), extortion, fraud and money laundering, etc. Employees' ethical performance is reflected in their appraisals to ensure that the Group is operating ethically in the Group's businesses. In addition, the Group adopts a zero-tolerance attitude and will strictly handle in accordance with the law against those who commit discrimination and harassment, breach of confidence, and bribery. To ensure the staff's awareness of these important issues, the Group provides regular trainings to all employees on anti-discrimination, anti-harassment, duty of confidence, and anti-corruption, including expected behaviour, incident reporting procedures/ escalation processes and disciplinary actions.

During the Reporting Period, the Group was not aware of any cases relating to violation of the *Employee Code of Conduct*.

### Equal Opportunities and Integration

The Group's *Staff Handbook* covers topics such as compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, preventing child and forced labour, and other benefits and welfare. We provide employees with a fair, transparent, and respectful career platform that is free of discrimination on the grounds of gender, age, ethnicity, nationality, marital status, and religion, etc.

The Group implements a fair and competitive remuneration and welfare system. The remuneration is determined based on qualification, experience, nature of work, performance and market conditions, so as to create equal employment opportunities. In view of the fact that the human resources distribution in energy and engineering sectors polarises on male, the Group pays special attention to issues including gender equality and remuneration, with an aim to reduce the impact of gender factors on pay scale and structure. Besides, the Group strives to safeguard the rights of vulnerable employees, including offering pregnant employees with sufficient maternity leave and male employees with paternity leave. The Group reserves positions for employees on maternity or paternity leave, encourages them to return to work, and ensures that their career development and remuneration are unaffected.

本集團高度重視員工的道德、個人和專業行為，並要求每個人都遵守其製定的《員工守則》，內容例如避免利益衝突、歧視和性及非性騷擾、賄賂（包括任何形式的通行費）、勒索、欺詐和洗黑錢等違法行為。為確保本集團的工作符合社會及企業道德標準，績效評估亦會考慮員工的道德表現。此外，本集團遵守法律，會嚴正處理歧視行為和騷擾、洩露機密和貪污受賄者等違法行為，而且採取零容忍態度。本集團定期對全部員工進行反歧視、反騷擾、保密義務和反腐敗培訓，包括正當行為、事件報告程序／升級程序和紀律處分，以確保他們充分了解這些關鍵議題。

於報告期內，本集團並沒有發現任何違反《員工守則》的個案。

### 平等機會及共融

本集團的《員工手冊》涵蓋薪酬和解僱、僱傭和晉升、工作時間、假期、平等機會、停止童工和強迫勞動以及其他待遇和福利等議題，避免基於性別、年齡、種族、國籍、婚姻狀況、宗教等引起的歧視，為所有求職者和員工提供公正、開放及受尊重的工作環境。

本集團實行公平和有競爭力的薪酬福利制度，以資歷、經驗、工作性質、表現和市場狀況為基礎釐定薪酬，促進平等的就業機會。本集團特別關注性別平等和薪酬等問題，以減少性別因素對薪酬水平和結構的影響，以回應能源和工程相關行業對男性的側重。另外，本集團致力於保護弱勢員工的權利，包括為懷孕員工及男性員工分別提供充足的產假和侍產假。本集團為鼓勵休產假或陪產假的員工重返工作，會預留他們原有的工作崗位，並確保他們的職業發展和薪酬不受影響。



Employee Maternity/Paternity Leave Statistics in 2023 二零二三年產假／侍產假數據



Female  
女



Male  
男

Number of female and male employees who took maternity/paternity leave in 2023	二零二三年放產假／侍產假的男女員工數目	184	401
Number of employees who returned to work after maternity/paternity leave in 2023	二零二三年產假／侍產假結束後重返工作崗位的員工數目	118	383
Number of employees who returned to work after maternity/paternity leave ended in 2022 and still employed by the end of 2023	二零二二年產假／侍產假結束後重返工作崗位並於二零二三年底仍在職的員工總數	172	308
Percentage of employees who returned to work after maternity/paternity leave ended in 2023	二零二三年產假／侍產假結束後重返崗位的員工比例	92%	96%
Percentage of employees who returned to work after maternity/paternity leave ended in 2022 and still employed by the end of 2023	二零二二年產假／侍產假結束後並於二零二三年底仍在職的員工比例	87%	90%

## Employees' Benefits

The Group has a comprehensive welfare and safeguard system, official employees are provided with maternity leave and paternity leave, life insurance, medical insurance, disability and critical illness coverage, etc. The Group also distributes discretionary bonuses to reward outstanding employees. In addition to providing mandatory pension insurance as required by law, the Group has also developed a supplementary pension system for eligible employees as an additional retirement benefit.

To safeguard the physical and mental health of employees, free body check and occupational disease prevention inspection are provided every year, including physical diagnosis, blood test, kidney function test, liver function test and other items. Starting from 2019, in addition to free body check, front line workers can also receive follow-up support to safeguard their health.

The Group has always play great attention to employee retirement protection. In addition to implementing the retirement plans stipulated by relevant laws, the Group provides employees with additional retirement protection, such as annuity plan, voluntary pension contributions, etc., to provide support for employees' retirement life, so that employees can focus on serving the Group in the long run.

## Two-way Communication

To create an ideal working environment for employees to grow, the Group proactively communicates with employees. Employees can express their thoughts about the Group through different channels, including regular staff meetings and employee satisfaction surveys. The Group also welcomes employees to communicate directly with the CEO and/or the chairman of the audit committee via email, when they come across matters that need to be reported, allowing them to express their views under a comfortable and private environment. The Group's grievance mechanisms cover different topics including workplace harassment and discrimination, labour relations, human rights, etc., which provide employees a platform to lodge their grievances, share their views, and express their concerns on corporate governance.

## 員工福利

本集團擁有健全的保障及福利制度，正式員工均有資格享受產假、陪产假、殘疾和重大疾病保險、人壽保險和醫療保險。表現優異的員工也可能會酌情獲得本集團的獎勵金。除了依法提供強制性養老保險外，本集團還為符合條件的員工建立補充養老制度，作為額外的退休福利。

本集團每年皆為員工提供免費體檢和職業病預防檢查服務，包括體檢、血液檢查、腎功能檢查、肝功能檢查等項目，以支持員工身心健康。自二零一九年，前線員工除了可以享用免費體檢外，還將開始接受後續支持，為他們的健康保駕護航。

本集團一向重視員工退休保障，除了執行相關法例規定的退休計劃外，亦會向員工提供額外退休保障，如企業年金、自願性供款等，為員工退休生活提供支持及讓員工可專心為本集團長期服務。

## 雙向溝通

本集團積極主動地與員工進行溝通，為他們創造一個理想的工作場所。本集團會定期舉行員工會議及調查員工滿意度，為員工提供發表意見的渠道。遇上有需要舉報的事宜，本集團還鼓勵員工直接向總裁和／或審核委員會主席發送電子郵件，以便他們可以在安心和保密的環境中發表意見。本集團設計了一個申訴程序，解決工作場所的騷擾、歧視、勞資關係和人權等問題，也為員工提供了一個表達有關本集團公司治理的不滿、意見和問題的平台。

The Group also regularly publishes internal publications, such as the “Everbright Environment Monthly Magazine”, to share the Group’s updates and encourage employees to contribute articles as a way to express their opinions.

### 2023 Collection of Employees’ Opinion

In 2023, the pandemic ended and the Group’s management immediately went to the front line and communicated with the employees in a face-to-face manner. The management carefully listened to the opinions and suggestions of the employees at all levels through employee symposiums and meetings. In January 2023, the Company held staff communication meetings in Hong Kong and Shenzhen respectively. At the meetings, employee representatives from the headquarters and various business sectors expressed their opinions and suggestions on the Company’s transformation and development, production operations, cost reduction and efficiency improvement, technological innovation, talent development, corporate culture, etc. The management listened carefully to the opinions and suggestions of employee representatives and provided immediate responses. In February 2023, the Company held a strategic optimisation seminar and a market expansion mobilisation meeting to listen to reports on the strategic planning and market expansion of different business sectors, sort out and discuss the future strategic development ideas, as well as clarify the key directions of strategic planning and market expansion. Mr. Huang Haiqing, Chairman of the Board, has visited projects in Hunan, Jiangxi, Anhui, Xi’an and Nanjing respectively and met with project management and employees, listened to reports on project management, operations and development, and inquired about the market development, project construction, business revenue, etc. He conducted in-depth idea exchanges with employees on the Company’s corporate culture, business development, integrity and self-discipline. Mr. Luan Zusheng, CEO of the Company, visited Shandong and met with the project management and employees of each business sector in Shandong to learn more about the major difficulties they faced and the progress of market expansion. The symposiums and exchange meetings have established platforms for close communication between the Group’s management and employees, which further enhance employees’ confidence in the Company’s future development prospects, as well as their sense of responsibility and belonging, thereby motivating them to perform with better attitude and full enthusiasm, and enabling them to grow together with Everbright Environment and achieve steady and long-term development.

此外，本集團亦定期出版如「光大環境月刊」等內部刊物，以分享本集團的資訊和動向，同時鼓勵員工積極投稿，發表己見。

### 二零二三年員工意見徵集

鑒於二零二三年疫情完結，本集團管理層立即深入一線，與基層員工面對面進行交流。管理層通過員工座談會、專題交流會的形式，認真聽取各級員工的意見及建議並開展溝通交流。二零二三年一月，公司在香港及深圳分別召開基層員工座談會，來自總部和各板塊的基層員工代表在會上圍繞公司轉型發展、生產經營、降本增效、科技創新、人才培養、企業文化等方面積極建言獻策。管理層認真聽取員工代表的意見和建議，並在現場予以回應。二零二三年二月，公司召開戰略優化研討暨市場拓展動員會，聽取各業務板塊戰略規劃及市場拓展的情況彙報，梳理研討下一步戰略發展思路，明確戰略規劃與市場拓展的重點方向。董事會主席黃海清先生先後赴湖南、江西、安徽、西安及南京等地項目進行調研，與項目公司管理人員及基層員工舉行座談，聽取了項目管理、運營及發展情況的匯報，詢問了各板塊市場拓展、項目建設、業務營收等情況，並與員工就公司企業文化、經營發展、廉潔自律進行了深入交流。總裁欒祖盛先生赴山東調研，與光大環境各板塊在魯項目負責人及員工舉行座談，詳細瞭解各板塊在當地業務所面臨得主要困難和新業務進展。座談交流會為本集團管理層與基層員工提供了一個近距離溝通的平台，進一步增強員工對公司未來發展前景的信心，提升員工的責任感和歸屬感，激勵廣大員工以更好的姿態和飽滿的熱情投入到工作中，與光大環境共同發展、行穩致遠。

## Talent Recruitment and Retention

Everbright Environment's project management team comprises members with extensive and in-depth experience in project planning, procurement, construction, operations and R&D. The Group actively develops its talent pool through local, overseas and on-campus recruitments and various internal training initiatives to attract and cultivate professional and international talents. The Group has issued the *Management Measures and Awards for Talent Referral by Internal Staff* to encourage existing staff to refer suitable candidate(s) to the Group. In line with the Group's "Technology Leads Development" strategy, the Group actively brings in management and technical talents in technological R&D through industrial-academic collaboration and acquisition of technology companies in recent years. In 2023, the hiring costs per full-time new hire was HK\$2,539.

The Group is committed to providing open and equal employment opportunities and platforms, where the ability and qualification of candidates remain as the most important assessment criteria in the recruitment process. Their employment opportunities are never affected by factors such as gender, age and ethnicity. Meanwhile, the Group is committed to promoting local economic development and employment opportunities through hiring local talents for the Group's projects in remote areas. In 2023, 40% of open positions were filled by internal candidates.

In addition to basic remuneration and fringe benefits, the Group provides various types of appropriate support to its employees.

In addition to ordinary annual leave, the Group provides additional paid personal leave for employees to handle various emergencies, and will also take the initiative to care for the needs of employees and provide timely support. As the pandemic draws to an end, the Group not only cleans and disinfects the working environment, but also provides hygiene related tips to remind employees to pay attention to personal hygiene under all circumstances.

## 人才招募及挽留

光大環境擁有一支頂尖的人才隊伍，項目管理團隊均是由在項目規劃、採購、施工、運營及研發等多方面具有廣泛經驗的資深成員組成。為了在國際上吸納及培養專業的人才，本集團一直通過社會招聘、海外招聘、校園招聘及自身培養等方式不斷加強人才隊伍建設。本集團已制訂了《內部員工推薦外部人才管理及獎勵辦法》，鼓勵員工引薦合適人員加入本集團發揮所長，從更多途徑招賢納士。為了配合我們「科技引領發展」的策略，本集團近年更透過產學合作、收購技術公司等方式，積極引進技術研發的管理及技術專才。二零二三年，每名新全職員工的招聘成本為港幣2,539元。

本集團致力於提供開放、平等的就業機會和平台，將候選人的技能和資格作為招聘過程中最重要的考慮因素，以確保候選人的就業機會不會受到性別、年齡、種族等因素影響。本集團還致力在偏遠地區的項目積極聘用當地人才，以支持當地經濟增長和就業機會。二零二三年，內部候選人填補了40%的空缺職位。

除了基本薪酬及福利外，本集團為員工提供各類合適的支援。

除定期年假外，本集團亦為員工提供額外的含薪個人休假，以應付各種緊急事件，也會主動照顧員工需要，給予他們及時支持。新冠疫情過後，本集團除了維持在工作場所做好消毒清潔外，還不時分享提高衛生的小知識來提醒員工無論在何時何地都要注意個人衛生。

Unit: people 單位：人

**Total Number of New Employees in 2023:**  
二零二三年新聘員工總人數：

**1,184**

**By Gender**  
按性別劃分



Female  
女

**241**



Male  
男

**943**

**By Age**  
按年齡劃分

30 and below  
30歲及以下

**800**

31-40  
31-40歲

**317**

41-50  
41-50歲

**51**

51 and above  
51歲及以上

**16**

**By Geographical Region**  
按地區劃分

Mainland China  
中國內地

**1,085**

Others (Hong Kong, Singapore,  
Vietnam and Poland)  
其他(香港、新加坡、  
越南及波蘭)

**99**

New employees hired  
from local<sup>(1)</sup>  
來自本地<sup>(1)</sup>的新聘員工

**83%**

Note:

<sup>(1)</sup> Employees employed in the same province in Mainland China are regarded as local employees, while employees employed in other provinces in Mainland China are regarded as non-local employees

附註：

<sup>(1)</sup> 在中國內地同省受聘的員工被視為本地員工，而在中國內地外省受聘的員工則被視為外地員工。



Unit: people 單位：人

**Total Number of Employee Turnover  
(Resignation/Retirement) in 2023<sup>(1)</sup>:**  
二零二三年流失員工(離職/退休)總人數<sup>(1)</sup>:

**1,295**

**By Type**  
按類型劃分

Resigned  
離職

**1,226**

Retired  
退休

**69**

**By Gender**  
按性別劃分



Male  
女

**294**



Male  
男

**1,001**

**By Age**  
按年齡劃分

30 and below  
30歲及以下

**440**

31-40  
31-40歲

**546**

41-50  
41-50歲

**200**

51 and above  
51歲及以上

**109**

**By Geographical Region**  
按地區劃分

Mainland China  
中國內地

**1,194**

Others (Hong Kong, Singapore,  
Vietnam and Poland)  
其他(香港、新加坡、越南及波蘭)

**101**

The Group deeply understands that talent development takes time, therefore, we monitor the number of employees who are going to be eligible for retirement every year in order to formulate a human resources strategy while providing employees with appropriate career management plans, including retirement arrangements.

Note:

<sup>(1)</sup> The total turnover rate (resignation/retirement) in 2023 was 11%, while the voluntary turnover rate was 9%.

本集團深知人才培養需要時間，因此我們每年均會透過統計即將合資格退休的員工數目，以調整人員管理安排，並為員工提供包括退休安排的妥當職業生涯管理計劃。

附註：

<sup>(1)</sup> 二零二三年的總流失率(離職/退休)為11%，而自願流失率為9%。

### Percentage of Employees Eligible for Retirement in Five and Ten Years

### 五年及十年內合資格退休的員工百分比

Employee Ranking	員工職級	In Five years 五年內	In Ten years 十年內
Senior management	高級管理人員	8%	21%
Middle-level management	中層管理人員	3%	12%
General and technical staff	一般及技術員工	1%	4%

### Training and Development

### 培訓及發展

Talent is the key to the corporate development. The Group attaches great importance to human resources management, incorporates employee training into normal management, establishes training files, and continuously strengthens the building of its talent team. In response to the needs of the Group's business development, appropriate training was arranged in a unified manner. Various training courses have also been held successively to allow management and employees to continue their education and enhance their professional and comprehensive capabilities. During the Reporting Period, the Group continued to improve its training management and issued the *Training Instructors and Course Management*. In addition, each project company will also provide appropriate training for employees on a regular basis according to their own needs, so that employees can exert their strengths and provide enterprises with excellent professional talent teams. In 2023, the average resources allocated to each full-time employee was HK\$593.

我們明白企業發展的關鍵是人才。本集團高度重視人力資源管理，把員工培訓納入常態管理，建立培訓檔案，不斷加強人才隊伍建設，並針對本集團業務發展需要，統一安排合適培訓。我們亦先後舉辦了各類培訓班，給予管理層及員工持續進修的機會，提升專業和綜合能力。本集團於報告期內繼續完善培訓管理，獲頒發了《培訓講師及課程管理》。同時，公司亦會按照各項目自身需要定期為員工提供合適培訓，讓員工發揮所長、為企業提供優秀的專業人才隊伍。二零二三年，投放至每名全職員工的平均資源為港幣593元。

During the Reporting Period, the Group successively held safety and environmental management training, the cybersecurity training, tendering management training, construction cost training, anti-corruption training, etc., through both online and offline approaches. The management and employees were well equipped with relevant knowledge and skills with a view to address new opportunities and challenges. The Group makes full use of the advantages of diversified business to provide employees with a broad development platform. In addition to cross-sector and cross-regional job rotation, the Group has enriched the backup management talent pool and international talent pool to prepare for the sustainable and steady development of the Group.

於報告期內，本集團結合線上與線下的培訓模式，先後舉辦了安環管理培訓、信息網路安全培訓、採購專題培訓、工程造價培訓、廉政講座等，讓管理層及員工持續學習，迎接新的機遇與挑戰。本集團充分利用業務多元的優勢，為員工提供寬闊發展平台，除了跨板塊、跨區域輪崗交流外，本集團充實後備管理人才庫及國際人才庫，為本集團可持續穩健發展作好準備。

The Group has established a comprehensive and assessable staff appraisal system to enhance the work quality, competitiveness and motivation of its staff. In 2023, all employees obtained constructive feedback and career planning suggestions from their respective performance appraisals, laying a solid foundation for talent pool and sustainable development of the company.

本集團設立了全面及可評估的員工考核制度，以提升員工的工作質素、競爭力及積極性。二零二三年，所有員工均從各自的績效考核中取得具建設性的回饋和職業生涯規劃建議，為人才儲備及企業持續發展奠定了堅實的基礎。

In 2023, total training hours of employees in Everbright Environment were 1,097,572 hours. Average training hours per employee were 92 hours. Amongst which, staff training rate of 100% was attained and the trainings covered the topics of anti-corruption, anti-harassment and anti-discrimination, etc.

二零二三年，光大環境的員工培訓總時數為1,097,572小時，人均培訓時數為92小時。當中，員工培訓率達100%並涵蓋了反腐敗、反騷擾和反歧視等議題。



### Back-up Talent Management

To ensure that the talent pool can coordinate with the Group's sustainable development, the Group continues to enrich the Group's back-up management personnel pool across the five sectors of the Group. There are currently 726 back-up management personnel acting as the major budding talents that will support the future development of the Group and enhance the competitiveness of the Group in the industry for future.

### 後備人才管理

為確保人才儲備配合本集團的持續發展，本集團繼續致力完善五大板塊的後備管理人員庫。本集團目前共有726名後備管理人員，將作為本集團未來發展的主力軍和新力軍，提高本集團未來的行業競爭力。

The Group also provides recruitment opportunities in forms of voluntary registration and bottom-up recommendation by posting recruitment information in the talent pool to select and nurture excellent management personnel, so that employees who have ability and aspirations could have greater room for growth and development. Meanwhile, the Group issued a series of management measures for human resources to improve the efficiency of human resource management, including the procedures for the appointment and dismissal, the regulation of appointed directors and supervisors of subsidiary, the regulations of overseas travel, etc.

為了培養和選拔優秀的管理人才，本集團還通過在人才庫中公布招聘信息，通過自願申請和由下而上的推薦提供內部選拔機會，這將使有能力和理想的員工獲得更大的成長和發展。同時，本集團還發布了多項人力資源管理辦法，提高人力資源管理效率，包括職務任免工作流程，派遣董事、監事管理辦法、因公出國（境）管理辦法。

**As at 31 December 2023**

**截至二零二三年十二月三十一日**

Total number of back up management personnel  
後備管理人員總數

726 人

Number of deputy general managers promoted to general managers  
副總經理獲晉升為總經理的人數

32 人

Number of back-up management personnel promoted to the new project's general managers, construction supervisors or project management team leaders  
後備管理人員赴任新項目的總經理、總指揮或籌備組長的人數

23 人

**Internal Inheritance and Exchange**

The Group values the internal exchange and inheritance among its human resources. To help the young employees grow into talents, the Group actively makes use of its human resources advantage to pursue the "Apprenticeship Programme", in which experienced and skilled employees form apprenticeship with new employees, which helps to cultivate a positive learning atmosphere for the company's internal teaching and learning. The mentors are responsible for imparting knowledge and skills, helping the apprentices to integrate into the working environment, driving them to learn actively and work hard, and finally achieve internal inheritance.

**內部承傳和交流**

本集團關注人力資源的內部溝通和傳承。我們採用「師帶徒」培訓計劃，鼓勵青年員工成長發展，借助自身人力資源優勢，鼓勵具有豐富經驗或綜合素質較高的員工與新員工形成師徒關係，有助於公司內部建立傳師傳藝的良好學習環境。為了將信息和技能代代相傳，師父們通過「傳幫帶」的方式傳遞知識技能，幫助徒弟適應工作環境，以積極的態度對待學習和工作，最後達到薪火相傳。

## Work-Life Balance

Everbright Environment has always attached great importance to the physical and mental health of its employees, practiced the principle of “People-oriented”, and actively organised various physical and mental activities to promote employee relations and help them maintain a good balance between life and work.

## Cultivating Healthy Lifestyle

The Group’s project companies have established comfortable and well-equipped staff quarters for its employees, offering multiple recreational facilities including sports grounds, gymnasiums, chess and bridge rooms, libraries, etc., so as to help employees relax and relieve work stress. The Group also encourages employees to maintain a healthy lifestyle, and thus various leisure and sports activities are organised every year, including swimming competitions, fun sports days, basketball friendly matches, birthday celebrations, etc., with aims to promote employees’ health, and reach a win-win situation for both the enterprise and employees.

Furthermore, some projects have set up a dietary committee. By regularly learning about employees’ dining experience, we continuously improve the culinary menus to provide them with nutritious and delicious meals.

## Summer Family Day Activities in Various Local Projects

In the summer of 2023, Everbright Environment’s regional project companies carried out summer family day activities in the name of family, so as to enable love and work to go both ways. The project companies strive to cultivate a family-like culture, reflecting the company’s humanistic care for employees, which enables the employees to feel the warm care from the Everbright family.

## 工作與生活平衡

光大環境一向重視員工的身心健康，踐行「以人為本」的原則。我們積極舉辦各類有益身心的活動，以促進員工關係，幫助他們在生活與工作之間保持良好平衡。

## 締造健康生活

本集團在各項目均為員工提供舒適和設備齊全的宿舍，例如配備運動場、健身房、棋牌室和圖書館等康樂設施，讓員工放鬆身心，減輕工作壓力。為促進員工健康發展，創造企業與員工雙贏局面，本集團亦鼓勵員工保持身心健康的生活方式，每年組織及參與多項文娛休閒和體育活動，包括游泳比賽、趣味運動會、籃球友誼比賽和生日慶祝活動等，以實現企業和員工雙贏局面。

此外，個別項目更設立了膳食委員會，通過定期了解員工的用餐體驗，不斷改進菜餚款式，為員工提供營養豐富而且美味的飯菜。

## 各地項目展開暑期家庭日活動

二零二三年暑假，光大環境各區域項目公司以家的名義相聚，開展暑期家庭日活動，讓愛和工作雙向奔赴，著力培育家園文化，體現企業對員工的人文關懷，讓員工充分感受光大家庭的關愛。





### **Suzhou Waste-to-energy Project: Watching Movie and Seeing the World with Children as They Grow**

The Suzhou waste-to-energy project (“Suzhou project”) hosted the movie-watching family day activity named “Watching Movie and Seeing the World with Children as They Grow”, which was carried out for three times, with nearly 40 groups of families and more than 200 people participating. This family day activity not only enriched the children’s summer life and left them with a good memory of their childhood, but also allowed the children and their parents to enjoy a wonderful time, which could effectively enhance their parent-child relationship.

### **Changgaoxin Waste-to-energy Project: Little Artists Painting the Dreams and the Family**

Changgaoxin waste-to-energy project organised a parent-child activity with the theme of “Little Artists Painting the Dreams and the Family”. The employees and their children visited the popular science exhibition hall and listened to the explanation on the waste disposal process. The children gained an in-depth understanding of their parents’ work and environment, and generated a sense of pride in their working in Everbright. The children’s understanding of their parents’ work is fully reflected in their paintings, displaying their unique perspectives.

### **Wujiang Waste-to-energy Project: Gathering with family at Everbright Day**

The Wujiang waste-to-energy project set up food stations, organised environmental protection tours, provided workplace experiences, and carried out family interactions at Everbright Day, providing opportunities for employees’ family members to familiarise themselves with the scope and content of Everbright Environment’s business. This activity allows them to learn about various waste disposal processes, and builds a platform for them to showcase their style, enhance communication and enrich their experiences in a well-designed interactive session.

### **蘇州垃圾發電項目：童心看世界，觀影伴成長**

蘇州垃圾發電項目（「蘇州項目」）開展了「童心看世界觀影伴成長」親子家庭日觀影活動，總計開展三場，近40組親子家庭、200餘人參加。此次家庭日活動不僅豐富了孩子們的暑期生活，讓他們的童年多了一份美好的回憶，還讓孩子和家長共度一段美好的親子時光，有效地增進了親子關係。

### **常高新垃圾發電項目：童心繪夢，童畫繪家**

常高新垃圾發電項目組織開展了「童心繪夢，童畫繪家」主題親子活動。員工子女實地參觀了科普展廳，聆聽關於垃圾處理工藝流程的科普講解，深入了解了父母的工作環境和內容，增強了對父母在光大的自豪感。通過孩子的獨特視角，把自己對父母所從事工作的理解，全然體現在了自己的畫作上。

### **吳江垃圾發電項目：相約光大日，相聚我家中**

吳江垃圾發電項目於光大日通過設置「美食驛站」、組織「環保之旅」、進行「工位體驗」、開展家庭互動等豐富多彩的環節，為家人們提供機會，熟悉光大環境業務範圍及內容，學習各類廢棄物處置工藝流程，並在精心設計的互動環節中為員工及其家屬搭建展示風採、增進交流、豐富體驗的平台。

### Xinyang Waste-to-energy Project: Family Happily Getting Together to Advocate Green Ecology

The Xinyang waste-to-energy project launched an activity with the theme of “Family Happily Getting Together to Advocate Green Ecology”, which better enhanced employees’ sense of belonging and applied the Everbright’s home culture with practical actions. During the activity, “I am a little docent” session advertised environmental protection, “Paint and DIY” session allowed DIY shells drawing on recycle bags, “Environmental Protection Knowledge Quiz” enabled them to answer questions in a family unit and learn ecological and environmental protection knowledge, and the BBQ music festival after the game enriched the employees’ leisure time. This activity further enhanced the communication between the employees and their children, which also strengthened their emotional connection.

### 信陽垃圾發電項目：綠色生態，歡樂家庭手拉手

信陽垃圾發電項目開展了「綠色生態，歡樂家庭手拉手」主題活動，更好地增強員工的歸屬感，用實際行動踐行光大家園文化。「我是小小講解員」講解綠色環保，「彩繪DIY」家庭繪製環保袋DIY貝殼畫，「環保知識競答」以家庭為單位搶答並學習生態環保知識，以及遊戲結束後的BBQ音樂節，豐富了員工的業餘文化生活，進一步增強了工作繁忙的員工和孩子之間的情感交流，促進了親子間的情感培養。



### Huaiyuan Project Launching Heart-warming Initiatives for Employees

With the goal of “stimulating employees’ sense of mission, belonging, responsibility, honor and achievement”, the Huaiyuan biomass and waste-to-energy integration project (“Huaiyuan project”) implemented a series of down-to-earth and heart-warming initiatives, as well as held regular birthday parties for employees in 2023.

### 懷遠項目展開員工暖心工程

懷遠生物質及垃圾發電一體化項目（「懷遠項目」）以「激發員工的使命感，凝聚員工的歸屬感，加強員工的責任感，賦予員工的榮譽感，實現員工的成就感」為目標，於二零二三年深入實施了一系列接地氣、有溫度的員工暖心工程，並為員工定期舉辦生日會。

At the end of each month, the Huaiyuan project conducted safety and health inspections on the dormitories, announced the dormitories with risks of poor hygiene and potential safety hazards, and supervised the rectification. The project company has also set up a “General Manager’s Mailbox” in the dormitory to establish communication channels between the general manager and employees. The opinions and suggestions solicited during the year have all been implemented for rectification.

The company’s food committee holds regular monthly meetings to conduct questionnaire surveys on food safety, canteen services, food quality, etc., and marked down the problems that need to be rectified on the checklists. At the same time, the committee strengthens the management of the canteen, strictly disinfects and ventilates the dining environment, ensures food safety and the cleanliness, and strives to improve the food quality.

In addition, as the gym in the staff dormitory building was small and the equipment was old, the project company relocated the gym to the lobby on the second floor of the canteen, and improved the new gym with enlarging surface area and increasing functions by repairing the broken equipment, as well as adding treadmills, fitness equipment, billiard tables, table tennis tables and other entertainment facilities, aiming at enriching the employees’ leisure life.

每月底，懷遠項目會對宿舍進行安全衛生檢查，對衛生髒亂、存在安全隱患的宿舍進行通報並督促整改。項目公司更在宿舍樓設立了「總經理信箱」，暢通總經理和員工之間的溝通渠道。年內徵求到的意見和建議已全部落實整改。

公司伙食委員會每月定期召開會議，針對食品安全、食堂服務、飯菜質量等方面開展問卷調查，對需要整改的問題進行「清單式」落實。同時，加強食堂管理，嚴格消毒通風，確保食品安全和用餐環境的整潔，努力提升飯菜質量。

此外，原先宿舍樓的員工健身房空間較小、器材老化，項目公司將健身房搬遷至食堂二樓大廳，除了修復原先毀壞了的器材，又新增了跑步機、健身器材、檯球桌、乒乓球桌等娛樂設施，打造了面積更大功能更多的活動室，豐富了員工的業餘生活。





### Take Action and Participate in Environmental Protection

As a leading enterprise in the environmental protection industry, the Group actively promotes employees to practice environmental protection at work and in their daily lives, and to start out small to foster good environmental protection awareness. In 2023, the employees of the Group actively participated in environmental protection activities in their spare time, joined hands with friends, families and community groups to protect the environment and build a greener and better future for the next generation.

### 身體力行參與環保

本集團是環保領域的龍頭企業，積極鼓勵人們在工作和日常生活中開展環保工作，從身邊的小事做起，培養強烈的環保意識。二零二三年，員工積極地在工作以外的時間參與環保行動，與朋友、家人和當地組織一起保護環境，為下一代創造更綠色美好的未來。





SAFETY CULTURE

安全文化



Upholding safety operation  
enhancing quality of services  
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Safety culture is of utmost importance to the Group. The Group attaches great importance to safeguarding the health and safety of employees and the public, therefore, we resolutely implement the safety management system, and strive to provide a safe working environment for employees. Moreover, we also actively promote education and advocacy on safety to enhance employees' safety awareness, in order to prevent any safety incidents and reduce any potential negative impacts during operations.

### Full Implementation of the ESHS Management System

The Group fully implements the ESHS Management System to enhance the effectiveness of the regulatory mechanism's implementation in our operations and promote safety management standard. The system includes ESHS-related management procedures on identification, audit, incident investigation and reporting, work-related injury, contractors' ESHS management, etc., thus extending the safety culture and related policies to throughout the Group's supply chain. All projects have established their own standard operating procedures and on-site work checklists in accordance with the ESHS Management System to ensure the safety of the working environment and the public, employees, third-party contractors and resident subcontractors against occupational injuries.

本集團重視安全文化，高度關注員工及公眾的健康和安全，確保安全管理體系能為員工提供安全的工作環境。此外，本集團致力積極推廣安全教育與宣傳，提高員工的安全意識，阻絕任何安全事故，以及減輕運營期間有機會產生的不良影響。

### 全面施行ESHS管理體系

本集團全面施行ESHS管理體系，以完善監管機制在運營中的有效實踐，進一步提升安全管理水平。體系內容包括了重要ESHS議題的識別、審核、事故調查及匯報、工傷處理及承包商ESHS管理方面等指導程序的管理標準。體系能有效將安全文化和相關政策延伸到本集團的整個供應鏈中。ESHS管理體系為本集團的所有項目建立了標準操作流程和現場工作檢查表，以確保僱員工作環境和公眾的安全、保障僱員、第三方承包商及分包商駐場工人免受職業性傷害。



### Safety Risks Identification Process

### 安全風險識別流程



In order to enhance management efficiency, in terms of ESHS Management System structure, the Group has established a “four-in-one” management system. The Group has set up a Safety and Environmental Management Committee and a corresponding Operation, Safety and Environmental Management Department or Safety and Environmental Management Department at the four main levels of headquarters, business sectors, regional centres and subordinate project companies.

為進一步提升管理效能，在ESHS管理體系結構方面，本集團已搭建「四位一體」的管理體系，在總部、業務板塊、區域中心及轄屬項目公司四個主要層面皆成立了安全與環境管理委員會和相應的運營與安環管理部或安全與環境管理部。



The Safety and Environmental Management Committee has the decision-making authority and is responsible for regulating, overseeing and supervising the implementation of the environmental and safety standards in each sector of the Group, and meets regularly every year to review the Group's ESHS Management System.

At the same time, we encourage employees of all levels to propose to their superiors at any time their suggestions to improve the ESHS Management System, and the safety policies and measures that are already in place. In order to prevent any safety incidents due to non-reporting, the system also protects the privacy of whistle blowers.

安全與環境管理委員會具有決策權，專責重點規範、監督、督導本集團的各業務板塊環境及安全工作的實施，並每年定期召開檢討會議審視本集團的ESHS管理體系。

與此同時，我們亦博採眾議，鼓勵各階級的員工隨時向上級提出對ESHS管理體系、和現有的安全制度及措施的改善建議。另外，為了避免因知情不報而引致安全事故，體系亦會保障舉報者的隱私。

Guided by our internal *ESHS Audit Management Standards*, on-site ESHS audits of the project companies under each sector are conducted to examine their respective performance, and determine whether preventive and corrective measures are required for relevant project companies. Except for solar energy and wind power projects, which conduct internal ESHS on-site audits every two years, all other operating and under-construction projects under the Group conduct annual internal ESHS on-site audits as well as unscheduled audits. The scope of these audits covers the environment (such as pollution discharge, temporary storage of hazardous waste), safety (such as fire services design, vehicle use), occupational health (such as occupational hazards, annual body check), and social responsibility (such as supplier screening, charitable activities), where risk factors are categorised as high, medium and low based on its severity and impact.

On top of that, we have also formulated the *Safety Accidents, Environmental Incident Management Policy* to establish the procedures for responding to and following up on accidents. All accidents are categorised into level one to four according to their severity and impact, among which level one represents the most serious accident. Level one to three accidents must be directly reported to Everbright Environment's Safety and Environmental Management Committee, which is responsible for overseeing the investigation; while level four accidents must be reported to the Safety and Environmental Management Department of the respective sector, which will then submit investigation reports to Everbright Environment's Safety and Environmental Management Committee. The investigation content will include the cause of the accident and related risks, accident prevention and rectification measures, and summaries of lessons learnt for safety production management as well as other topics, so as to prevent the recurrence of accidents.

Meanwhile, the Group has been actively implementing the internationally certified OHSAS 18001/ISO 45001 Occupational Health and Safety Management System in its operating project companies.

The Group insists on operating each environmental protection project with high standards. Work safety and health of employees are particularly important. After the project is put into operation, different units always actively apply for various certifications, such as occupational health certification.

我們以內部制定的《ESHS審核管理標準》為指引，對光大環境各業務板塊項目公司實施ESHS現場審核，定期考察相關績效表現，決定是否需要對項目公司現場的ESHS表現採取預防及整改措施。本集團旗下的在建及運營項目每年均會進行一次內部ESHS現場審核以及進行不定期的現場考核，而光伏發電及風電項目則每兩年進行一次內部ESHS現場審核。審核範圍涵蓋環境（例如污染排放、危險廢物暫存）、安全（例如消防設計、車輛使用）、職業健康（例如職業病危害因素、年度體檢）及社會責任（例如供應商篩選、公益活動），跟據其嚴重性及影響範圍評定低、高、中風險因素。

此外，我們修訂了《安全事故、環境事件管理標規定》，確立意外事故的應對流程及後續跟進。各類事故按照嚴重程度及影響被分成一至四級，其中一級為最嚴重事故。一級至三級事故都必須直接上報至光大環境的安全與環境管理委員會，並由委員會負責監督調查工作；四級事故則須上報至所屬板塊的安全與環境管理部，其後由該部門向光大環境安全與環境管理委員會提交調查報告。調查內容包括事故發生原因及相關風險、事故防範和整改措施、以及調查結果包括安全生產管理方面的教訓等，防止再次發生同類事故。

本集團亦積極於運營項目公司推行獲國際認證的OHSAS 18001/ISO 45001職業健康和安全管理體系。

本集團堅守以高標準運營每個環保項目的承諾，並尤其重視員工之工作安全及健康。此外，各單位在投運項目後均積極申報各項認證，如職業健康認證。



## Implementation of Safety Policies

Each project company under the Group has set up customised emergency plans to manage the potential risks of different scopes and management processes in the plants, ensuring the safety management of the project companies and neighbouring communities. The emergency plans are also regularly adjusted and improved to reflect actual needs according to the evaluation mechanism. The Group has also formulated management systems such as the *Regulations on the Filing and Assessment Management of Safety and Environmental Management Institutions and Personnel* to enhance the level of safety management by strictly establishing preventive mechanisms and standardising production practices, fully improving the safety management level of the Group's projects.

The Group unremittingly strives to design and construct projects with the highest safety standards, as well as advance and implement legal compliance procedures, in order to ensure legal construction with each project. At the same time, the Group has continuously increased investing in project safety, to ensure civilised construction and safe construction. The Group has a well-established system of construction rules and regulations. Through the implementation of diverse safety and environmental specified inspections and assessments for projects under construction, the Group improves the level of standardised management across construction sites, while at the same time strengthens the management and assessment of construction parties and suppliers, as well as science-based programme planning, etc. The Group has also signed "Letters of Responsibility for Construction Unit Safety" with the construction contractors to promote the principle of "Everyone is a Safety Officer and Should be Responsible for Safety".

In 2023, the Group revised the *Measures for the Administration of Confined Space Operations* and the *Regulations on the Administration of Work Tickets and Operation Tickets* to standardise the management of confined space operations of its subordinate units, as well as strengthen the management of operation, overhaul, maintenance and testing in the production process, so as to ensure the safety and health of operators and eliminate production accidents. Each project company shall supervise and ensure that the safety and control measures written on the work tickets and operation tickets are in place in accordance with the regulations, and carry out safety training for relevant personnel on a regular basis.

## 落實項目安全制度

本集團各項目公司均設有專門的應急預案，針對廠區各範圍和管理流程的潛在風險，確保項目公司和鄰近社區的安全管理。應急方案亦會根據評估機制定期按實際需要作出相應的調整及改進。本集團亦制定了《關於安全與環境管理機構及人員備案、考核管理的規定》等管理制度、嚴格設置預防機制，規範生產行為，全面提升本集團項目安全管理水平。

本集團一直致力以最高的安全標準設計及建設項目，推進及落實合法合規的手續辦理工作，確保各項目的施工建造符合法律規定。同時，本集團不斷加大工程項目安全投入，確保文明安全施工。現時，本集團具備完善的工程建設規章制度，透過定期對在建工程項目開展多元化的安全與環境專項檢查和考核工作，提升工程現場標準化管理水準，同時加強對施工方、供應商的管理與考核，科學編製工期計劃等。此外，本集團亦與施工單位簽訂「施工單位安全責任書」，倡首「人人都是安全員、人人都為安全負責」的原則。

本集團於二零二三年度修訂了《有限空間作業管理辦法》和《工作票、操作票管理規定》兩項制度，旨在規範轄屬單位有限空間作業的管理，以及加強生產過程中運行操作、檢修、維護、試驗等工作的管理，保障作業人員的安全與健康，杜絕作業中的生產事故。各項目公司需按照規定監督和確保工作票和操作票上的安全與控制措施落實到位，並定期對相關人員開展安全培訓。



In 2023, the Xuzhou Municipal Health Supervision Bureau held the Xuzhou Occupational Health Demonstration Enterprise Award Ceremony, and Pizhou waste-to-energy project ("Pizhou project") was honoured with the title of "2022 Xuzhou Occupational Health Demonstration Enterprise." This recognition acknowledges Pizhou project's outstanding performance in occupational health management. Pizhou project has always attached great importance to the occupational health of its employees and has implemented a series of measures in strict accordance with national occupational health requirements, investing in occupational disease prevention and control work, as well as occupational disease protection facilities. This honour also serves as a catalyst for establishing a long-term mechanism for occupational health demonstration in Pizhou project. Seizing this opportunity, the Group will further consolidate its achievements, fulfill its responsibilities, and enhance its level of occupational health management. The Group will be committed to safeguarding the occupational health rights and interests of its employees, continuously stimulating the intrinsic motivation for healthy enterprise development, and striving to take the company's health management to new heights. This will make a positive contribution to the sustainable development of the Group and the well-being of its employees.

### Establishing Safety Culture and Securing Operational Safety

The Group has set a long-term goal in 2023 and is committed to maintaining the work injury rate at less than 0.25 per year within five years (2023-2027). As such, during the Reporting Period, the Group has adhered to the basic principle of "Securing Operational Safety and Meeting Emission Standards", strictly implemented the relevant national laws and regulations, and actively conducted daily safety, environmental and occupational health checks. In combination with "Work Safety Month", the Group has paid close attention to safety management, checked for potential safety hazards, and ensured that all projects under construction and in operation have strictly implemented various safety systems.

The Group has fully promoted the construction execution information system, allowing relevant functional modules to be fully operational online. At the same time, it carries out project-specific inspections and random inspections to achieve full coverage of areas like inspection of key processes, safety knowledge transfer, construction plan reviews, supplier inspections, etc. In order to enhance emergency preparedness of the staff, the Group also organises emergency drills regularly to improve their overall emergency handling capability.

二零二三年，徐州市衛後督所舉辦了徐州市職業健康示範企業頒獎儀式，邳州垃圾發電項目（「邳州項目」）榮獲「二零二二年度徐州市職業健康示範企業」的稱號。這是對邳州項目在職業健康管理方面的傑出表現給予的認可。邳州項目一直高度關注職工的職業健康，並嚴格按照國家職業健康要求開展了一系列措施，包括職業病防治工作和職業病防護設施的投入。獲得這一榮譽也對邳州項目建立職業健康示範長效機制起到了推動作用。本集團將以此為契機，進一步鞏固成果，落實責任，提升職業健康管理水平。本集團將致力於保障職工的職業健康權益，持續激發企業健康發展的內在動力，全力推動公司的健康管理水平邁上新的台階。這將為本集團的可持續發展和員工的福祉做出積極貢獻。

### 建立安全文化保障安全運營

本集團已於二零二三年制定了長期目標，致力將工傷率於五年間（二零二三至二零二七年）每年維持在0.25或以下。因此，本集團於報告期內繼續秉持「安全穩定運營、達標排放」的原則，嚴格執行國家相關法律法規，積極開展安全、環境與職業健康日常檢查工作，並結合「安全生產月」，嚴密落實安全管理，排查安全隱患，確保本集團各在建及運營項目嚴格執行各項安全制度。

本集團全面推進工程執行資訊系統，相關功能模塊已全線上線運行；同時開展工程項目專項檢查和隨機檢查，實現對重點部位工序檢查、安全技術交底、施工方案審查、供應商考察等領域的全覆蓋。我們亦定期組織應急演練，務求全面提升員工應對危機時的應變能力。

## Key Safety Actions



## 安全行動重點

### Projects at Different Locations Launching A Series of Activities for "Work Safety Month"

June 2023 was the 23rd Chinese Work Safety Month, during which Everbright Environment carried out a series of activities focusing on the theme of "Safety and Emergency Response for Everyone" in light of the actual production and operation of the Company, in order to promote the atmosphere of safety production and safeguard the safe development of the company.

Projects at different locations actively utilised various media platforms, websites, mobile applications, etc., to carried out safety warning education online. They also conducted offline safety knowledge training, organised competitions, and carried out special investigations on potential safety production hazards and major accidents, and took targeted rectification measures to resolve safety risks from the source. At the same time, they strengthened the safety and environmental inspection and supervision of relevant parties, organised more than 300 large-scale investigations, so as to resolutely curb the occurrence of accidents, and ensure the company's stable development.

In addition, according to different industries and the characteristics of different project risks, projects at different locations organised more than 300 accident emergency drills according to local conditions, with more than 7,000 people participating. Some the projects even organised joint drills with local emergency rescue agencies. Emergency skills trainings and drills enabled the employees to think highly of the responsibilities of safety production, and be familiar with safe escape exits or disaster avoidance routes, as well as master emergency measures for accidents.

### 各地項目展開「安全生產月」系列活動

二零二三年六月是全國第23個安全生產月，光大環境緊緊圍繞「人人講安全、個個會應急」主題，結合公司生產運營實際，深入開展「安全生產月」系列活動，營造安全生產濃厚氛圍，護航企業安全發展。

各地項目積極利用各類媒體、網站、手機應用程序等，於網上宣傳警示教育，同時在線下開展安全知識培訓，組織安全知識競賽，以及安全生產隱患及重大事故隱患專項排查，針對性採取整治措施，從源頭上化解安全風險，與此同時，各單位強化對相關方的安環檢查監督，組織對相關方開展大排查逾300次，堅決遏制事故發生，為公司穩定發展保駕護航。

此外，各地項目根據行業和項目風險特點，按照年度計劃，因地制宜組織開展事故應急演練逾300場，逾7,000人次參與，其中部分項目更與當地應急救援機構組織了聯合演練。通過應急技能培訓和演練，讓全體從業人員牢記安全生產崗位責任，熟知安全逃生出口或避災路線，掌握事故應急措施。

**Safety Culture**  
安全文化



Equipment manufacturing held awareness education on workplace safety by showing typical cases on relevant accidents  
裝備製造開展安全生產典型事故案例警示教育活動



Liaoning Tongliao development zone waste water treatment project put on workplace safety-related slogans in project area during the "Work Safety Month"  
遼寧通遼開發區污水處理項目於「安全生產月」期間在廠區懸安全生產相關宣傳標語



Henan Zhecheng biomass and waste-to-energy integration project organised a fun competition on workplace safety  
河南柘城生物質及垃圾發電一體化項目開展安全生產趣味競賽



Jiangxi Xiushui waste-to-energy project launched a safety skill and knowledge contest  
江西修水垃圾發電項目舉辦安全技能知識競賽



Jiangsu Lianshui biomass electricity and heat cogeneration project held a safety skill contest  
江蘇漣水生物質熱電聯供項目舉辦安全技能大比武



Jiangsu Donghai waste-to-energy project carried out a comprehensive emergency rescue drill  
江蘇東海垃圾發電項目舉辦綜合應急救援演練





Shandong Linshu waste-to-energy project conducted equipment maintenance and safety inspection rectification actions  
山東臨沭垃圾發電項目開展設備檢修及安全隱患排查整治行動



Shandong Ji'nan waste water treatment project organised a drill on emergency rescue in limited space  
山東濟南污水處理項目開展有限空間事故應急救援演練



Jiangsu Haimen waste water treatment project organised an emergency rescue drill on flood prevention  
江蘇海門污水處理項目組織防汛應急救援演練



Jiangsu Rugao biomass direct combustion project conducted an emergency drill on ammonia leakage  
江蘇如皋生物質直燃項目開展氨水洩漏事故應急救援演練

## Safety Trainings

The Group strives to conduct safety trainings in an “All Angles, Full Coverage, Normalised, Systematic” manner. Through organising diverse activities that are rich in content, the Group makes solid progress in training all its employees and third-parties. A sense of responsibility in safety production is promoted. Safety-first culture is thus upheld in all businesses of the Group. Certain projects have also established safety education experience areas, including fire simulation, VR experience for operating accidents, safety knowledge competition, safety test trainings, etc. Actual simulation experiences can help deepen employees’ impression and understanding of various common accidents. Compared with traditional safety trainings, such innovative training method saves a lot of training time while being more effective at raising safety awareness among employees.

The Group also regularly collects feedback from employees on training activities and evaluates the content and effectiveness of the training activities, so as to improve the training quality in a timely fashion.

## 安全培訓

本集團積極構建「全方位、全覆蓋，常態化、系統性」大宣貫大培訓的工作理念，通過組織形式多樣、內容豐富的培訓活動，同時推進全員及第三方人員培訓工作，強化安全生產責任感，讓安全發展理念貫穿於各種日常工作。個別項目包括安全教育體驗區，包括消防模擬、作業過程事故的VR體驗、安全知識搶答、安全考試培訓等內容。透過實際情境體驗，加深各級員工對各類常見事故的印象和理解。與傳統安全培訓相對比，該創新培訓形式顯著節省培訓時間，更有效提高全員安全意識。

本集團定期收集員工對培訓活動的反饋意見，評估培訓活動的內容及成效，以便適時改進培訓質素。





The Group's health and safety trainings cover the following aspects:

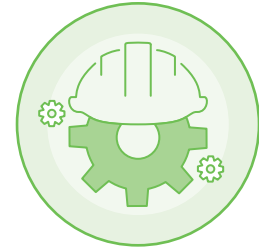
本集團為員工提供的健康與安全培訓涵蓋以下內容：



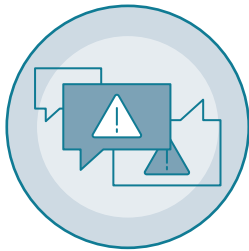
Health and Safety Laws and Regulation  
健康與安全方面的法律法規



ESHs Management System  
ESHs管理體系



Safe Use of Equipment  
設備裝置的安全使用



Identification and Control of Sources of Hazards  
危險源的辨識和控制措施



Risk Control and Troubleshoot by Risk Level  
風險分級管控和隱患排查



Procurement and Storage of Hazardous Items  
採購及貯存危險物品



Accident Contingency Plan  
事故應急管理



Occupational Health  
職業健康管理



First Aid  
急救

We also provide trainings to third-party contractors and subcontractors working on-site, covering topics such as ESHS management systems and accident contingency management.

我們亦向第三方承包商及分包商駐場工人提供培訓，內容涵蓋ESHs管理體系及事故應急管理等。

## Health and Safety Statistics in 2023

## 二零二三年健康與安全統計

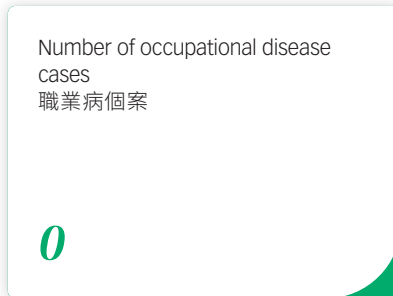
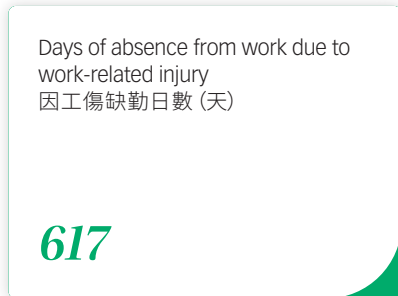
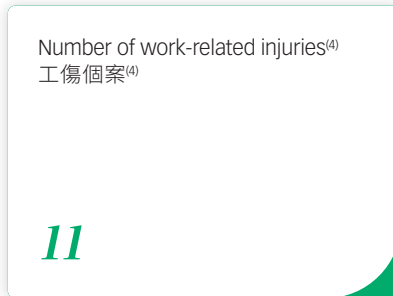
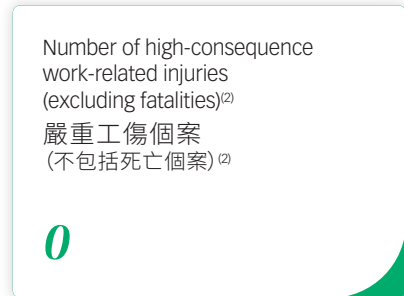
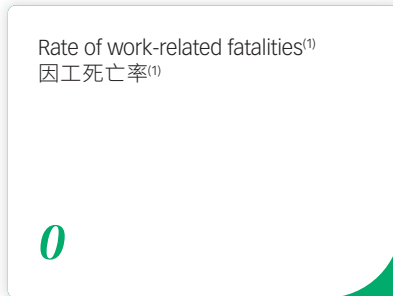
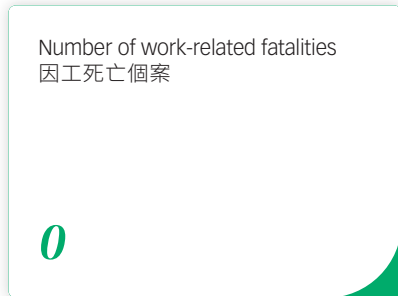
### Total Working Hours

### 工作總時數



### Employees

### 員工



On-site Third-party Contractors and Subcontractors

第三方承包商及分包商駐場工人



Notes:

- (1) Rate of work-related fatalities = (Total number of fatalities as a result of work-related injury/Total working hours) × 200,000.
- (2) High-consequence work-related injuries (excluding fatalities) refer to work-related injuries that result in an injury from which the worker cannot, does not, or is not expected to recover fully to pre-injury health status within six months.
- (3) Rate of high-consequence work-related injuries (excluding fatalities) = (Total number of high-consequence work-related injuries(excluding fatalities)/Total working hours) × 200,000.
- (4) Work-related injuries also include work-related fatalities and high consequence work-related injuries.
- (5) Rate of work-related injuries = (Total number of work-related injuries/Total working hours) × 200,000.

附註：

- (1) 因工死亡率 = (因工傷所造成的死亡個案總計 / 工作總時數) × 200,000。
- (2) 嚴重工傷(不包括死亡個案)是指導致工作者無法或難於六個月內恢復至受傷前健康狀態的工傷。
- (3) 嚴重工傷率(不包括死亡個案) = (嚴重工傷個案總計(不包括死亡個案) / 工作總時數) × 200,000。
- (4) 工傷亦包含因工死亡及嚴重工傷。
- (5) 工傷率 = (工傷個案總計 / 工作總時數) × 200,000。



COMMUNITY CARE

社區關懷



Building a sustainable environment  
and giving back to the society  
創造可持續環境 • 回饋社會大眾





Everbright Environment has long been adhering to the corporate pursuit of “Creating Investment Value and Undertaking Social Responsibility” by implementing the *Environmental and Social Management System* to actively fulfil the responsibility of a good corporate citizen.

光大環境一直堅守作為社會企業的责任與使命，追求以「創造投資價值，承擔社會責任」，落實《環境與社會管理制度》，積極履行良好企業公民的責任。

During the Reporting Period, the Group organised a series of community welfare activities mainly focusing on three areas i.e., quality education, community engagement and poverty alleviation. The Group regularly organises community charity activities, actively attends to the needs of various social groups, and establishes friendly ties with the community. We are also committed to giving back to the community and the general public, actively promoting the comprehensive development of local communities through our operations, and strengthening their resilience against climate change and natural disasters.

於報告期內，本集團的社區工作主要圍繞優質教育、社區共融、扶貧濟困三大方面。本集團定期組織社區公益活動，積極關注社會各社群的不同需求，與社區建立友好聯繫。我們更致力於回饋社會及公眾，在業務運營中積極促進當地社區的綜合發展，增強社區抵禦氣候變化和自然災害的能力。



Community  
Engagement  
社區共融

Quality Education  
優質教育

Poverty Alleviation  
扶貧濟困





## Cumulative Social Contributions 累計社會貢獻

Since 2017  
自二零一七年起

Everbright Environment's projects received  
光大環境的項目共接待

**783,514** Visitors  
名參觀人士

**40,782** batches of visitors  
批次參觀人士

Volunteered for  
義工總時數

**14,384** hours  
小時

Donated (cash) a total of  
捐款總金額(現金)為

HK\$ **69,806,702** 元  
港幣

Since 2013  
自二零一三年起

Ex-gratia funds and financial aids accumulative delivered by  
Everbright Environmental Protection Charitable Foundation  
光大環保愛心基金累計發於慰問金及救助金為

Approximately RMB  
約人民幣 **13,500,000** 元

Total Beneficiaries of Everbright Environmental  
Protection Charitable Foundation  
光大環保愛心基金累計受益人為

**2,355** people  
人

Since 2010  
自二零一零年起

The Group has  
本集團共有

**336** projects that were recognised as "Environmental Education Hubs" or "Science Popularisation and Education Hubs"  
項目獲得「環境教育基地」或「科普教育基地」的稱號

## Quality Education

Providing quality education for the children and the youth is key to grooming them into future pillars of the country. As a result, Everbright Environment has continued to devote a considerable amount of resources to education over the years to nurture future generations. At the same time, we actively popularise environmental protection knowledge, promote green technology, and contribute to the PRC's sustainable development.

### Promoting Opening Up of Projects to the Public and Popularising Environmental Protection Education

Everbright Environment continuously utilises its project facilities in different locations as environmental education hubs and science popularisation centres, which constantly organise various environmental education activities to promote sustainable development and green lifestyle to youngsters and the general public.

The public opening-up events cover primary and secondary schools, universities, local and international peers, environmental protection organisations and communities. To further enhance the procedures and quality relating to receiving visitors, each project company has formulated policies including the *Reception Etiquette Guidelines for Visits* and *Reception Safety Guideline for Visits*, and set up a dedicated public opening day reception team managed by the integrated management department and supplemented by the production department.

During the Reporting Period, the Group's environmental protection projects played an important role in promoting environmental education, environmental science popularisation, circular economy and industrial tourism, with over 90,000 domestic and foreign visitors from all social circles visiting the projects.

## 優質教育

光大環境深信兒童和青少年都擁有無限潛能，是國家未來的棟樑。我們多年來不斷投入大量資源於教育工作，培養優秀的下一代。同時，我們積極宣揚環保知識、推廣綠色科技，栽培下一代以支持祖國的可持續發展。

### 推動公眾開放，普及環保教育

光大環境持續利用項目位於各地的設施，以作環保教育基地和科普教育體驗中心，組織各類環保教育活動，從而深化年輕人和大眾對可持續發展和綠色生活的認識。

公眾活動開放的受眾覆蓋中小學生、大專院校、國內外同行企業、環保組織、社會民眾等。為進一步提高參觀接待的水平及素質，各項目公司更先後制定了《參觀接待禮儀準則》、《參觀接待安全須知》等制度規範，成立以綜合管理部為主，生產相關部門為輔的公眾開放日接待小組。

於報告期內，本集團旗下環保項目積極承擔環境教育、環境科普、循環經濟及工業旅遊基地的重要角色，共接待國內外各界人士參觀考察達超過90,000人次。

## Key Activities 重點活動里程碑

Supported the planning and construction of sports facilities for kids in Schönewalde of Germany  
支持德國舍訥瓦爾德社區兒童體育活動場地設施規劃和建設

NOV  
2017  
二零一七年  
十一月

“Everbright International Protection Charitable Foundation”<sup>(3)</sup> supported Heifer International Hong Kong branch’s “Read to Feed” fundraising programme  
「光大國際環保公益基金」<sup>(3)</sup>全力支持國際小母牛香港分會舉辦的「開卷助人」閱讀籌款計劃

2016-  
2019  
School Year  
二零一六年至  
二零一九年  
學年

Sponsored the “Yan Oi Tong Environmental City Exploration Tour”  
全力支持「仁愛堂環保城市探索之旅」

2015  
二零一五年

Double Diamond Member of the World Wide Fund for Nature (WWF) Hong Kong and lead sponsor for The “Earth Hour” campaign for many consecutive years  
為世界自然基金會香港分會雙鑽石會員，連續多年首席贊助香港「地球一小時」活動

SINCE  
2014  
二零一四年起

Established Everbright International Environmental Protection Charitable Foundation Company Limited<sup>(2)</sup> to manage The “Everbright International Environmental Protection Charitable Foundation”  
在香港成立光大國際環保公益基金會有限公司<sup>(2)</sup>，專責管理「光大國際環保公益基金」

2013  
二零一三年

As the co-founder of the “Everbright Environmental Protection Charitable Foundation”, provided RMB1.5 million annually to support sanitation workers and their families who need financial and psychological support in Suzhou Province  
參與成立「光大環保愛心基金」，並每年向基金會捐贈人民幣150萬元支持需要財政及情緒支援的蘇州市環衛工人及其家庭

2013  
二零一三年

Established “Everbright International True Love School”<sup>(1)</sup> in Dangshan, Anhui  
在安徽碭山建立「光大國際愛心學校」<sup>(1)</sup>

2011  
二零一一年

Notes: (1) The school has been renamed as Anhui Dangshan No. 5 High School.  
附註：該學校已更名為安徽碭山縣第五中學。

(2) The Company has been renamed as Everbright Environment Charitable Foundation Company Limited since September 2020.  
該公司已於二零二零年九月更名為光大環境慈善公益基金會有限公司。

(3) The foundation has been renamed as Everbright Environment Charitable Foundation since September 2020.  
該基金會已於二零二零年九月更名為光大環境慈善基金會。

2018  
二零一八年

The Group's Hangzhou waste-to-energy project in Zhejiang Province became a representative case in the country that solved the "NIMBY" effect  
本集團的杭州垃圾發電項目被認為是國內成功破解「鄰避效應」的典型項目

NOV  
2018  
二零一八年  
十一月

Held a launching ceremony in Nanjing to announce that 77 of its environmental protection facilities across all sectors would be opened up for public visit in the next three years  
在南京舉行本公司環保設施整體向公眾開放啟動儀式，於未來三年內向公眾開放不同板塊領域77個環保設施

OCT  
2019  
二零一九年  
十月

Partnered with UNICEF HK to sponsor the "Adventure in the Woods" outdoor carnival for families, the proceeds went to support maternal and newborn health projects in the rural areas of the PRC  
攜手聯合國兒童基金會香港委員會，贊助「童『闖』大自然」親子戶外慈善嘉年華，捐助山區母嬰健康項目

2020  
二零二零年

Launched the "Cloud Opening" mode and opened up the Environmental protection facilities and held the relevant activities  
實踐「雲開放」模式，透過線上直播、連線互動，向公眾開放活動及環保設施

2021  
二零二一年

"Everbright Environment Charitable Foundation" supported the construction of the solar dome at the Island House in Yuen Chau Tsai, Taipo, Hong Kong, and already in operation. The facility would serve as a sustainability educational hub for Hong Kong students and other groups to promote the concepts and knowledge relating to renewable energy, sustainable development and ecological conservation.

「光大環境公益基金」支持建造的太陽能溫室穹頂於香港大埔元州仔自然環境保護研究中心落成並投入使用，未來將作為可持續發展教育基地，面向香港學生等各界群體，傳遞可再生能源、可持續發展、生態保育等理念和知識。

2022  
二零二二年

During the pandemic, the Group tried our best to ensure the health of employees as well as the normal operation of various environmental protection projects by setting up emergency plans and purchasing sufficient resources in advance. Meanwhile, we fully supported the anti-epidemic works of local Governments. Employees not only performed their duties, but also took the initiative to share the epidemic prevention work and hence we overcame the difficulties together successfully.  
在疫情期間，公司一方面制定應急方案及儲備足夠物資保障員工健康以及各環保項目運作正常，另一方面全力支持各地政府抗疫工作。員工不但謹守崗位，亦主動分擔防疫工作，一起成功共渡難關。

2023  
二零二三年

The Group proactively supported the "Strive and Rise Programme", which was initiated by the Hong Kong Government. Leveraging its business strengths, the Group delivered environmental protection lectures in Hong Kong. Moreover, its waste-to-energy project in Sanya City, Hainan Province, received a group of Hong Kong teenagers and offered them an environmental protection-themed study tour, popularising environmental protection knowledge and advocating environmental protection concepts.  
本集團積極支持香港政府的「共創明『Teen』計劃」，結合業務特點在港舉辦環保講座活動，並接待香港青少年在旗下的海南三亞垃圾發電項目展開環保研學之旅，普及環保知識，倡導環保理念。

In 2023  
二零二三年

Our projects received over  
我們的項目共接待超過

**90,000** visitors  
名參觀人士

Exceeding  
超過

**3,700** batches of visitors  
批次參觀人士

A total of  
共有

**126**

projects were recognised as “Environmental Education Hubs” or “Science Popularisation and Education Hubs”

項目獲得「環境教育基地」或「科普教育基地」的稱號

The Group opened up to the public  
本集團已向公眾開放

**216** environmental protection facilities  
個環保設施



## Case studies 個案分享

### Xinzheng Project Organising Environmental Protection Research and Practice Activities 新鄭項目開展環保研學實踐活動



On 10 October 2023, more than 200 teachers and students from Dongguosi Primary School and Xindian Town Primary School in Xinzheng City went for a visiting journey to the Xinzheng project to learn about household waste treatment. The main theme of the visit was waste classification, during which the children learned about the methods of waste classification and disposal for the purpose of environmental protection through photos, sand table models, projections, and somatosensory games. In the exhibition hall, the docent discussed with the students about the destinations of household waste and explained the process of turning them into treasures, which enabled the children to understand the importance of reusing resources for environmental protection. Entering the waste lifting operation room, the children saw the scene of fermented household waste being thrown into the incinerator in person, and witnessed the amazing process of energy generated from waste incineration.

This trip to popularise environmental science has brought environmental protection knowledge from books into children's lives, and driven children's curiosity to environmental protection, and planted such a concept in their hearts and actions.

二零二三年十月十日，新鄭市東郭寺小學、辛店鎮小學共計200餘名師生來到新鄭項目，開啟了一場與生活垃圾有關的科普之旅。本次研學以垃圾分類為主題，小朋友們透過照片、沙盤模型、投影、體感遊戲等來學習垃圾分類與垃圾處理相關的環保知識。在展覽大廳內，講解員與學生們交流探討「我們生活中產生的垃圾去向」，為同學們講解了生活垃圾變廢為寶的過程，使小朋友們明白資源的重複利用對環境保護的重要意義；進入垃圾吊運操作間，小朋友們更在實景中觀看發酵過的生活垃圾丟進焚燒爐的過程，感受垃圾焚燒發電的神奇之旅。

此次環保科普之旅，讓環保知識從書本走進孩子們的生活，並帶動了孩子們關注環保的好奇心，將環保理念植於心、落於行。

## Case studies 個案分享

### Study Trip to Explore “Waste to Treasure” and “Zero Waste” Practices 探索「變廢為寶」「無廢」研學之旅



In 2023, the first “Zero Waste” study activity hosted by the Fuyang Branch of the Hangzhou Municipal Bureau of Ecology and Environment, was officially launched, with more than 80 student participants joining in the first and second phases of the first batch. The students observed the whole process of waste incineration in Fuyang Waste-to-energy project (“Fuyang project”), enriching their environmental knowledge at a cheerful atmosphere.

The Fuyang project undertakes the task of incineration and disposal of household waste in the whole region. As an important part of Fuyang’s construction of a “Zero-waste City”, the project is designed to process 1,500 tonnes of household waste per day and generate about 150,000,000 kWh of green electricity per year. In the hall of the first floor, the person in charge of the Fuyang project introduced to the students about the whole process of household waste incineration and the functions of each equipment in detail through the sand table model demonstration, and led the students to visit every part of the digitalised factory. This study activity allowed the students to learn about the construction concept of Fuyang’s “Zero-waste City” during the visit, and guided them to actively practice the concept of environmental protection in their daily life.

二零二三年，由杭州市生態環境局富陽分局主辦的富陽首屆「無廢」研學活動已正式啟動，並已完成第一批一期、二期80餘名學員的「無廢」研學。小學員們現場參觀了富陽垃圾發電項目（「富陽項目」）垃圾焚燒處理全流程，在歡快的氛圍中增長環保知識。

富陽項目承擔著全區生活垃圾焚燒處置任務。作為富陽建設「無廢城市」的重要一環，項目設計日處理生活垃圾1,500噸，每年可提供綠色電力1.5億千瓦時左右。在一樓大廳，富陽項目相關負責人通過沙盤模型演示向小學員們詳細介紹了生活垃圾焚燒處理的全流程及項目各設備的功能，並帶領小學員們實地參觀了生活垃圾焚燒處置智能化工廠的各個環節。此次研學活動讓孩子們在參觀遊玩中學習了解富陽「無廢城市」建設理念，引導他們在日常生活中積極踐行環保理念。

## Case studies 個案分享

### Shandong Yellow River Cultural Study Activity of Ji'nan No. 5 Middle School: Visitation to the Ji'nan Waste Water Treatment Project

### 濟南五中「山東黃河文化主題研學」走進濟南污水處理項目



On 21 October 2023, the Ji'nan waste water treatment project hosted more than 30 students from Ji'nan No. 5 Middle School in Shandong Province, who aimed at carrying out study activities about the Shandong Yellow River culture. With high curiosity, the teachers and students visited the plant and studied various processes of waste water treatment. In order to let everyone directly feel the cleanliness of the treated water, the staff took the water on the spot and compared it with pure water. The students gathered in groups to carefully observe and compare, and when they realise the difficulty to distinguish the two by the naked eye, they couldn't help but sigh: "It's amazing!"

In this study, the teachers and students have learned about the wide application of scientific technology in the waste water treatment industry. They broke the stereotype that waste water treatment plants were dirty and smelly, and truly understood the importance and necessity of water resource protection. They all expressed their desire to share what they have learned with their families and friends, and to be the guardians of water resources.

二零二三年十月二十一日，濟南污水處理項目接待了山東省濟南第五中學三十餘名初三學生，開展山東黃河文化主題研學活動。帶着對污水處理廠滿滿的好奇，師生們沿着污水處理廠的各個流程進行參觀學習，詳細了解污水處理的工藝流程。為了讓大家更直觀地感受處理後水質的潔淨程度，工作人員現場取水，並與純淨水進行對比，同學們三五成群圍在一起仔細觀察比對，當發現僅憑肉眼根本無法辨別出兩種水的區別時，一個個不禁感嘆道：「太神奇了！」

通過此次研學，師生們見識了科技之於污水處理行業的廣泛應用，打破了對於污水處理廠髒亂臭的刻板印象，也真切明白了水資源保護的重要性與必要性，紛紛表示要將所學所思分享給家人與朋友，一起做水資源的守護者。



## Community Engagement

Everbright Environment has always adhered to its corporate pursuit of “Creating Investment Value and Undertaking Social Responsibility” towards sustainability. The Group not only strives to ensure safe and stable operations and compliant emissions of the projects, but also proactively integrates into the neighbouring communities of the projects. The Group has been actively engaging the local communities of the rural areas where its projects are operated for joint development, such as giving priority to local residents when the projects provide employment opportunities, in order to improve the environment and facilitate industrial upgrading locally and in the surrounding areas.

To guarantee that the Group’s environmental protection projects comply with the international safeguarding principles and requirements in the environmental and social aspects, the Group incorporates the social concerns into the beginning phase of the project life cycle, including environmental and social impact screening and classification, relocation, indigenous groups, local communities, environmental impact assessment, information disclosure, public engagement, gender equality, due diligence and review, as well as the requirements for monitoring and reporting such topics. This ensures that the Group will properly manage any community work associated with its projects in compliance with related laws, with all affected citizens receiving fair and adequate compensation and rehabilitation. The Group’s ESHS Management System also includes a strict *Incident Reporting Procedure* to ensure that we thoroughly investigate public complaints, as well as properly follow up and resolve issues raised. In 2023, the Group did not received any complaints on our products and services.

## 社區共融

光大環境始終秉承「創造投資價值，承擔社會責任」的企業理念推動本集團可持續發展。本集團致力確保項目安全穩定運行、環保達標排放，亦於項目設計主動融入周邊社區發展，積極實踐村企共建，優先考慮為當地居民提供就業機會，促進當地及周邊區域的環境改善和產業升級。

為確保本集團的環保項目符合國際環境及社會的保障原則和標準，本集團將社會關注點納入項目生命週期的早期考慮點，包括環境和社會影響篩選和分類、搬遷安置、原住民、當地社區、環境影響評估、資訊披露、公眾參與、性別平等、盡職調查和審查，及監測和報告等範疇的要求等，從而確保與項目開發相關的社區工作按照適用法律進行妥善管理，相關受影響人士將得到公平、充分的補償和修復安排。本集團的ESHS管理體系中亦設有嚴格的《事故匯報程序》，以確保我們徹底調查公眾投訴，並妥善跟進及解決所提出的問題。本集團於二零二三年沒有接獲關於產品及服務的投訴。

The Group's environmental protection projects not only serve as important extracurricular educational resources for universities, secondary and primary schools, the Group's environmental protection projects also actively welcome visits of people from different social sectors, with an aim to drive social and economic benefits through continuous improvement of project opening-up arrangement, promotion of industrial tourism, and encouragement of circular economy.

本集團旗下的環保項目不僅為各大高校和中小學生提供重要的課外教學資源，我們更積極接待社會各界代表團實地參觀考察，透過不斷完善公眾開放、推廣工業旅遊、鼓勵循環經濟，為當地社區帶來最佳的經濟與社會效益。

### Five Key Elements of Everbright Environment's Benchmark Environmental Protection Projects 光大環境環保項目的五大要素





## Solving the “NIMBY” Effect

The Group’s integrated biomass utilisation projects are aligned with the central government’s goal in achieving green development in rural areas. The introduction of advanced waste treatment facilities in rural areas has effectively prevented waste disposal and reduced pollution, laying the foundation for sustainable development in the Chinese rural areas. In addition, the Group’s Hangzhou project opened up its project area borders, following the Group’s Changzhou project to have become another typical case that solves the “NIMBY” effect, essentially becoming a “living room of the city” for the public, which not only provides a leisure space for local residents but also sets an example for the development of waste-to-energy industry nationwide and provides a good reference for tackling the “NIMBY” effect.

## Walk into Everbright Environment’s Garden-like Factory

Time has flid so fast since the implementation of our first waste-to-energy project, Everbright Environment has grown from an unknown environmental “rookie” to a comprehensive service provider for the construction of “Zero-waste Cities” and a leader in the environmental protection industry. With more than 20 years of experience in the field of environmental protection, and in order to effectively solve the “NIMBY” effect, Everbright Environment has been committed to building garden-like factories, practicing the concept of green development, and responding to the “Building a Beautiful China” developmental strategy with concrete actions.

## 破解「鄰避效應」

為響應中央政府推進鄉村綠色發展的方向，本集團的生物質綜合利用項目為農村地區帶來先進的垃圾處理設施，預防廢物棄置並減少其相關污染問題，為中國農村的可持續發展奠定基礎。與此同時，本集團杭州項目更借鑑常州項目的處理方案，開放其他合適廠房的邊界，為項目區域建設社區設施，開放為「城市客廳」的公共空間，不僅為當地居民提供休閒場所，更為國內垃圾發電行業的發展和化解「鄰避效應」提供有益借鑒。

## 走進光大環境花園式工廠

時光荏苒，從落地第一個垃圾發電項目至今，光大環境已從寂寂無名的環保新兵成長為「無廢城市」建設的綜合服務商與環保行業翹楚。深耕環保領域二十載，為有效化解「鄰避效應」，光大環境着力打造花園式工廠，踐行綠色發展理念，用實際行動響應「建設美麗中國」發展戰略。

## Case studies 個案分享

### Key Projects

#### Suzhou Waste-to-energy Project

*Garden-like Factory in Jiangsu Province*

*Industrial Tourism Demonstration Site in Jiangsu Province*

### 重點項目

#### 蘇州垃圾發電項目

*江蘇省園林式單位*

*江蘇省工業旅遊示範點*



The Suzhou project is one of the waste-to-energy plants meeting the highest emission standards in the PRC. After the completion of upgrading and renovation, the Suzhou project gained a new architectural appearance, with white walls and black tiles, like a small town in the south of the Yangtze river, and has been described as a “Garden-like Waste Incineration Power Plant” by CCTV. The project integrates environmental science education and industrial tourism demonstration, and was rated as one of the top ten civil projects in Suzhou, which functions as a citywide ecological recycling exhibition hall in Suzhou.

蘇州項目是目前國內已經投運的排放標準最高的生活垃圾發電廠之一。提標改造成後的蘇州項目建築外觀煥然一新，白牆黑瓦，宛若江南小鎮，被央視譽為「花園式垃圾焚燒發電廠」。項目集環保科普教育與工業旅遊示範於一體，被評為「蘇州市十大民心工程」，是蘇州人家門口的生態循環展覽館。

Case studies 個案分享

**Changzhou Waste-to-energy Project**

**常州垃圾發電項目**

*Changzhou Beautiful and Liveable City Construction Pilot Project*

**常州美麗宜居城市建設試點項目**

*Garden-like Factory in Jiangsu Province*

**江蘇省園林式單位**

*Industrial Tourism Demonstration Site in Jiangsu Province*

**江蘇省工業旅遊示範點**



The Changzhou project is the PRC's first "living room of the city" and "neighbourhood-benefitting factory" that was built in an urban community without walls but with ultra-low emissions, and was equipped with basketball courts, fitness plazas, children's playgrounds, environmental science museums, city libraries, coffee bars, street parks and other convenient facilities. Over the years, the Changzhou project has been in harmony with the surrounding 100,000 residents, actively developing a new concept and model of "industry + tourism". The Changzhou project has become an industrial tourist attraction that shows the factory style, production process and employee work scenes to the public, which has promoted the healthy development of the industry.

常州項目是中國首個建在城鎮社區，無圍牆、全開放、實現超低排放且建有籃球場、健身廣場、兒童樂園、環保科普館、城市圖書館、咖啡吧、街心公園等便民惠民設施的「城市客廳」和「鄰利工廠」。多年來，常州項目與周邊十萬居民和諧為鄰，積極發展「工業+旅遊」的全新理念和模式，打造工業旅遊景點，將廠區風貌、生產過程、員工工作場景展現給公眾，推動了行業的健康發展。

Case studies 個案分享



**Wujiang Waste-to-energy Project**

***Industrial Tourism Demonstration Site in Jiangsu Province***

The Wujiang waste-to-energy project is located in the south of the Yangtze river delta integrated demonstration zone. It has actively made use of the characteristics of its proximity to the second-level ecological wetland “Changbaidang” in Jiangsu Province, and carried out construction on 300 acres of land and 1,020 acres of water area to build a distinctive all-round Everbright Ecological Park, perfectly integrated the environmental protection factories with the ecological wetland, with the greening rate of the plant area as high as 42%.

**吳江垃圾發電項目**

**江蘇省工業旅遊示範點**

位於江南魚米之鄉、長三角一體化示範區的吳江垃圾發電項目主動把握與江蘇省二級生態濕地「長白盪」毗鄰的特點，對300畝陸地、1,020畝水域進行全方位打造，建設富有特色的光大生態園，實現環保工廠與生態濕地的完美融合，廠區綠化率更高達42%。



## Case studies 個案分享

### Pizhou Waste-to-energy Project

#### *Tourism Demonstration Site in Jiangsu Province*

Located in the Pizhou Economic Development Zone, the Pizhou project possesses a beautiful scenery with flowers and birds, pavilions, and ponds with many goldfish, which proudly presents the most advanced incineration technology, industrial production process and beautiful factory appearance to the visitors.

### 邳州垃圾發電項目

#### *江蘇省工業旅遊示範點*

位於邳州經濟開發區的邳州項目，廠區花團錦簇、亭台水榭、鳥語花香、金魚滿塘，環境優美，積極向來訪者展示國內最先進的焚燒技術和生產工藝的工業生產過程及工廠風貌等。



### Chengxi Waste Water Treatment Project

#### *2022 Wuxi Municipal Garden-like Factory*

The Chengxi waste water treatment project plant area has a beautiful environment with very high green coverage, which contains green landscapes made up of trees, shrubs, flowers, grasses, etc. The project constructs a green ecological wetland that forms a complete urban ecosystem conjointly with the surrounding topography and landform. Over the years, the project has established long-term and stable cooperation with social organisations and groups, including the Camphor Volunteer Station, the Children-lead-the-future Little Reporter Station, and the Little Reporter Group of the Jiangyin Convergence Media Center, continuously improving and optimising the work of public opening, so as to create a good atmosphere for environmental protection involving all citizens.

### 澄西污水處理項目

#### *二零二二年度無錫市級園林式單位*

澄西污水處理項目廠區環境優美，綠化覆蓋面積高，搭配喬、灌、花、草等綠化景觀，並構築了綠色生態濕地，與周邊的地形地貌環境相融合，形成完整的城市綠色生態系統。多年來，項目與包括香樟樹志願者服務站、童領未來小記者站、江陰融媒體中心小記者團等在內的社會組織、團體已實了長期穩定合作，不斷提升優化公眾開放工作，推動構建環境保護全民行動的良好氛圍。



## Case studies 個案分享



### Zibo Waste Water Treatment Project

#### *Garden-like Factory in Shandong Province*

The Zibo waste water treatment project possesses a beautiful environment with artificial lakes, rockery, roof gardens and other greening facilities. The landscape was carefully designed, containing more than 70 plant species, and forming a garden-like factory that has “flowers in three seasons and greenery in four seasons”. In addition, the scenery in the factory is pleasant, with pavilions above the water, as well as paths among the trees, creating a landscape with both ornamentation and leisure values.

### 淄博污水處理項目

#### 山東省園林式單位

淄博污水處理項目環境優雅，建設有人工湖、假山造景、屋頂花園等綠化設施，企業景觀層次分明、布局合理；植被品種豐富，共有植物70餘種，形成了「三季有花、四季常綠」的花園式廠區景觀。此外，廠內景色宜人，既有亭台水榭，又有林苑小道，打造了集觀賞與休閒於一體的園林景觀。

Case studies 個案分享



**Xinzheng Waste-to-energy Project**

*Garden-like Factory in Henan Province*

*Garden-like Factory in Zhengzhou City*

The construction of the Xinzheng project adhered to the principle of emphasising plant landscaping, combining with lakes, stones, pavilions, lights, and sounds, with a green area exceeding 28,000 m<sup>2</sup> at the horizontal level and 250 m<sup>2</sup> at the vertical level. A variety of plants were used in the construction, such as trees, shrubs, flowers and grasses. The landscape was carefully designed and properly configured, which contains multiple forms and layers in the structure, creating picturesque sceneries everywhere.

**新鄭垃圾發電項目**

*河南省園林單位*

*鄭州市園林單位*

新鄭項目堅持以植物造景為主的原則，進行景觀湖、景觀石、涼亭、景觀燈、綠化音響建設，綠地面積28,000餘平方米，垂直綠化面積250餘平方米，建設運用喬、灌、花、草多種植物，精心設計，妥善配置，創造多種形式、多種層次的綠化景觀，移步換景，引人入勝。

Case studies 個案分享



**Haiyan Waste-to-energy Project**

*Industrial Tourism Demonstration Base in Zhejiang Province*

*Jiaxing Beautiful Factory*

*Excellent Unit of Beautiful Factory in Jiaxing City*

*Five-star Beautiful Factory in Haiyan County*

The Haiyan waste-to-energy project (“Haiyan project”) is the first integrated food waste, kitchen waste and household waste disposal project in the PRC, and an important civil project in Haiyan County. “When people are walking in the garden, they might not notice that the factory hides in the scenery.” The whole environment of factory is beautiful, showing a garden-like factory style. The Haiyan project has carried out more than 30 environmental science popularisation and education activities, such as “June Fifth Environment Day” and “Earth Day”, hosting more than 7,500 visitors from all walks of life.

**海鹽垃圾發電項目**

*浙江省工業旅遊示範基地*

*嘉興市美麗廠站*

*嘉興市美麗廠區優秀單位*

*海鹽縣五星級美麗廠區*

海鹽垃圾發電項目（「海鹽項目」）是國內首家餐廚垃圾、廚餘垃圾和生活垃圾一體化建設項目，也是海鹽縣一項重要的民生工程。「人在園中走，廠在景中藏」，整個廠區環境優美，呈現出花園式工廠風貌。海鹽項目以「六五環境日」、「世界地球日」等主題宣傳活動為抓手，共開展環保科普宣教活動逾30場次，接待各界來訪者逾7,500人次。



Case studies 個案分享

**Shenyang Waste-to-energy Project**

**瀋陽垃圾發電項目**

*National 3A-level Tourist Attraction*

*國家3A級旅遊景區*



The Shenyang waste-to-energy project (the “Shenyang project”) contains a total green area of around 37,000 m<sup>2</sup>, accounting for 32% of the total plant area. Various tree species were planted, such as pagoda trees, fruit trees, pine trees, poplar trees, etc., which grow in a staggered manner and have different sceneries in all seasons. As a popular science education hub combining research and learning, the Shenyang project actively undertakes social responsibility to demonstrate a visible and tangible waste treatment process, which has received nearly 10,000 visitors since its operation and popularised the concept of environmental protection to the public.

瀋陽垃圾發電項目（「瀋陽項目」）廠區綠化總面積約3.7萬平方米，綠化佔全廠區面積的32%，園區內種植槐樹、果樹、松樹、楊樹等多種綠植，交錯生長，四季異景。作為研學結合的科普教育基地，瀋陽項目積極承擔社會責任，打造「看得見，摸得著」的垃圾全量處理項目，自運行以來共計接待近萬人次參觀，向公眾普及環保理念。

## Poverty Alleviation

Everbright Environment has been actively responding to the national policies on targeted poverty alleviation and is committed to creating a better living environment for urban and rural residents. The Group insists on promoting volunteer work, disaster relief efforts and charitable activities to enhance the engagement with the community. At the same time, the projects provide employees with multiple volunteering opportunities, encouraging them to actively participate in community activities.

### Poverty Alleviation Industry Chain

The Group is committed to solving local problems by continuously encouraging and promoting effective public and resident partnerships. Through the integrated biomass utilisation projects, the Group has successfully established and improved the fuel collection and storage system, formulating the strategy of “Increasing Income for Farmers, Facilitating Corporate Development and Gaining Mutual Benefit for Multiple Parties”, improving the local rural economy directly and indirectly and reducing the population in poverty. The local governments arranged underprivileged households to collect and sell biomass materials to the Group’s operating projects as a way to provide extra income to the needy while at the same time helping to address the local waste treatment problems. The collaboration model has broken new ground to create a situation that benefits the environment, society and economy.

In addition, the Group fully supports the PRC’s poverty alleviation plan. The Group’s Xinhua waste-to-energy project (“Xinhua project”) is a poverty alleviation project receiving major support by the Group and also a featured Everbright Environment project for fulfilling industrial poverty alleviation. In addition to the construction of local infrastructures and renovation of composting toilets, this project has also helped establish a supply chain between the underprivileged households and poverty alleviation organisations for fruits and vegetables, and daily necessities, making use of every effort to drive economic vitality and efficiency. Take Xinhua project as an example, its construction is not only effective in promoting local economic developments, but also in lifting local residents from poverty by offering more employment opportunities. The project is conducive to improving environmental construction, ensuring environmental health and safety, and playing a role in targeted poverty alleviation and pollution prevention.

## 扶貧濟困

光大環境一直積極響應國家有關精準扶貧的政策，致力為城鄉居民建設更好的生活環境。本集團注重開展各種義務工作、災難救濟及慈善活動，積極以服務回饋社會大眾，與鄰里社區融和交流。同時，項目為員工提供不同義工機會，鼓勵他們熱心參與社區活動，回饋社會。

### 扶貧產業鏈

本集團透過不斷開展並推進有效的公共和公民社會合作，尋求有效方案解決當地問題。通過建立和完善其生物質綜合利用項目燃料收儲體系，本集團正發展「農民增收、企業發展、多方共贏」的戰略，直接和間接帶動農村經濟，幫助當地人口脫貧。政府透過此模式組織貧困戶收集生物質原料，出售予本集團的運營項目，不僅為人們提供額外收入，亦有助解決當地的廢物處理問題，為環境、社會和經濟效益達至協同作用。

此外，本集團全面支持中國的脫貧攻堅計劃。新化垃圾發電項目（「新化項目」）是本集團重點發展的生態產業扶貧項目，也是光大環境以集團專業實施環保產業扶貧的特色優勢項目。除了建設當地基礎設施、實施了生態廁所改建工程，此項目更與當地貧困戶和扶貧企業建立果蔬供貨、日用品供貨聯繫，全力拉動貧困地區的經濟活力和經濟效能。新化項目的建設有效帶動地方經濟發展，幫助當地扶貧就業。項目亦有利於改善環境建設，保障環境健康安全，發揮精準扶貧、污染防治的作用。



## In 2023, Integrated Biomass Utilisation Projects of Everbright Environment 二零二三年，光大環境的生物質綜合利用項目



### Charitable Activities

Together with the Suzhou Urban Appearance Municipal Management Bureau and the Suzhou Charity Federation, Everbright Environment's project company in Suzhou established the "Everbright Environmental Protection Charitable Fund", which aims at helping sanitation workers and their families who are in need, and launching the promotion activities of caring for the workers. As of the end of 2023, the Fund had supported over 2,355 beneficiaries, to whom a total of RMB13.50 million of consolation money and financial aid was distributed.

### 慈善與公益

光大環境的蘇州項目公司與蘇州市市容市政管理局及蘇州市慈善總會共同發起成立「光大環保愛心基金」，用於慰問和救助貧困環衛工人及其家庭和展開關愛環衛工人的公益宣傳活動。截至二零二三年底，該基金已累計產生2,355名受益者，共計已發放超過人民幣1,350萬元慰問金及救助金。

### Overview of Charity Work in 2023 二零二三年慈善公益活動概覽



### Suzhou Project Carried Out the Practice of Civilisation in the New Era During the Double Ninth Festival

### 蘇州項目開展九九重陽節新時代文明實踐活動



The Chinese nation have the traditional virtues of respecting and loving the elderly. On 23 October 2023, the staff team of the Suzhou project went to Suzhou Yangshan Nursing Home to carry out an activity with the theme of “Celebrating the Double Ninth Festival with Warm Heart and Filial Piety”, composing a warm story of respecting the elderly.

In the well-decorated activity area, the elderly and employees enjoyed the fun games together. Games such as throwing rings over blocks and bottle pushing enabled the elderly to exercise properly while relaxing, which also created a warm atmosphere for the event. After that, our staffs made potted plant using succulent in the DIY session with the elderly. Finally, our staffs sent a love scarf to each elderly, representing the heartfelt blessings to them.

中華民族自古就有敬老愛老助老的傳統美德。二零二三年十月二十三日，蘇州項目員工團隊赴蘇州陽山護理院開展「情暖重陽，孝行天下」主題活動，共同為老人們譜寫溫馨的重陽敬老佳話。

在大家精心布置的活動區，老人們與員工一同享受着遊戲的樂趣。套圈圈、歡樂推瓶子等遊戲使老人在放鬆身心的同時適當鍛鍊了身體，讓整個活動現場的氣氛倍添溫馨暖意，之後更進行了手工DIY活動，與老人們一起製作了多肉綠植盆栽。最後，大家還為每位老人送上一條重陽愛心圍巾，代表了對老人們的衷心祝福。



TOGETHER  
FOR THE SUSTAINABLE  
DEVELOPMENT GOALS  
攜手邁向可持續發展目標



Together for the sustainable  
development goals  
攜手邁向 • 可持續發展目標



## Together for the Sustainable Development Goals 攜手邁向可持續發展目標



In 2015, the United Nations adopted the 2030 Agenda for Sustainable Development, which included 17 SDGs and emphasised the need to achieve overall sustainable development.

With the vision to become a world-class integrated environmental service provider with Chinese characteristics, Everbright Environment fully supports the SDGs of the United Nations, and is devoted to join hands to help address the world's most pressing environmental, social and economic issues.

聯合國於二零一五年通過二零三零年可持續發展議程，內容包括17項可持續發展目標，強調要全面達至整體可持續發展。

懷著打造具有中國特色的世界一流環境綜合服務商的願景，光大環境全力支持聯合國可持續發展目標，致力以攜手緩解世界上最迫切的環境、社會和經濟議題。

### Environment

### 環境

#### SDG 可持續發展目標

#### Our Contribution 我們的貢獻



#### Ensure healthy lives and promote well-being for all ages 確保健康的生活方式，促進各年齡段人群的福祉

By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination. 到二零三零年，大幅減少危險化學品以及空氣、水和土壤污染導致的死亡和患病人數。

The Group's waste-to-energy projects are designed and operated fully in compliance with the *Standard for Pollution Control on the Municipal Solid Waste Incineration* (GB 18485-2014) with the daily average values of online continuously monitored parameters well below the respective emissions limits as stipulated under the EU 2010 Emission Standards; all of the Group's biomass combustion operations meet the *Emission Standard of Air Pollutants for Thermal Power Plants* (GB 13223-2011). Our hazardous and solid waste treatment business can safely process over 90% of hazardous waste types listed in the *National Catalogue of Hazardous Wastes*, hence effectively minimising public health risk.

本集團垃圾發電項目的設計及運營完全符合《生活垃圾焚燒污染控制標準》(GB 18485-2014)，當中煙氣在線監測指標日均值全面優於歐盟2010排放標準中的相關排放限值；所有生物質燃燒的運營則達《火電廠大氣污染物排放標準》(GB 13223-2011)。我們的危廢及固廢處置業務亦可安全處置《國家危險廢物名錄》超過90%的危廢種類，有效大力減低公眾的健康風險。

Effluent discharged from the majority of the Group's waste water treatment projects comply with Grade 1A standard of *Discharge Standard of Pollutants for Municipal Wastewater Treatment Plant* (GB 18918-2002).

本集團大部分污水處理廠的出水均符合《城鎮污水處理廠污染物排放標準》(GB 18918-2002)的一級A標準。

SDG

可持續發展目標

Our Contribution

我們的貢獻



**Ensure availability and sustainable management of water and sanitation for all**  
**為所有人提供水和環境衛生並對其進行可持續管理**

By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.  
到二零三零年，所有行業大幅提高用水效率，確保可持續取用和供應淡水，以解決缺水問題，大幅減少缺水人數。

The Group's waste water treatment projects effectively treat waste water strictly in compliance with national standards and produce high quality industrial reusable water to help soothe water quality and sanitation problems.

本集團的污水處理項目嚴格按照國家標準有效處理污水，並生產高質量的工業回用水，以協助舒緩水質和衛生問題。

The Group treated a total of 1,749,000,000 m<sup>3</sup> of waste water and produced 45,522,651 m<sup>3</sup> of reusable water in 2023.

二零二三年，本集團共處理了約1,749,000,000立方米的污水和生產了約45,522,651立方米的回用水。



**Ensure access to affordable, reliable, sustainable and modern energy for all**  
**確保人人獲得負擔得起的、可靠和可持續的現代能源**

By 2030, ensure universal access to affordable, reliable and modern energy services.  
到二零三零年，確保人人都能獲得負擔得起的、可靠的現代能源服務。

The Group generates clean energy by utilising household waste and agricultural and forestry waste, thus relieving pressure on landfills and saving precious land resources.

本集團利用生活垃圾、農業及林業廢棄物生產清潔能源，減少填埋量壓力，從而節省寶貴的土地資源。



SDG  
可持續發展目標

Our Contribution  
我們的貢獻



**Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation**  
**建造具備抵禦災害能力的基礎設施，促進具有包容性的可持續工業化，推動創新**

By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with the increased resource use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, all countries taking action in accordance with their respective capabilities. 到二零三零年，所有國家根據自身能力採取行動，升級基礎設施，改進工業以提升其可持續性，提高資源使用效率，更多採用清潔和環保技術及產業流程。

The Group developed a unique business model of urban-rural integration combining biomass utilisation projects and waste-to-energy projects, providing one-stop services for integrated treatment of agricultural and forestry waste as well as rural household waste in a pioneering attempt to ecological environmental management in county areas.

本集團開發出獨特的城鄉一體化業務模式，將生物質處理項目與垃圾發電項目融為一體建設，統籌處理農林廢棄物及農村生活垃圾，開創了縣域生態環境治理的先河。

The Group's river-basin ecological restoration projects construct more stable ecological environment, and thus improve the cities' resilience against regional water environment pollution, while "Sponge City" projects facilitate effective drainage and rainwater reuse, strengthen the urban ecosystem and promote sustainable development.

本集團的流域治理項目透過構建更穩固的生態環境提升城市水污染抵禦能力；海綿城市項目則有助疏導和回用雨水、改善城市生態系統及促進可持續發展。

SDG

可持續發展目標

Our Contribution

我們的貢獻



**Make cities and human settlements inclusive, safe, resilient and sustainable**  
**建設包容、安全、有抵禦災害能力和可持續的城市和人類住區**

By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality, municipal and other waste management.

到二零三零年，減少城市的人均負面環境影響，包括特別關注空氣品質，以及城市廢物管理等。

Waste disposal is one of the most pressing environmental problems faced by modern society. The Group's waste-to-energy projects effectively reduce the volume of household waste through thermal treatment, while the majority of the bottom ash produced from waste incineration can be used to produce bricks, thus relieving pressure on landfills and resolving the waste crisis. Through its integrated biomass utilisation projects, the Group introduced advanced waste processing facilities in the rural villages, thereby laying a foundation to support sustainable rural development in the PRC by preventing waste disposal and related pollution problems before they arise.

廢物處置是現代社會面臨最逼切的环境問題之一。本集團的垃圾發電項目透過熱處理有效減少生活垃圾體積，而大部分焚燒垃圾產生的爐渣則可用於製磚，從而減輕填埋場壓力及解決垃圾危機。通過生物質綜合利用項目，我們將先進的垃圾處理設施引入農村，預防垃圾及其相關污染問題發生，從而為中國農村的可持續發展奠定了基礎。

Through a series of water environment integrated management services including raw water protection, municipal waste water treatment, industrial waste water treatment, water supply, reusable water, and sludge treatment and disposal projects, etc., the Group has contributed to the construction of sustainable cities and communities, relieved the pressure on urban water supply and substantially minimised the impact of harmful substances on the aquatic and terrestrial ecosystems.

本集團設有一系列的水環境綜合治理服務，包括原水保護、市政污水處理、工業廢水處理、供水、中水回用及污泥處理處置等，為建設可持續城市和社區作出貢獻，緩解城市供水壓力，並將有害污染物對水體和陸上生態的影響降至最低。



**Ensure sustainable consumption and production patterns**  
**採用可持續的消費和生產模式**

By 2030, achieve sustainable management and efficient use of natural resources.

到二零三零年，實現自然資源的可持續管理和高效利用。

The Environmental energy sector is committed to expanding the eco-recycling business in the three areas of household waste sorting, environmental sanitation services and recyclable resources utilisation, aiming to provide front-end waste management services and the utilisation of recyclable resources.

本集團的環保能源板塊致力於拓展生活垃圾分類、環衛作業服務以及再生資源利用三個領域的相關生態資源業務，旨在提供固廢處置前端服務與再生資源綜合利用相關業務。

SDG  
可持續發展目標

Our Contribution  
我們的貢獻



**Take urgent action to combat climate change and its impacts**  
**採取緊急行動應對氣候變化及其影響**

Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.  
加強各國抵禦和適應氣候相關的災害和自然災害的能力。

The Group's waste-to-energy projects and integrated biomass utilisation projects mitigate GHG emissions through avoidance of fugitive release of methane generated from the degradation of household waste and biomass raw materials and the production of green electricity that replaces the use of fossil fuel power.

本集團的垃圾發電項目及生物質綜合利用項目有效避免生活垃圾和生物質原材料的降解引致的無組織甲烷釋放。同時，項目產生綠色電力以替代化石燃料能源的使用，從而減少溫室氣體排放。

Besides, the Group's Qingdao waste water treatment project generates green electricity with biogas produced from sludge treatment so as to replace the consumption of fossil fuel and avoid GHG emissions. GHG emissions avoidance is also attained through the reduction of nitrogen concentration carried out by waste water nitrogen removal treatment progress, and the reduction of N<sub>2</sub>O. Together with its waste-to-energy and integrated biomass utilisation projects, the Group's operations avoided 26,049,149 tonnes of CO<sub>2</sub> equivalent emissions in 2023.

另外，本集團位於青島的污水處理項目利用污泥處理時所產生的沼氣產出綠色電力，以代替化石燃料的使用，從而避免溫室氣體排放；而我們亦透過污水除氮處理工藝降低污水出水的氮含量以及其所引致的氧化亞氮排放，以避免溫室氣體排放。連同其垃圾發電和綜合生物質利用項目，本集團於二零二三年的運營共避免了26,049,149噸二氧化碳當量排放。

The Group has also included climate risk into its Risk Management System in order to formulate more comprehensive emergency and natural disaster contingency plans.

本集團更已把氣候變化風險納入至現有的風險管理體系中，以制定更完善的緊急與自然災害應變方案。

SDG  
可持續發展目標

Our Contribution  
我們的貢獻



**Conserve and sustainably use the oceans, seas and marine resources for sustainable development**  
**保護和可持續利用海洋和海洋資源以促進可持續發展**

By 2025, prevent and significantly reduce marine pollution of all kinds, particularly from land-based activities, including marine debris and nutrient pollution.  
到二零二五年，預防和大幅減少各類海洋污染，特別是陸上活動造成的污染，包括海洋廢棄物污染和營養鹽污染。

The Group's project site selection practice complies with stringent environmental impact assessment requirements, which prevents the water bodies and animal habitats nearby the project site from adverse impact.

本集團的項目選址均符合嚴格的環評準則，定能避免對項目周邊的水體和動物棲息地帶來不利影響。



**Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss**  
**保護、恢復和促進可持續利用陸地生態系統，可持續管理森林，防治荒漠化，制止和扭轉土地退化，遏制生物多樣性的喪失**

**Strengthen the means of implementation and revitalise the global partnership for sustainable development**  
**加強執行手段，重振可持續發展全球夥伴關係**

The Group's waste-to-energy projects help tackle the waste problem in an environmentally sound manner. This results in the avoidance of waste in landfills which would otherwise cause environmental problems and affect ecosystems.

本集團的垃圾發電項目以無害環境的方式應對垃圾問題，以防垃圾於填埋場傾倒所導致的環境問題及對生態系統的影響。

The Group is actively participating in the overseas environmental protection industry. We have developed two garden-like waste-to-energy projects in Can Tho and Hue in Vietnam, thereby making contributions to the green and low-carbon economic development as well as the energy transformation of Vietnam.

本集團積極參與海外環保市場，已在越南建成運營芹苳及順化垃圾發電項目，為越南綠色低碳經濟發展和能源轉型作出貢獻。

## Social

## 社會

### SDG 可持續發展目標

### Our Contribution 我們的貢獻



#### End poverty in all its forms everywhere 在全世界消除一切形式的貧困

By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions. 到二零三零年，按各國標準界定的陷入各種形式貧困的各年齡段男女和兒童的比例至少減半。

The Group's biomass utilisation business not only solves the pollution problems caused by the burning of local agricultural and forestry straws, but also creates job opportunities for local farmers and increases their source of income through the establishment of the collection, storage and transportation of agricultural wastes. The Group has actively responded to the country's precision poverty alleviation policy. With the commencement of project operations and the establishment, improvement and development of the biomass intake and storage systems, the Group has developed a strategy of "Increasing Income for Farmers, Ensuring Development for the Enterprise, and Procuring Mutual Success for Multiple Parties" which drives the rural economy in direct and indirect ways to lift villagers from poverty.

本集團的生物質業務能解決當地農林秸稈焚燒帶來的污染問題。同時，也透過成立農林廢棄物收儲運體系，為當地農民創造就業機會，增加收入來源，積極響應國家的精準扶貧方針。隨著項目的投產以及生物質收儲體系的建立、完善和發展，我們打造出「農民增收、企業發展、多方共贏」的戰略，直接和間接帶動農村經濟，幫助人口脫貧。



#### End hunger, achieve food security and improved nutrition and promote sustainable agriculture 消除饑餓，實現糧食安全，改善營養狀況和促進可持續農業

By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round. 到二零三零年，消除饑餓，確保所有人，特別是窮人和弱勢群體，包括嬰兒，全年都有安全、營養和充足的食物。

The Group's food waste processing projects can turn food waste into compost, which can in turn support the agricultural development of the Group's project neighbourhoods. Our projects have an annual food and kitchen waste processing capacity of 3,169,295 tonnes.

本集團的餐廚垃圾處理項目把餐廚垃圾轉換為堆肥，從而支持鄰近地區的農業發展。我們的項目每年能夠處理3,169,295噸餐廚及廚餘垃圾。



SDG  
可持續發展目標

Our Contribution  
我們的貢獻



**Ensure healthy lives and promote wellbeing for all at all ages**  
**確保健康的生活方式，促進各年齡段人群的福祉**

By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination. 到二零三零年，大幅減少危險化學品以及空氣、水和土壤污染導致死亡和患病人數。

Despite the end of the pandemic, the prevention and responsive measures arranged by the Group and its business units have provided valuable responsive experiences for internal staff and contractor personnels. Amidst material shortages, we still managed to provide sufficient protection for the employees and, based on the changes in pandemic control policies of various regions, timely adjusted the pandemic containment policies of projects and ensured full-scale operations of more than 400 environmental protection projects in operation, which are located in over 180 cities across the PRC. These projects safeguarded the environmental safety and public health of the local communities, by treating household waste and waste water, as well as enhancing the treatment and disposal of medical waste.

新冠肺炎疫情雖已完結，但疫情期間的各項防範應對措施為本集團及各單位組織內部員工及外包單位人員提供了寶貴的應對經驗。尤其在物資短缺的情況下，為員工提供足夠保護，並根據各地防控政策變化及時調整，確保國內180多個城市的400多個運營環保項目全速運轉，保障生活垃圾、污水處理，強化醫療廢棄物處置，守護了當地社區的環境安全和民眾健康。

Many environmental protection projects of the Group volunteered to facilitate the local authorities and institutions to conduct safe treatment of medical waste, waste water, as well as waste from hospitals and quarantine areas.

本集團旗下多個環保項目亦主動請纓，全力協助各地相關部門和機構在疫情期間進行醫療廢物、污水、醫院及隔離區垃圾的安全處置工作。

SDG  
可持續發展目標

Our Contribution  
我們的貢獻



**Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all**  
**確保包容和公平的優質教育，讓全民終身享有學習機會**

By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.  
到二零三零年，大幅增加掌握就業、體面工作和創業所需相關技能的青年和成年人數。

The Group's environmental protection projects have been selected as environmental and science popularisation and education hubs and act as demonstration sites for circular economy and industrial tourism. The Group also proactively opens up its projects for public visits, offering every individual with opportunities to understand how environmental infrastructures tackle pollution and improve the community's living environment. During the Reporting Period, the Group's environmental protection projects received over 90,000 domestic and foreign visitors from all social circles.  
本集團的環保項目被選為環保科普教育基地，並作為循環經濟和工業旅遊的示範項目。我們亦積極開放項目供公眾參觀，給予大眾機會以了解環保基建設施如何處理污染及改善社區的居住環境。報告期內，本集團的項目共接待國內外各界人士超過90,000人次。

In 2023, multiple project companies of the Group continued to carry out project opening-up activities through virtual platforms. These virtual activities advocated environmental protection and sustainable development concepts to the public with higher flexibility.  
二零二三年，我們的項目公司繼續積極透過線上平台展開公眾開放活動。這些虛擬活動能以更高的靈活性向公眾宣傳環保和可持續發展理念。

SDG  
可持續發展目標

Our Contribution  
我們的貢獻



**Achieve gender equality and empower all women and girls**  
**實現性別平等，增強所有婦女和女童的權能**

End all forms of discrimination against women and girls everywhere.  
在全球消除對婦女和女童一切形式的歧視。

The Group ensures that its human resources management structure, including compensation, training opportunity, career prospect, etc., is not affected by gender biases, thus achieving gender equality.

本集團確保我們的人力資源管理架構，如薪酬水平、訓練機會及就業前景等不受性別影響，從而實現性別平等。



**Promote sustained, inclusive and sustainable economic growth, facilitate full and productive employment and decent work for all**  
**促進持久、包容和可持續經濟增長，促進充分的生產性就業和人人獲得體面工作**

Achieve higher levels of productivity of economies through diversification, technological upgrading and innovation, including through a focus on high value-added and labour-intensive sectors  
通過多樣化經營、技術升級和創新，包括重點發展高附加值和勞動密集型行業，實現更高水準的經濟生產力。

Through investment, construction and operation of advanced waste-to-energy facilities, the Group drives the development of upstream waste collection industries as well as downstream metal and bottom ash recycling industries, completing a sustainable waste management industry chain.  
本集團透過投資、建造及運營先進的垃圾發電設施帶動上游垃圾清運行業及下游金屬和爐渣回收行業，形成完整的可持續廢物管理產業鏈。

The Group's integrated biomass utilisation projects are located in rural areas, where the Group's operations can foster local economic development through providing job opportunities and improving infrastructure services.

我們的生物質綜合利用項目都是位於市郊地區，因此我們的運營可以提供當地就業機會及改善基礎設施，從而推動當地經濟發展。

In addition, to foster local economic development and employment opportunities, the Group has paid special attention to local talents. During the Reporting Period, many new employees hired are from local regions.

另外，為了促進當地經濟發展和就業機會，本集團特別關顧本地人才，報告期內聘請的新員工不少均來自本地。

SDG  
可持續發展目標

Our Contribution  
我們的貢獻



**Reduce inequality within and among countries**  
**減少國家內部和國家之間的不平等**

By 2030, empower and promote the social, economic and political inclusion of all irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.

到二零三零年，增強所有人的權能，促進他們融入社會、經濟和政治生活，而不論其年齡、性別、殘疾與否、種族、族裔、出身、宗教信仰、經濟地位或其他任何區別。

The Group implements a fair and competitive remuneration and welfare system. The remuneration is determined based on qualification, experience, nature of work, performance and market conditions to strive to create equal employment opportunities.

本集團實施公平及具競爭力的薪酬福利制度，薪酬乃根據資歷、經驗、工作性質、表現以及市場情況計算釐定，致力締造平等的就業機會。

The Group also pays special attention to adopting methods to ensure that the Group's project operations do not affect the dignity, rights, livelihood, or culture of indigenous peoples. Local ethnic minorities and Han ethnic group are treated with the same respect and treatment at work.

本集團亦特別關注採取措施以確保項目運營不會影響原住民族的尊嚴、權利、生計或文化。當地少數民族和漢族在工作上均受到同樣尊重和對待。

SDG

可持續發展目標



**Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels**  
**創建和平、包容的社會以促進可持續發展，讓所有人都能訴諸司法，在各級建立有效、負責和包容的機構**

Substantially reduce corruption and bribery in all their forms.  
大幅減少一切形式的腐敗和賄賂行為。

Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements.  
根據國家立法和國際協議，確保公眾獲得各種資訊，保障基本自由。

Our Contribution

我們的貢獻

To uphold the public's right to know and to appreciate the importance of public supervision, the Group promotes environmental justice by initiating disclosure of air emissions data of the Group's operating waste-to-energy projects on the public domain.

為了維護公眾的知情權和展現公眾監督的重要性，本集團有向大眾公布各垃圾發電運營項目的煙氣排放數據，倡導環境正義。

In terms of social justice, the Group included the social concerns into the entire project life cycle, thus ensuring that any resettlement associated with the Group's project development is properly managed in compliance with applicable laws, and all affected people have received fair and adequate compensation and rehabilitation.

在社會正義方面，本集團將社會關注點納入項目生命週期的整個階段，從而確保與項目開發相關的搬遷安置工作將按照適用法律進行妥善管理，受影響人士將得到公平、充分的補償和修復安排。

The Group also strives to promote a peaceful and inclusive working environment. The Group's *Staff Handbook* and *Employee Code of Conduct* prohibit unethical issues such as corruption, bribery (including any form of facilitating payment), conflict of interest and discrimination within the Group's working environment.

本集團亦致力創建和平及包容的工作環境。我們的《員工手冊》及《員工守則》禁止工作環境內出現任何不道德問題，如貪污、受賄（包括任何形式的疏通費）、利益衝突和歧視等。



## Long-term Targets of the Group

## 本集團的長期目標

Material Topics 實質性議題	Targets 目標	Progress as at 31 December 2023 截至二零二三年 十二月三十一日的進度	Relevant SDGs 相關聯合國 可持續發展目標
<b>Technological R&amp;D</b> 科研及開發	To reach accumulated technological R&D investment of RMB1 billion throughout the five-year period of 2023-2027. 科研及開發於五年間(二零二三至二零二七年)的累計投放資金達人民幣10億元。	Accumulated technological R&D investment reached RMB297 million 累計投放科研及開發資金達人民幣2.97億元(已完成目標約30%)。	
<b>Social Integration</b> 社區共融	To receive 80,000 visitors at our environmental protection facilities each year throughout the five-year period of 2023-2027. 本集團環保設施於五年間(二零二三至二零二七年)每年接待參觀人數達80,000人次。	In 2023, the Group's environmental protection facilities received over 90,000 domestic and foreign visitors from all social circles. 於二零二三年,本集團環保設施共接待國內外各界人士參觀考察超過90,000人次。	 
<b>Occupational Health and Safety</b> 職業健康與安全	To maintain the rate of work-related injuries of employees at 0.25 or below in every year throughout the five-year period of 2023-2027. 員工工傷率於五年間(二零二三至二零二七年)每年維持在0.25或以下。	In 2023, the rate of work-related injuries of employees was 0.10. 二零二三年員工工傷率為0.10。	

## Review of 2023 targets

## 二零二三年目標回顧

Aspect 範疇	Targets 目標		Achieved 已達成
<b>Environment</b> 環境	Total GHG emissions intensity 總溫室氣體排放強度	not more than the average of the past three years 不高於過往三年的均值	✓
	Total GHG emissions reduction 總溫室氣體減排量	increased by 5% compared with the previous year 較去年增5%	✓
	Total GHG emissions avoidance 總溫室氣體排放避免量	increased by 10% compared with the average of the past three years 較過往三年的均值增10%	✓
	PM emission per kWh of green electricity supplied 每千瓦時綠色上網電量的顆粒物排放量	not more than the average of the past seven years 不高於過往七年的均值	✓
	Energy consumption intensity 能源消耗強度	not more than the average of the past three years 不高於過往三年的均值	✓
<b>Society</b> 社會	Farmers' income increased as a result of integrated biomass utilisation projects 生物質綜合利用項目帶動農民增收	increased by 15% compared with the average of the past four years 較過往四年的均值增15%	✓
	Average health and safety training hours per employee 健康與安全培訓平均員工時數	10 hours 10小時	✓
	Overall customer satisfaction rate 客戶整體滿意度	Score 8.5 out of 10 8.5分 (滿分為10分)	✓
<b>Operation</b> 運營	Effective complaints from the public 有效的公眾投訴	not more than 5 cases 不多於5宗	✓
	Suppliers (including contractors) participated in sustainability risk assessment 參與可持續風險評估的供應商 (包括承包商)	amounting to 20% of the total annual purchasing amount 佔全年採購總金額的20%	✓
	Major suppliers' participation in sustainability risk assessment 參與可持續發展風險評估的主要供應商	shall reach 100% 需達到100%	✓
	Suppliers with their own occupational health and safety policies in place 已建立職業健康和安全管理政策的供應商	not less than 40% of suppliers participated in the sustainability risk assessment 佔參與可持續發展風險評估的供應商總數不少於40%	✓

## Economic Performance

## 經濟表現

		2023 HK\$'000 港幣千元	2022 HK\$'000 港幣千元	2021 HK\$'000 港幣千元
<b>Direct Economic Value Generated</b>		<b>產生的直接經濟價值</b>		
Revenue	收益	32,090,207	37,321,229	49,895,384
Other income <sup>(1)</sup>	其他收益 <sup>(1)</sup>	1,064,351	1,170,414	917,338
Other income and gains/(losses), net	其他收入及收益／(虧損) 淨額	(1,209,978)	(1,292,897)	(623,055)
<b>Economic Value Distributed</b>		<b>分配的經濟價值</b>		
Staff costs	員工開支	4,138,122	3,936,061	3,956,078
Other costs <sup>(1)</sup>	其他成本 <sup>(1)</sup>	14,977,391	20,417,383	31,196,852
Finance costs	財務費用	3,527,788	3,488,268 (re-stated) (經重列)	3,079,448
Dividends	股息	1,351,455	1,474,314	2,088,611
Taxes <sup>(2)</sup>	稅項 <sup>(2)</sup>	1,076,607	772,316	955,370
Profit attributable to non-controlling interests	非控股權益應佔盈利	641,428	841,339	1,316,244
Holders of perpetual capital instruments	永續資本工具持有人應佔盈利	226,563	71,686	-
Charitable donations <sup>(3)</sup>	慈善捐款 <sup>(3)</sup>	1,106	3,515	9,734
<b>Economic Value Retained</b>		<b>留存的經濟價值</b>		
Retained for Everbright Environment sustainable operation and development	留存作光大環境的可持續運營和發展	6,004,120	6,193,864 (re-stated) (經重列)	7,587,330

## Operational Performance

## 運營表現

		Unit 單位	2023	2022	2021
<b>Business Performance</b>		<b>業務表現</b>			
On-grid green electricity sold	綠色上網電量	kWh 千瓦時	22,302,289,000	21,385,620,000	19,598,823,000 <sup>(4)</sup>
Steam supplied	蒸汽供應量	Tonne 噸	4,469,800	2,419,000	2,155,000 <sup>(4)</sup>
Household waste processed	生活垃圾處理量	Tonne 噸	52,440,000	48,968,000	43,452,000
Biomass raw materials processed	生物質原材料處理量	Tonne 噸	7,845,000	8,186,000	7,964,000
Hazardous waste and solid waste processed	危廢及固廢處置量	Tonne 噸	449,000	431,000	269,000
Waste water treated <sup>(5)</sup>	污水處理量 <sup>(5)</sup>	m <sup>3</sup> 立方米	1,749,000,000	1,770,260,000	1,698,710,000
Leachate treated <sup>(6)</sup>	滲濾液處理量 <sup>(6)</sup>	m <sup>3</sup> 立方米	12,571,000	11,357,000	9,635,000
COD reduction	COD減排量	Tonne 噸	850,000	824,000	740,000
Average on-grid green electricity sold per tonne of waste processed (environmental energy – waste-to-energy projects)	平均處理每噸垃圾綠色上網電量 (環保能源 – 垃圾發電項目)	kWh/Tonne 千瓦時／噸	326	332	333
<b>Project Overview</b>		<b>項目概覽</b>			
Total number of projects	項目總數	No. 個	592	564	528

Environmental Performance<sup>(7)</sup>環境表現<sup>(7)</sup>

		Unit 單位	2023	2022	2021
<b>GHG Emissions<sup>(8)</sup></b>		<b>溫室氣體排放<sup>(8)</sup></b>			
Scope 1 (direct emissions)	範疇一 (直接排放)	Tonne CO <sub>2</sub> e 噸二氧化碳當量	<b>14,800,577</b>	12,801,212	15,242,858
– incineration of household waste <sup>(9)</sup>	– 生活垃圾焚燒 <sup>(9)</sup>	Tonne CO <sub>2</sub> e 噸二氧化碳當量	<b>14,592,081</b>	12,549,458	15,044,641
– other sources	– 其他來源	Tonne CO <sub>2</sub> e 噸二氧化碳當量	<b>208,496</b>	251,754	198,216
Scope 2 (energy indirect emissions)	範疇二 (能源引致的間接排放)	Tonne CO <sub>2</sub> e 噸二氧化碳當量	<b>519,563</b>	547,406	519,976
Scope 3 (other indirect emissions) <sup>(10)</sup>	範疇三 (其他間接排放) <sup>(10)</sup>	Tonne CO <sub>2</sub> e 噸二氧化碳當量	<b>323,903</b>	171,048	149,598
Total GHG emissions	溫室氣體排放總量	Tonne CO <sub>2</sub> e 噸二氧化碳當量	<b>15,644,043</b>	13,519,667	15,912,431
GHG emissions intensity	溫室氣體排放強度	kg CO <sub>2</sub> e/kWh 公斤二氧化碳當量 /千瓦時	<b>0.70</b>	0.63	0.81
GHG emissions avoidance <sup>(11)</sup>	溫室氣體排放避免量 <sup>(11)</sup>	Tonne CO <sub>2</sub> e 噸二氧化碳當量	<b>26,049,149</b>	20,463,179	20,893,834
GHG emissions reduction <sup>(12)</sup>	溫室氣體減排量 <sup>(12)</sup>	Tonne CO <sub>2</sub> e 噸二氧化碳當量	<b>10,405,106</b>	6,943,512	4,981,403
<b>Key Air Emissions<sup>(13)</sup></b>		<b>主要煙氣排放<sup>(13)</sup></b>			
Particulate matter	顆粒物	Tonne 噸	<b>626</b>	641	559
Sulphur dioxide (SO <sub>2</sub> )	二氧化硫	Tonne 噸	<b>5,750</b>	4,430	4,003
Nitrogen oxides (NO <sub>x</sub> )	氮氧化物	Tonne 噸	<b>26,716</b>	20,077	22,468
<b>Energy Consumption<sup>(14)</sup></b>		<b>能源消耗<sup>(14)</sup></b>			
Natural gas	天然氣	GJ 吉焦	<b>554,570</b>	531,130	294,848
Diesel	柴油	GJ 吉焦	<b>1,456,471</b>	2,370,146	1,719,249
Petrol	汽油	GJ 吉焦	<b>67,023</b>	64,942	1,458,031
Liquefied petroleum gas	液化石油氣	GJ 吉焦	<b>9</b>	9	2
Non-renewable electricity	非再生能源電力	GJ 吉焦	<b>3,165,449</b>	2,663,292	3,153,814
Renewable electricity	可再生電力	GJ 吉焦	<b>10,979,218</b>	24,745,094	11,477,932
Total non-renewable energy consumed	非再生能源消耗總量	GJ 吉焦	<b>5,243,523</b>	5,629,519	6,625,944
Non-renewable energy consumption intensity	非再生能源消耗強度	kJ/kWh 千焦/千瓦時	<b>235</b>	263	338
Total energy consumed	總能源消耗量	GJ 吉焦	<b>16,222,741</b>	30,374,613	18,103,875
Energy consumption intensity	能源強度	kJ/kWh 千焦/千瓦時	<b>727</b>	1,420	924

		Unit 單位	2023	2022	2021
<b>Freshwater Consumption</b>		<b>淡水消耗</b>			
Total freshwater consumed	淡水消耗總量	m <sup>3</sup> 立方米	80,165,527 <sup>(15)</sup>	68,677,294 <sup>(15)</sup>	75,307,158
Freshwater consumption intensity	淡水消耗強度	m <sup>3</sup> /kWh 立方米/千瓦時	0.004	0.003	0.004
<b>Hazardous Waste Generated</b>		<b>有害廢棄物產生</b>			
Fly ash generated from waste-to-energy projects and integrated biomass utilisation projects (waste-to-energy)	垃圾發電項目和生物質綜合利用項目(垃圾發電)所產生的飛灰	Tonne 噸	1,711,021	1,558,606	1,552,034
Fly ash and bottom ash generated from hazardous waste incineration projects	危廢處置項目所產生的飛灰及爐渣	Tonne 噸	78,887	129,695	34,652
Total hazardous waste generated	有害廢棄物產生總量	Tonne 噸	1,789,908	1,688,301	1,586,686
Hazardous waste intensity	有害廢棄物強度	Tonne/MWh 噸/兆瓦時	0.08	0.08	0.08
<b>Non-Hazardous Waste Generated</b>		<b>無害廢棄物產生</b>			
Furnace ash generated from integrated biomass utilisation projects (biomass)	生物質綜合利用項目(生物質)所產生的爐灰	Tonne 噸	776,955	571,870	283,189
Bottom ash generated from waste-to-energy projects and integrated biomass utilisation projects	垃圾發電項目和生物質綜合利用項目所產生的爐渣	Tonne 噸	14,214,569	12,417,344	9,811,898
Sludge generated from waste water treatment projects, waste-to-energy projects and integrated biomass utilisation projects <sup>(16)</sup>	污水處理項目、垃圾發電項目、固廢處置項目和生物質綜合利用項目所產生的污泥 <sup>(16)</sup>	Tonne 噸	1,595,851	1,357,888	1,611,679
General waste generated	一般廢物產生量	Tonne 噸	1,032	4,981	5,708
Total non-hazardous waste generated	無害廢棄物產生總量	Tonne 噸	16,588,407	14,352,081	11,712,475
Non-hazardous waste intensity	無害廢棄物強度	Tonne/MWh 噸/兆瓦時	0.74	0.67	0.60



## Water Withdrawal, Discharge and Consumption Performance

## 取水、排水及耗水表現

		2023		
		All areas 所有地區	Areas with water stress 具水資源壓力 的地區	
<b>Water Withdrawal</b> 取水量				
<b>Water withdrawal by source (m<sup>3</sup>)</b> 依來源劃分取水量 (立方米)	<b>Surface water (total)</b> 地表水 (總量)	76,347,934	37,698,204	
	≤1,000mg/L Total dissolved solids ≤1,000mg/L總溶解固體	76,347,934	37,698,204	
	>1,000mg/L Total dissolved solids >1,000mg/L總溶解固體	–	–	
	<b>Groundwater (total)</b> 地下水 (總量)	1,009,831	874,531	
	≤1,000mg/L Total dissolved solids ≤1,000mg/L總溶解固體	1,009,831	874,531	
	>1,000mg/L Total dissolved solids >1,000mg/L總溶解固體	–	–	
	<b>Seawater (total)</b> 海水 (總量)	–	–	
	≤1,000mg/L Total dissolved solids ≤1,000mg/L總溶解固體	–	–	
	>1,000mg/L Total dissolved solids >1,000mg/L總溶解固體	–	–	
	<b>Produced water (total)</b> 產出水 (總量)	28,047,988	19,842,414	
	≤1,000mg/L Total dissolved solids ≤1,000mg/L總溶解固體	28,047,988	19,842,414	
	>1,000mg/L Total dissolved solids >1,000mg/L總溶解固體	–	–	
	<b>Third-party water (total)</b> 第三方的水 (總量)	1,796,683,823	1,322,012,345	
	≤1,000mg/L Total dissolved solids ≤1,000mg/L總溶解固體	1,796,683,823	1,322,012,345	
	>1,000mg/L Total dissolved solids >1,000mg/L總溶解固體	–	–	
	<b>Total third-party water withdrawal by the withdrawal source</b> 依取水來源劃分 第三方的總取水量			
	Surface water 地表水	28,765,226	10,504,941	
	Groundwater 地下水	–	–	
	Seawater 海水	–	–	
Waste water 污水	1,749,240,597	1,306,523,004		
Produced water 產出水	18,678,000	4,984,400		
<b>總取水量 (立方米)</b>	<b>Surface water (total) + groundwater (total) + seawater (total) + produced water (total) + third-party water (total)</b> 地表水 (總量) + 地下水 (總量) + 海水 (總量) + 產出水 (總量) + 第三方的水 (總量)	<b>1,902,089,576</b>	<b>1,380,427,494</b>	

		2023	
		All areas 所有地區	Areas with water stress 具水資源壓力 的地區
<b>Water Discharge</b> 排水量			
<b>Water discharge by destination (m<sup>3</sup>)</b> 依來源劃分取水量 (立方米)	Surface water 地表水	1,164,036,274	892,393,437
	Groundwater 地下水	-	-
	Seawater 大海	139,823,329	139,823,329
	Third-party water (total) 第三方的水 (總量)	201,372,356	116,935,586
	- Waste water treatment plants operated by third parties - 第三方機構運營的污水處理廠	142,963,650	58,527,074
	- Water supplied to third parties for use as reusable water - 作回用水供應至第三方使用	58,408,706	58,408,512
<b>Total water discharge (m<sup>3</sup>)</b> 總排水量 (立方米)	<b>Surface water + groundwater + seawater + third-party water (total)</b> 地表水+地下水+海水+第三方的水 (總量)	1,505,231,959	1,149,152,352
<b>Water discharge by freshwater and other water (m<sup>3</sup>)</b> 依總溶解固體濃度劃分之排水量 (立方米)	≤1,000mg/L Total dissolved solids ≤1,000mg/L總溶解固體	1,505,231,959	1,149,152,352
	>1,000mg/L Total dissolved solids >1,000mg/L總溶解固體	-	-
<b>Water Consumption<sup>(17)</sup></b> 耗水量 <sup>(17)</sup>			
<b>Total water consumption (m<sup>3</sup>)</b> 耗水量 (立方米)		396,857,617	231,275,143

## Social Performance

## 社會表現

Employee Profile<sup>(18)</sup>員工概況<sup>(18)</sup>

				2023	2022	2021
<b>Total Number of Employees</b>		<b>員工總數</b>		<b>11,931</b>	12,396	11,330
<b>By gender</b>		<b>按性別劃分</b>				
Male		男性		<b>9,101</b>	9,427	8,592
Female		女性		<b>2,830</b>	2,969	2,738
<b>By age</b>		<b>按年齡劃分</b>				
30 and below		30歲及以下		<b>3,605</b>	3,851	3,740
31-40		31-40歲		<b>5,475</b>	5,753	5,137
41-50		41-50歲		<b>2,170</b>	2,087	1,820
51 and above		51歲及以上		<b>681</b>	705	633
<b>By employment contract</b>		<b>按合約類別劃分</b>				
Permanent contract	長期合約	Male	男性	<b>4,276</b>	4,363	2,147
		Female	女性	<b>1,316</b>	1,315	746
		Mainland China	中國內地	<b>5,096</b>	5,206	2,434
		Hong Kong	香港	<b>74</b>	75	78
		Singapore	新加坡	<b>3</b>	3	4
		Vietnam	越南	<b>41</b>	32	32
		Poland	波蘭	<b>378</b>	362	345
		Male	男性	<b>4,825</b>	5,070	6,445
		Female	女性	<b>1,514</b>	1,648	1,992
		Male	男性	<b>6,187</b>	6,544	8,270
Temporary/fixed-term contract	臨時/定期合約	Hong Kong	香港	<b>0</b>	0	0
		Singapore	新加坡	<b>1</b>	0	0
		Vietnam	越南	<b>62</b>	52	28
		Poland	波蘭	<b>89</b>	122	139

		2023	2022	2021
<b>By employment type</b>	<b>按受聘類別劃分</b>			
Full-time	全職	11,931	12,396	11,330
Part-time	兼職	0	0	0
<b>By employee ranking</b>	<b>按員工職級劃分</b>			
Senior management	高級管理人員	539	509	501
Middle-level management	中層管理人員	2,007	2,148	1,866
General and technical staff	一般及技術員	9,385	9,739	8,963
<b>By geographical region</b>	<b>按地區劃分</b>			
Mainland China	中國內地	11,283	11,750	10,704
Hong Kong	香港	74	75	78
Singapore	新加坡	4	3	4
Vietnam	越南	103	84	60
Poland	波蘭	467	484	484
Local employees <sup>(19)</sup>	本地員工 <sup>(19)</sup>	9,420	9,103	8,317
Non-local employees <sup>(19)</sup>	外地員工 <sup>(19)</sup>	2,511	3,293	3,013
<b>By ethnicity</b>	<b>按民族劃分</b>			
Chinese (Han)	中國人 (漢族)	11,090	11,554	10,507
Chinese (ethnic minorities)	中國人 (少數族裔)	268	271	275
Sinaporean (non-minority group)	新加坡人 (非少數族裔)	3	3	4
Vietnamese (non-minority group)	越南人 (非少數族裔)	103	84	60
Polish (non-minority group)	波蘭人 (非少數族裔)	467	484	484

## Employee Diversity

## 員工多元化

		2023	2022	2021
<b>Percentage of Female Employees by Positions</b>	<b>按職位劃分的女性員工比率</b>			
All management positions	所有管理人員	16.46%	18.22%	18.12%
Senior management	高級管理人員	12.24%	11.00%	11.98%
Middle-level and junior management	中層及初級管理人員	17.59%	19.93%	19.77%
Management in revenue-generating functions	創收職能中的管理人員	12.10%	10.97%	9.72%
STEM-related positions	科學、科技、工程及數學相關職位	13.95%	14.49%	15.70%

		2023		2022		2021	
<b>Percentage of Employees by Ethnicity</b>	<b>按民族劃分的員工比率</b>	<b>All full-time employees</b>	<b>All management positions</b>	All full-time employees	All management positions	All full-time employees	All management positions
		<b>所有全職員工</b>	<b>所有管理人員</b>	所有全職員工	所有管理人員	所有全職員工	所有管理人員
Chinese (Han)	中國人 (漢族)	92.95%	95.80%	93.21%	93.44%	92.74%	91.51%
Chinese (ethnic minorities)	中國人 (少數族裔)	2.25%	2.63%	2.19%	2.71%	2.42%	3.80%
Singaporean (non-minority group)	新加坡人 (非少數族裔)	0.03%	0.04%	0.02%	0.04%	0.04%	0.13%
Vietnamese (non-minority group)	越南人 (非少數族裔)	0.86%	0.08%	0.68%	0.08%	0.53%	0.04%
Polish (non-minority group)	波蘭人 (非少數族裔)	3.91%	1.45%	3.90%	3.73%	4.27%	4.52%

		2023	2022	2021
Percentage of employees with disabilities	殘疾員工比率	0.14%	0.15%	0.15%

## Key Statistics

### 主要數據

## New Hires and Employee Turnover

## 新聘及離職員工

		2023		2022		2021	
		Total Number	Percentage of employees in this category	Total Number	Percentage of employees in this category	Total Number	Percentage of employees in this category
		總人數	佔該類別員工百分比	總人數	佔該類別員工百分比	總人數	佔該類別員工百分比
<b>Total Number of New Hires</b>	<b>新聘員工總數</b>	<b>1,184</b>	<b>9.92%</b>	<b>1,136</b>	<b>9.16%</b>	<b>738</b>	<b>6.51%</b>
<b>By gender</b>	<b>按性別劃分</b>						
Male	男性	943	10.36%	873	9.26%	547	6.37%
Female	女性	241	8.52%	263	8.86%	191	6.98%
<b>By age</b>	<b>按年齡劃分</b>						
30 and below	30歲及以下	800	22.19%	602	15.63%	356	9.52%
31-40	31-40歲	317	5.79%	411	7.14%	281	5.47%
41-50	41-50歲	51	2.35%	100	4.79%	70	3.85%
51 and above	51歲及以上	16	2.35%	23	3.26%	31	4.90%
<b>By geographical region</b>	<b>按地區劃分</b>						
Mainland China	中國內地	1,085	9.62%	969	8.25%	602	5.62%
Hong Kong	香港	7	9.46%	6	8.00%	16	20.51%
Singapore	新加坡	0	0%	0	0%	1	25.00%
Vietnam	越南	31	30.10%	50	59.52%	15	25.00%
Poland	波蘭	61	13.06%	111	22.93%	104	21.49%
Local employees <sup>(19)</sup>	本地員工 <sup>(19)</sup>	985	10.46%	728	8.00%	455	5.47%
Non-local employees <sup>(19)</sup>	外地員工 <sup>(19)</sup>	199	7.93%	408	12.39%	283	9.39%
<b>Total Number of Employee Turnover (Resignation/Retirement)</b>	<b>員工流失(離職/退休)總數</b>	<b>1,295</b>	<b>10.85%</b>	<b>1,526</b>	<b>12.31%</b>	<b>2,296</b>	<b>20.26%</b>
<b>By gender</b>	<b>按性別劃分</b>						
Male	男性	1,001	11.00%	1,174	12.45%	1,900	22.11%
Female	女性	294	10.39%	352	11.86%	396	14.46%
<b>By age</b>	<b>按年齡劃分</b>						
30 and below	30歲及以下	440	12.21%	629	16.33%	1,029	27.51%
31-40	31-40歲	546	9.97%	686	11.92%	1,012	19.70%
41-50	41-50歲	200	9.22%	138	6.61%	182	10.00%
51 and above	51歲及以上	109	16.01%	73	10.35%	73	11.53%
<b>By geographical region</b>	<b>按地區劃分</b>						
Mainland China	中國內地	1,194	10.58%	1,411	12.01%	2,191	20.47%
Hong Kong	香港	11	14.86%	10	13.33%	11	14.10%
Singapore	新加坡	0	0%	1	33.33%	1	25.00%
Vietnam	越南	12	11.65%	26	30.95%	11	18.33%
Poland	波蘭	78	16.70%	78	16.12%	82	16.94%



## Training and Development

## 培訓及發展

		2023 Hours 小時	2022 Hours 小時	2021 Hours 小時
<b>Total Training Hours</b>	<b>總培訓時數</b>	<b>1,097,572</b>	659,468	904,952
<b>Average Training Hours Per Employee</b>	<b>人均培訓時數</b>	<b>92</b>	53	80
<b>By gender</b>	<b>按性別劃分</b>			
Male	男性	<b>102</b>	57	91
Female	女性	<b>59</b>	41	46
<b>By employee ranking</b>	<b>按員工職級劃分</b>			
Senior management	高級管理人員	<b>53</b>	65	39
Middle-level management	中層管理人員	<b>66</b>	49	57
General and technical staff	一般及技術員工	<b>100</b>	53	87

## Health and Safety

## 健康與安全

		2023	2022	2021
<b>Employees</b>	<b>員工</b>			
Number of work-related fatalities	因工死亡個案	<b>0</b>	0	1
Rate of work-related fatalities <sup>(20)</sup>	因工死亡率 <sup>(20)</sup>	<b>0</b>	0	0.01
Number of occupational disease cases	職業病個案	<b>0</b>	0	0
Number of high-consequence work-related injuries (excluding fatalities) <sup>(21)</sup>	嚴重工傷個案 (不包括死亡個案) <sup>(21)</sup>	<b>0</b>	0	0
Rate of high-consequence work-related injuries (excluding fatalities) <sup>(22)</sup>	嚴重工傷率 (不包括死亡個案) <sup>(22)</sup>	<b>0</b>	0	0
Number of work-related injuries <sup>(23)</sup>	工傷個案 <sup>(23)</sup>	<b>11</b>	10	16
Rate of work-related injuries <sup>(24)</sup>	工傷率 <sup>(24)</sup>	<b>0.10</b>	0.08	0.14
Days of absence from work due to work-related injury	因工傷缺勤日數	<b>617</b>	434	1,267
Lost-time injuries frequency rate (LTIFR) <sup>(25)</sup>	損失工作日事故頻率 <sup>(25)</sup>	<b>0.50</b>	0.40	0.70
<b>Third-Party Contractors and Sub-Contractors Working On-site</b>	<b>第三方承包商及分包商駐場工人</b>			
Number of work-related fatalities	因工死亡個案	<b>0</b>	3	0
Rate of work-related fatalities <sup>(20)</sup>	因工死亡率 <sup>(20)</sup>	<b>0</b>	0.02	0
Number of occupational disease cases	職業病個案	<b>0</b>	0	0
Number of high-consequence work-related injuries (excluding fatalities) <sup>(21)</sup>	嚴重工傷個案 (不包括死亡個案) <sup>(21)</sup>	<b>0</b>	0	0
Rate of high-consequence work-related injuries (excluding fatalities) <sup>(22)</sup>	嚴重工傷率 (不包括死亡個案) <sup>(22)</sup>	<b>0</b>	0	0
Number of work-related injuries <sup>(23)</sup>	工傷個案 <sup>(23)</sup>	<b>4</b>	9	15
Rate of work-related injuries <sup>(24)</sup>	工傷率 <sup>(24)</sup>	<b>0.02</b>	0.05	0.07
Days of absence from work due to work-related injury	因工傷缺勤日數	<b>525</b>	456	808
Lost-time injuries frequency rate (LTIFR) <sup>(25)</sup>	損失工作日事故頻率 <sup>(25)</sup>	<b>0.10</b>	0.25	0.35

## Remuneration

## 薪酬

		2023	2022	2021
<b>Annual Remuneration and Ratio</b>		<b>年度總薪酬及比例數據</b>		
Total remuneration of the highest-paid individual (HK\$)	最高薪人士的薪酬總額 (港幣元)	3,061,926	3,936,960	6,450,468
The median of the total remuneration of all employees (excluding the highest-paid individual) (HK\$)	全體員工薪酬總額的中位數 (不包括最高薪人士) (港幣元)	116,246	117,465	123,383
Ratio of the total remuneration of the highest-paid individual to the median of the total remuneration of all employees (excluding the highest-paid individual)	最高薪人士的薪酬總額與全體員工 (不包括最高薪人士) 薪酬總額的中位數的比例	26:1	34:1	52:1
Ratio of the annual percentage change in total remuneration of the highest-paid individual to the median percentage change in annual total remuneration of all employees (excluding the highest paid individual)	最高薪人士薪酬總額的年度百分比變化與全體員工 (不包括最高薪人士) 薪酬總額中位數的年度百分比變化的比例	21:1	8:1 (re-stated) (經重列)	0.38:1
<b>Average Remuneration by Employee Ranking (HK\$)</b>		<b>各級員工職級的平均薪酬 (港幣)</b>		
<b>Senior management</b>		<b>高級管理人員</b>		
Basic salary of senior management (male)	高級管理人員的基本工資 (男)	303,856	326,870	364,014
Basic salary of senior management (female)	高級管理人員的基本工資 (女)	272,672	298,751	366,056
Ratio of the basic salary of senior management (female) to the basic salary of senior management (male)	高級管理人員的基本工資 (女) 與高級管理人員的基本工資 (男) 的比例	0.90:1	0.91:1	1.01:1
Basic salary and bonus of senior management (male)	高級管理人員的基本工資和獎金 (男)	464,939	457,712	612,865
Basic salary and bonus of senior management (female)	高級管理人員的基本工資和獎金 (女)	423,225	423,400	626,391
Ratio of the basic salary and bonus of senior management (female) to the basic salary and bonus of senior management (male)	高級管理人員的基本工資和獎金 (女) 與高級管理人員的基本工資和獎金 (男) 的比例	0.91:1	0.93:1	1.02:1
<b>Middle-level management</b>		<b>中層管理人員</b>		
Basic salary of middle-level management (male)	中層管理人員的基本工資 (男)	189,817	195,132	205,789
Basic salary of middle-level management (female)	中層管理人員的基本工資 (女)	192,797	165,648	171,907
Ratio of the basic salary of middle-level management (female) to the basic salary of middle-level management (male)	中層管理人員的基本工資 (女) 與中層管理人員的基本工資 (男) 的比例	1.02:1	0.85:1	0.84:1
Basic salary and bonus of middle-level management (male)	中層管理人員的基本工資和獎金 (男)	286,589	258,648	315,089
Basic salary and bonus of middle-level management (female)	中層管理人員的基本工資和獎金 (女)	280,139	222,600	259,410
Ratio of the basic salary and bonus of middle-level management (female) to the basic salary and bonus of middle-level management (male)	中層管理人員的基本工資和獎金 (女) 與中層管理人員的基本工資和獎金 (男) 的比例	0.98:1	0.86:1	0.82:1
<b>General and technical staff</b>		<b>一般及技術員工</b>		
Basic salary of general and technical staff (male)	一般及技術員工的基本工資 (男)	109,311	107,194	112,589
Basic salary of general and technical staff (female)	一般及技術員工的基本工資 (女)	88,684	91,451	97,224
Ratio of the basic salary of general and technical staff (female) to the basic salary of general and technical staff (male)	一般及技術員工的基本工資 (女) 與一般及技術員工的基本工資 (男) 的比例	0.81:1	0.85:1	0.86:1
Basic salary and bonus of general and technical staff (male)	一般及技術員工的基本工資和獎金 (男)	135,512	128,334	153,232
Basic salary and bonus of general and technical staff (female)	一般及技術員工的基本工資和獎金 (女)	113,785	111,745	132,638
Ratio of the basic salary and bonus of general and technical staff (female) to the basic salary and bonus of general and technical staff (male)	一般及技術員工的基本工資和獎金 (女) 與一般及技術員工的基本工資和獎金 (男) 的比例	0.84:1	0.87:1	0.87:1

Notes:

- (1) Represents other costs, share of profits of joint ventures and share of profits/losses of associates but excludes depreciation and amortisation for the year.
- (2) Represents current income tax and the under or over provision in prior years but excludes deferred tax for the year.
- (3) All donations in 2023 were made in cash.
- (4) These numbers were rounded to the nearest thousand to align with the numbers presented in Annual Report 2021.
- (5) Waste water treatment includes all operating municipal and industrial waste water treatment projects under environmental water.
- (6) Leachate treatment includes all operating waste-to-energy projects and integrated biomass utilisation projects.
- (7) Due to rounding, the numbers may not add up to the total, and there may be a slight discrepancy between the items of the statistics table and the corresponding analysed data as shown in other chapters of the Report.
- (8) The calculation of GHG emissions and avoidance is referenced to CDM methodologies *ACM0022: Alternative Waste Treatment Processes (Version 2.0)*, *AM0080: Mitigation of Greenhouse Gases Emissions with Treatment of Wastewater in Aerobic Wastewater Treatment Plants (Version 1.0)*, *ACM0018: Electricity Generation from Biomass Residues in Power-Only Plants (Version 3.0)*, *ACM0006: Electricity and Heat Generation from Biomass (Version 14.0)* and *AMS-I.C.: Thermal Energy Production With or Without Electricity (Version 20.0)*.
- (9) GHG emissions (scope 1) from the incineration of household waste are calculated based on the fraction of fossil carbon in total carbon content of the household waste. The calculation principle was primarily based on CDM methodologies, however, some of the coefficients or emission factors that are more in line with the PRC's situation were adopted. In order to more accurately reflect the actual conditions, we have adopted the use of measured moisture content in our calculations this year, resulting in an increase in Scope 1 emissions. Furthermore, the amount of such GHG emissions may substantially fluctuate from time to time due to the varying composition of the household waste received, which is beyond Everbright Environment's control.
- (10) GHG emissions from air travel are calculated by ICAO Carbon Emissions Calculator.
- (11) "GHG Emissions Avoidance" refers to the emissions that could otherwise have been produced from sources such as the use of fossil fuel power and from waste decomposition at the landfills, in the absence of Everbright Environment's key projects (Waste-to-energy and integrated biomass utilisation in particular). It is an optimistic estimation based on referenced CDM methodologies. The actual contribution is dependent on the "without project" scenario of each location, which may vary case by case. The value is not a confirmation of GHG removal from the atmosphere and is for reference only.

附註：

- (1) 代表年度的其他成本、所佔合營企業盈利及所佔聯營公司虧損，但不包括年度的折舊及攤銷。
- (2) 代表本期所得稅及過往年度撥備過剩／撥備不足，但不包括本年度的遞延稅項。
- (3) 二零二三年所有捐款均為現金。
- (4) 數字經四捨五入調整至最接近的千位數，並與二零二一年年報中載列的數字保持一致。
- (5) 污水處理包括環保水務所有運營生活及工業污水處理項目。
- (6) 滲濾液處理包括所有運營垃圾發電項目及生物質綜合利用項目。
- (7) 由於捨入關係，數值加起來可能不等於總計，而表內個別項目的數字經分析計算後可能與本報告其他章節內的相關數據略有出入。
- (8) 溫室氣體的排放及避免的計算參照CDM方法《ACM0022：多選垃圾處理方式（2.0版）》、《AM0080：透過在有氧污水處理廠處理污水減少溫室氣體排放（1.0版）》、《ACM0018：純發電廠利用生物廢棄物發電（3.0版）》、《ACM0006：生物質熱電聯供（14.0版）》及《AMS-I.C.：電力或非電力用戶提供熱能（20.0版）》。
- (9) 生活垃圾焚燒引致的溫室氣體排放（範疇一）以生活垃圾中化石碳佔總碳的比例為計算基礎。我們的計算原則主要基於CDM方法，但採納了一些更符合中國國情的系數和排放因子。為了更確實地反映實際情境，我們在今年的生活垃圾焚燒溫室氣體排放計算中改用實測含水量，因此範疇一排放量有所增長。此外生活垃圾成分的差異可對此溫室氣體排放不時造成大幅波動，這並不屬於光大環境的控制範圍之內。
- (10) 飛機差旅的溫室氣體排放以國際民航組織的碳排放計算器計算得出。
- (11) 「溫室氣體排放避免量」是指在沒有光大環境的重點項目（尤其是垃圾發電和生物質綜合利用）的情況下原本可能產生的排放量，例如使用化石燃料發電和垃圾在填埋場分解產生的溫室氣體排放。這是基於參考CDM方法得出的一個樂觀估計。實際貢獻取決於每個地點的「沒有項目」情境，而個別具體狀況可能會有不同。該值並非從大氣中移除溫室氣體的確認值，數字僅供參考。

## Key Statistics

### 主要數據

- (12) GHG emissions reductions refer to total GHG emissions avoidance minus total GHG emissions. This figure is for reference only. (12) 溫室氣體減排量是指溫室氣體排放避免總量減去溫室氣體排放總量。該數字僅供參考。
- (13) Includes all projects of environmental energy and greentech sectors that involve combustion and incineration operations. (13) 包括環保能源及綠色環保板塊的所有燃燒和焚燒運營項目。
- (14) Relevant energy conversion factors from *China Energy Statistical Yearbook 2022* are adopted. (14) 能量轉換計算採用《中國能源統計年鑒2022》的相關能量轉換因子。
- (15) Environmental water's river-basin ecological restoration projects, raw water projection project, water supply projects and reusable water projects were excluded from the calculation of freshwater consumption. This is with due consideration that those projects' key objectives are to purify water for use by the public/clients, therefore the freshwater processed were not considered as consumed. (15) 淡水消耗的計算並不包括環保水務旗下的流域治理項目、原水保護項目、供水項目及中水回用項目。這是考慮到這些項目的主要目標是淨化水資源供公眾／客戶使用，因此，涉及的淡水處理並不視為被消耗。
- (16) Includes all operating environmental energy's waste-to-energy projects, greentech's integrated biomass utilisation projects and solid waste treatment projects, and environmental water's waste water treatment projects. (16) 包括環保能源所有的運營垃圾發電項目、綠色環保的生物質综合利用項目和固廢處置項目，及環保水務所有的運營污水處理項目。
- (17) The total water consumption is calculated based on *GRI 303: Water and Effluents 2018*: Total water consumption = Total water withdrawal – Total water discharge. (17) 總耗水量按照《GRI 303：水資源與污水2018》計算：總耗水量=總取水量－總排水量。
- (18) Data as at 31 December 2023. (18) 數據截至二零二三年十二月三十一日。
- (19) Employees hired from the same province in Mainland China are regarded as local employees, whereas the employees hired from other provinces in Mainland China are regarded as non-local employees. (19) 在中國內地同省受聘的員工被視為本地員工，而在中國內地外省受聘的員工則被視為外地員工。
- (20) Rate of work-related fatalities = (Total number of fatalities as a result of work-related injury/Total working hours) x 200,000. (20) 因工死亡率= (因工傷所造成的死亡個案總計／工作總時數) x200,000。
- (21) High-consequence work-related injuries (excluding fatalities) refer to work-related injuries that result in an injury from which the worker cannot, does not, or is not expected to recover fully to pre-injury health status within 6 months. (21) 嚴重工傷(不包括死亡個案)是指導致工作者無法或難於六個月內恢復至受傷前健康狀態的工傷。
- (22) Rate of high-consequence work-related injuries (excluding fatalities) = (Total number of high-consequence work-related injuries (excluding fatalities)/Total working hours) x 200,000. (22) 嚴重工傷率(不包括死亡個案)= (嚴重工傷個案總計(不包括死亡個案)／工作總時數) x200,000。
- (23) Work-related injuries also include work-related fatalities and high-consequence work-related injuries. (23) 工傷亦包含因工死亡及嚴重工傷。
- (24) Rate of work-related injuries = (Total number of work-related injuries/Total working hours) x 200,000. (24) 工傷率= (工傷個案總計／工作總時數) x200,000。
- (25) LTIFR = (Number of lost-time injuries/Total working hours) x 1,000,000. (25) 損失工作日事故頻率= (損失工作日事故總計／工作總時數) x1,000,000。



## VERIFICATION STATEMENT

### Scope and Objective

Hong Kong Quality Assurance Agency ("HKQAA") was commissioned by China Everbright Environment Group Limited ("Everbright Environment ") to undertake an independent verification for the Sustainability Report 2023 (hereinafter called the "Report"). The Report stated the sustainability performance of Everbright Environment in the period of 1 January, 2023 to 31 December, 2023.

The Report has been prepared in accordance with the Global Reporting Initiative (GRI) Standards 2021, Rule 13.91 and Appendix C2 Environmental, Social and Governance Reporting Guide ("ESG Reporting Guide") of the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited (the "SEHK Listing Rules").

### Level of Assurance and Methodology

The process applied in this verification was based on the International Standard on Assurance Engagements 3000 (Revised), Assurance Engagements Other than Audits or Reviews of Historical Financial Information issued by the International Auditing and Assurance Standards Board. Our evidence gathering process was designed to obtain a reasonable level of assurance as set out in the standard for the purpose of devising the verification conclusion. The extent of this verification process undertaken covered the criteria set out in the GRI Standards and the SEHK Listing Rules (Rule 13.91 and Appendix C2 ESG Reporting Guide).

HKQAA's verification process included verifying the mechanisms for collecting, calculating and reporting the sustainability performance information, reviewing relevant documented information, interviewing responsible personnel with accountability for preparing the Report and verifying selected representative samples of data and information. Raw data and supporting evidence of the selected samples were also thoroughly examined during the verification process.

### Independence

Everbright Environment is responsible for the collection and preparation of the information presented. HKQAA did not involve in the collection and calculation of data or the compilation of the reporting contents. Our verification activities were entirely independent and there was no relationship between HKQAA and Everbright Environment that would affect the impartiality of the verification.

### Conclusion

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

- The Report has been prepared in accordance with the Global Reporting Initiative (GRI) Standards 2021 and the SEHK Listing Rules (Rule 13.91 and Appendix C2 the ESG Reporting Guide);
- The Report illustrates the sustainability performance of Everbright Environment, covering all material aspects, in a balanced, comparable, clear and timely manner; and
- The data and information disclosed in the Report are accurate, reliable and complete.

Nothing has come to HKQAA's attention that the selected sustainability performance information and data contained in the Report has not been prepared and presented fairly and honestly, in all material aspects, in accordance with the verification criteria. In conclusion, the Report reflects truthfully of Everbright Environment 's sustainability performance that is commensurate with the sustainability context and materiality of the company.

### Signed on behalf of Hong Kong Quality Assurance Agency

KT Ting  
Chief Operating Officer  
2 April 2024





## 核實聲明

### 範圍及目的

香港品質保證局已對中國光大環境(集團)有限公司(「光大環境」)二零二三年可持續發展報告(以下簡稱「報告」)的內容進行獨立驗證。該報告涵蓋光大環境在 2023 年 1 月 1 日至 2023 年 12 月 31 日期間,有關可持續發展方面工作的表現。

此核實聲明的目的是對報告所記載之內容提供合理保證。報告是根據全球報告倡議組織(GRI)標準 2021,香港聯合交易所有限公司證券上市規則(「聯交所上市規則」)第 13.91 條及附錄 C2 所載的《環境、社會及管治報告指引》的要求編製。

### 保證程度和核實方法

此次驗證工作是依據 International Auditing and Assurance Standards Board (國際審計與核證準則委員會)發布的 International Standard on Assurance Engagements 3000 (Revised), Assurance Engagements Other Than Audits or Reviews of Historical Financial Information (<國際核證聘用準則 3000 (修訂版), 歷史財務資料審計或審閱以外的核證聘用) 執行。收集核實證據的過程是參考國際準則所訂立進行合理保證的原則而制定以確保能擬定核實結論。此外,核實的內容是按照 GRI 標準 2021、聯交所上市規則(第 13.91 條和附錄 C2 (環境、社會及管治報告指引))而定。

香港品質保證局的核實過程包括驗證了了光大環境的可持續發展表現資料收集、計算和彙報的機制,檢閱有關文件資料,與負責編制報告的代表面談,選取具有代表性的數據和資料進行查核。相關原始數據和支持證據亦於核實過程中經過詳細審閱。

### 獨立性

光大環境負責收集和準備所有在報告內陳述的資料。香港品質保證局不涉及收集和計算此報告內的數據或參與編撰此報告。就提供此核實服務而言,香港品質保證局與光大環境之間並無任何會影響核實公正的關係,我們的核實過程是完全獨立的。

### 結論

基於是次的驗證結果,香港品質保證局對報告作出合理保證並總結:

- 報告是按照 GRI 標準 2021、聯交所上市規則(第 13.91 條和附錄 C2 (環境、社會及管治報告指引))編製而定;
- 報告平衡、具比較性、清晰、一致和適時地將重要的可持續發展表現範疇和議題作出闡述;及
- 報告內的數據和資料準確、可靠和完整。

根據驗證準則,香港品質保證局沒有發現在報告內闡述的可持續發展表現資訊和資料並非公平和如實地按照核實標準在主要範疇作出披露。總體而言,此報告能如實地反映光大環境的可持續發展表現並與其具體的可持續發展情況和重要性相稱。

### 香港品質保證局代表簽署

丁國滔  
運營總監  
2024 年 4 月 2 日



14902962-OTH

## Verification Opinion

### Scope and Objectives

Hong Kong Quality Assurance Agency ("HKQAA") has been commissioned by China Everbright Environment Group Limited ("CEEGL") to conduct an independent verification of the Greenhouse Gases ("GHG") emissions inventory ("Emissions Inventory") for the period 1<sup>st</sup> January 2023 to 31<sup>st</sup> December 2023. The aim of this verification is to provide a reasonable assurance on the data consolidated in the Emissions Inventory compiled by CEEGL using the operational control approach against the requirements of ISO 14064-1:2018 'Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals'.

Based on the preparation of the "CEEGL Summary Table for ISO14064 (The Inventory)" by CEEGL in accordance with the criteria of ISO 14064-1:2018, an opinion was concluded by the verification team from the verification activities, including:

- Offsite verification with the aid of Information Communication Technology (ICT) of the GHG emission data associated to mobile emissions, electricity consumption as well as GHG emissions from activities of waste treatment facilities and environmental operations; and
- Desk-top review for documentation and supporting evidence.

### Methodology

The verification was conducted in accordance with ISO 14064-3: 2019 'Specification with guidance for the verification and validation of greenhouse gas statements'. The process included the assessment of:

- reporting boundaries selected;
- quantification methodology and emission factors used;
- integrity of the historical activity data used;
- accuracy and completeness of the GHG calculations; and
- conformance with the requirements of the ISO 14064-1:2018.

Integrity and accuracy of the aggregated data was tested by tracing the sampled data to its sources. The underlying processes for data collection, aggregation, estimation, calculation and internal checking were reviewed and undergone reliability test. Materiality threshold of 5% was adopted for this verification. Qualitative materiality of GHG data reporting requirements such as internal Environmental Management System were followed. HKQAA verification team did not partake in the GHG data preparation process.

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### Remarks:

This verification opinion includes page <1> to page <5>



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**Conclusion**

Total GHG emissions and removals of China Everbright Environment Group Limited in 2023:

2023 GHG Emissions and Removals	Tonnes (T) of CO <sub>2</sub> equivalent
Category 1): Direct GHG emissions (excluding anthropogenic biogenic GHG emissions)	14,800,577.2
Anthropogenic biogenic GHG emissions	30,615.8
Category 1): Direct GHG removals (excluding anthropogenic biogenic GHG removals)	24,940,320.6
Anthropogenic biogenic GHG removals	1,108,828.9
Indirect GHG emissions	843,466.1
Category 2): Imported Energy	519,563.0
Category 3): Transportation	300,262.4
Category 4): Products used	/
Category 5): Use of products	/
Category 6): Other sources	23,640.7
Total (Direct + Indirect Emissions excluding anthropogenic biogenic GHG emissions)	15,613,427.5
Total (Direct + Indirect Emissions including anthropogenic biogenic GHG emissions)	15,644,043.3
Total (Direct + Indirect Removals excluding anthropogenic biogenic GHG removals)	24,940,320.6
Total (Direct + Indirect Removals including anthropogenic biogenic GHG removals)	26,049,149.5

Signed on behalf of Hong Kong Quality Assurance Agency:

Lead Verifier:

Tommy Lo

Date of Issuance: 14 March 2024

Chief Operating Officer:

K.T. Ting

Hong Kong Quality Assurance Agency  
19/F., K. Wah Centre, 191 Java Road, North Point, Hong Kong  
Contact detail [www.hkqaa.org](http://www.hkqaa.org)

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Remarks:  
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### Verification Opinion (Continued)

#### Introduction:

HKQAA has been commissioned by China Everbright Environment Group Limited ("CEEGL", address: Room 2703, 27/F., Far East Finance Centre, 16 Harcourt Road, Hong Kong) for the verification of its direct and indirect Greenhouse Gas emissions and removals in accordance with ISO 14064-1:2018 as provided by CEEGL in its GHG Statement in form of "CEEGL Summary Table for ISO14064 (The Inventory)" covering GHG emissions and removals of the reporting period 1<sup>st</sup> January 2023 to 31<sup>st</sup> December 2023.

#### Roles and responsibilities:

CEEGL is responsible for the organization's GHG information system, the development and maintenance of records and reporting procedures in accordance with the system, including the calculation and determination of GHG emissions and removals information, and the reported GHG emissions and removals. HKQAA verification team is responsible for providing an independent GHG verification opinion on the GHG Statement provided by CEEGL for the reporting period.

HKQAA has conducted a third-party independent verification of the provided GHG Statement against the requirements of ISO 14064-3:2019 from February to March 2024. The verification was based on the verification scope, objectives and criteria as agreed between CEEGL and HKQAA.

#### Detail of the Scope:

- The organizational boundary was established following the operational control approach.
- The reporting boundaries were established including the identification of direct and indirect GHG emissions and removals associated with the following CEEGL's operations of various waste treatment facilities and environmental operations.
- Title or description activities: Verification of GHG Inventory 2023 for CEEGL
- Location/boundary of the activities:
  - o Covers all overseas and local projects and offices with majority operational control across five major sectors: Environmental Energy, Greentech, Environmental Water, Equipment Manufacturing, Eco-recycling, Greenenergy and Envirotech
  - o Over 85% of GHG emissions and 78% of GHG removals were contributed from Environmental Energy sector

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- Physical infrastructure, activities, technologies and processes of the organization:
  - o Stationary combustion sources such as fuel combustion for generator set and machinery equipment, combustion of biomass, municipal solid waste and hazardous waste
  - o Mobile combustion sources such as plant vehicles, mobile machines, transportation vehicles for municipal solid waste and biomass
  - o Indirect energy emissions from purchased energy
  - o Electricity generation from biomass and municipal solid waste
  - o Anthropogenic biogenic emissions from biomass combustion and wastewater treatment
  - o Contractor / Third-party transportation of biomass, municipal solid waste, fly ash, bottom ash and sludge from / to projects
  - o Air travel by employees
- GHG sources, sinks and/or reservoirs included: GHG sources as presented in the worksheets of "CEEGL Summary Table for ISO14064 (The Inventory)"
- Types of GHGs included: CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O, where NF<sub>3</sub>, SF<sub>6</sub>, HFCs and PFCs are either not used by CEEGL or not in significant amount.
- The data and information supporting the GHG Statement were hypothetical, projected and/or historical in nature.
- GWP adopted: 100-year global warming potentials (GWPs) identified in the IPCC's Sixth Assessment Report.
- GHG information for the following period was verified: 1<sup>st</sup> January 2023 to 31<sup>st</sup> December 2023
- Intended user of the verification opinion: Stakeholders identified by CEEGL

Remarks:  
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**Conclusion:**

CEEGL provided the GHG Statement in form of "CEEGL Summary Table for ISO14064 (The Inventory)" based on the requirements of ISO14064-1:2018. The GHG information for the reporting period disclosing the total direct and indirect greenhouse gas emissions of 15,613,427.5 tonnes of CO<sub>2</sub> equivalent (excluding anthropogenic biogenic GHG emissions), and anthropogenic biogenic GHG emissions of 30,615.8 tonnes of CO<sub>2</sub> equivalent, direct greenhouse gas removals of 24,940,320.6 tonnes of CO<sub>2</sub> equivalent (excluding anthropogenic biogenic GHG removals), and anthropogenic biogenic GHG removals of 1,108,828.9 tonnes of CO<sub>2</sub> equivalent are verified by HKQAA to a reasonable level of assurance (within 5%), consistent with the agreed verification scope, objectives and criteria.

HKQAA adopted a risk-based approach for the verification. Our examination includes assessment of evidence relevant to the amounts and disclosures in relation to CEEGL's reported GHG emissions.

The verification team assessed the GHG Statement in form of "CEEGL Summary Table for ISO14064 (The Inventory)" including the GHG information system and reporting protocol. This assessment covered the collection of supporting evidence of the reported data and verified the consistency and appropriateness of the provided protocol reference.

Based on the verification results, the verification team concluded that no material error or omission was identified in the year 2023 Emissions Inventory of CEEGL. It is materially correct and is a fair representation of the GHG data and information for the reporting periods at reasonable level assurance. The quantification and reporting is prepared in accordance with ISO14064-1 on GHG quantification, monitoring and reporting.

HKQAA shall be responsible, and shall remain authority to forthwith suspend or withdraw CEEGL's verification opinion under the scheme or reduce the scope of such verification or terminate the contract if CEEGL is unable to comply with the requirements of the "Terms and Conditions".

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**Remarks:**

This verification opinion includes page <1> to page <5>



審核編號：14902962-OTH

## 核查聲明

### 範圍和目的

香港品質保證局（“HKQAA”）受中國光大環境(集團)有限公司（光大環境）委託，對光大環境於2023年1月1日至2023年12月31日期間的溫室氣體（“GHG”）排放盤查（“Emissions Inventory”）進行獨立核查。此核查的目的是確認溫室氣體排放盤查根據ISO 14064-1:2018《組織層級溫室氣體排放與移除量化及報告附指引之規範》的要求編製，並對光大環境營運控制範圍的溫室氣體排放盤查中資料的完整性和準確性提供合理保證。

根據光大環境按ISO 14064-1:2018標準編製的「CEEGL Summary Table for ISO14064」，核查團隊進行了核查活動，包括：

- 使用資訊通信技術（ICT）對移動排放、電力消耗以及廢物處理設施和環境運營活動產生的溫室氣體排放相關的數據進行驗證；和
- 桌面審查溫室氣體排放文件和證據。

### 方法

核查活動是根據ISO 14064-3:2019《溫室氣體主張確證與查證附指引之規範》進行的。過程包括評估：

- 選定的報告範圍；
- 所使用的量化方法和排放因子；
- 所使用的歷史活動資料的完整性；
- 溫室氣體計算的準確性與完整性；
- 符合ISO 14064-1:2018的要求。

核查團隊透過抽樣資料的來源以核查資料的完整性和準確性。對資料收集、整理、估算、計算和內部檢查的基本流程進行了審查並進行了可靠性核查。本次核查採用合理保證±5%的重要性門檻。根據光大環境內部環境管理系統，確認了溫室氣體資料報告的定性真確性。香港品質保證局核查團隊並沒有參與溫室氣體資料準備過程。

備註：本驗證聲明包括第<1>頁至第<4>頁

HKQAA-F1025-HKO-7TC-OB 18 November 2021 (#4134577)

第 1 頁



審核編號：14902962-OTH

結論

2023 年中國光大環境(集團)有限公司溫室氣體排放總量及清除總量：

2023 溫室氣體排放及清除	噸二氧化碳當量 (tCO <sub>2</sub> e)
1) 類：直接溫室氣體排放（不包括非自然生物溫室氣體排放）	14,800,577.2
非自然生物溫室氣體排放	30,615.8
1) 類：直接溫室氣體清除（不包括非自然生物溫室氣體清除）	24,940,320.6
非自然生物溫室氣體清除	1,108,828.9
間接溫室氣體排放	843,466.1
2) 類：進口能源	519,563.0
3) 類：交通運輸	300,262.4
4) 類：材料使用	/
5) 類：產品的使用	/
6) 類：其他來源	23,640.7
總計（直接+間接排放，不包括非自然生物溫室氣體排放）	15,613,427.5
總計（直接+間接排放，包括非自然生物溫室氣體排放）	15,644,043.3
總計（直接+間接清除，不包括非自然生物溫室氣體清除）	24,940,320.6
總計（直接+間接清除，包括非自然生物溫室氣體清除）	26,049,149.5

代表香港品質保證局簽署：

核査員：羅永雄  
發行日期：14/3/2024  
香港品質保證局  
香港北角渣華道 191 號嘉華國際中心 19 樓  
聯絡方式 [www.hkqaa.org](http://www.hkqaa.org)

運營總監：丁國滔

備註：本驗證聲明包括第<1>頁至第<4>頁

HKQAA-F1025-HKO-7TC-08 18 November 2021 (#4134577)

第 2 頁





審核編號：14902962-OTH

**驗證聲明（續）****簡介：**

香港品質保證局（“HKQAA”）受中國光大環境(集團)有限公司（光大環境）委託，對光大環境於2023年1月1日至2023年12月31日期間的溫室氣體 (“GHG”) 排放盤查 (“Emissions Inventory”, CEEGL Summary Table for ISO14064) 進行獨立核實。此核實的目的是確認溫室氣體排放盤查根據 ISO 14064-1 :2018《組織層級溫室氣體排放與移除量化及報告附指引之規範》的要求編製，並對光大環境營運控制範圍的溫室氣體排放盤查中資料的完整性和準確性提供合理保證。

**角色和職責：**

光大環境負責組織的溫室氣體資訊系統，根據該系統制定維護記錄和報告程序，包括計算和確定溫室氣體排放和清除資訊，以及報告溫室氣體排放和清除。香港品質保證局核實團隊負責就光大環境報告提供的溫室氣體盤查聲明提供獨立的溫室氣體核實聲明。

香港品質保證局於2024年2月至3月期間，根據ISO 14064-3: 2019的要求，對所提供的溫室氣體聲明進行了第三方獨立核實。核實是根據光大環境與香港品質保證局制定的核實範圍、目標和標準進行的。

**範圍詳情：**

- 組織邊界是按照營運控制範圍決定的。
- 報告邊界確定了以下光大環境的各種廢物處理設施運作和環境運作相關的直接和間接溫室氣體排放和清除。
- 標題或描述活動：光大環境 2023 年溫室氣體盤查核實
  - 活動地點/邊界：涵蓋環保能源、綠色環保、環保水務、裝備製造、研究院共五大板塊擁有營運控制權的所有海外和本地項目和辦事處
  - 超過85%的溫室氣體排放量和78%的溫室氣體清除量來自光大環境其下的環保能源項目
- 組織的實體基礎設施、活動、技術和流程包括：
  - 定燃燒源，例如發電機組和機械設備的燃料燃燒，生物質、都市固體廢棄物和危險廢物的燃燒
  - 移動燃燒源，例如工廠車輛和移動機器，城市固體廢物和生物質的運輸車輛
  - 購買能源所產生的間接能源排放
  - 利用燃燒生物質和都市固體廢物發電
  - 生物質燃燒和廢水處理產生的非自然生物排放
  - 承包商/第三方的生物質、都市固體廢物、飛灰、底灰和污泥等運輸
  - 員工航空商務旅程等
- 溫室氣體來源，匯集/或儲存庫：光大環境的「CEEGL Summary Table for ISO14064」中列出的溫室氣體來源

備註：本驗證聲明包括第&lt;1&gt;頁至第&lt;4&gt;頁

HKQAA-F1025-HKO-7TC-OB 18 November 2021 (#4134577)

第 3 頁



香港品質保證局

審核編號：14902962-OTH

- 溫室氣體類型包括：CO<sub>2</sub>、CH<sub>4</sub> 和 N<sub>2</sub>O，其中 NF<sub>3</sub>、SF<sub>6</sub>、HFC 和 PFC 未被光大環境使用或用量極少。
- 溫室氣體聲明的數據和資訊本質上是假設的、預測的和/或過去的
- GWP：IPCC 第六次評估報告中確定的 100 年全球暖化潛勢 (GWP)
- 已核查的溫室氣體資訊期間：2023年1月1日至2023年12月31日
- 核查意見的使用者：光大環境的利益相關方

#### 結論：

光大環境根據ISO14064-1:2018的要求，以「CEEGL Summary Table for ISO14064」提供了溫室氣體聲明。報告期間的直接及間接溫室氣體排放總量為15,613,427.5 噸二氧化碳當量（不含非自然生物溫室氣體排放），非自然生物溫室氣體排放為30,615.8 噸二氧化碳當量，直接溫室氣體清除量為24,940,320.6 噸二氧化碳當量（不包括非自然生物溫室氣體清除量）和非自然生物溫室氣體清除量為1,108,828.9 噸二氧化碳當量。由香港品質保證局核查提供合理保證（±5%以內），符合確定的核查範圍、目標和標準。

香港品質保證局採用風險為本的方法進行核查，包括評估與光大環境報告的溫室氣體排放量和揭露相關的證據。

核查團隊評估了光大環境「CEEGL Summary Table for ISO14064」的溫室氣體聲明，包括溫室氣體資訊系統和報告協議。核查包括收集報告資料的支持證據，並核查所提供方案的一致性和適當性。

根據核查結果，核查團隊認為光大環境2023年度排放清單不存在重大錯誤或遺漏。並確認其真實性，在合理保證下反映了報告期間的溫室氣體數據和資訊。量化和報告的內容是根據ISO14064-1有關溫室氣體量化、監測和報告的要求制定。

如光大環境無法遵守核查合約中「條款及條件」的要求，香港品質保證局有責任並有權立即暫停或撤回光大環境在該聲明下的核查意見，或縮小核查範圍或終止合約。本核查聲明的英文及中文版本如有任何不符之處，概以英文版本為準。

備註：本驗證聲明包括第<1>頁至第<4>頁

HKQAA-F1025-HKO-7TC-OB 18 November 2021 (#4134577)

第 4 頁



# Appendix I – Reporting Boundary

## 附錄I – 報告邊界



### 環境數據

### Environmental Statistics

Operation Unit 運營單位	Hazardous Waste Generated 有害廢棄物產生				Non-Hazardous Waste Generated 無害廢棄物產生				Materials Consumption 物料使用	Waste Recycling 廢棄物回收
	Fly ash generated from waste-to-energy projects and integrated biomass utilisation (waste-to-energy) 垃圾發電項目和生物質綜合利用項目(垃圾發電)	Fly ash and bottom ash generated from hazardous waste incineration projects 危險廢物項目所產生的飛灰及爐渣	Fumace ash generated from integrated biomass utilisation projects (biomass) 生物質綜合利用項目所產生的爐灰	Bottom ash generated from waste-to-energy projects and integrated biomass utilisation projects 垃圾發電項目和生物質綜合利用項目所產生的爐渣	Sludge generated from waste water treatment projects, waste-to-energy projects and integrated biomass utilisation projects 污水處理項目、垃圾發電項目及生物質綜合利用項目所產生的污泥	General waste 一般廢物產生				
	GHG Emissions 溫室氣體排放	GHG Emissions Avoidance 溫室氣體排放避免	Air Emissions 廢氣排放	Energy Consumption 能源消耗	Water Consumption and Discharge 耗水及排水					
Waste-to-energy/ 垃圾發電	✓	✓	✓	✓	✓		✓	✓	✓	✓
Food waste treatment 餐厨垃圾處理	✓	△		✓	✓			✓	✓	✓
Sludge treatment and disposal 污泥處理裝置	✓		△	✓	✓			✓	✓	✓
Leachate treatment 滲濾液處理	✓	△	△	✓	✓			△	△	✓
Methane-to-energy 沼氣發電	✓	△	△	✓	✓			△	△	✓
Fecal treatment 糞便處理										
Fly ash landfill 飛灰填埋	✓			✓	✓			✓	✓	✓
Medical waste treatment 醫療廢物處理				✓	✓			✓	✓	
Solid waste treatment 固廢處理	✓		△	✓	✓			△	△	✓

Operation Unit 運營單位	Hazardous Waste Generated 有害廢棄物產生		Non-Hazardous Waste Generated 無害廢棄物產生				Materials Consumption 物料使用	Waste Recycling 廢棄物回收	
	Fly ash generated from waste-to-energy projects and integrated biomass utilisation projects (waste-to-energy) 垃圾發電項目和生物質綜合利用項目(垃圾發電)所產生的飛灰	Fly ash and bottom ash generated from hazardous waste incineration projects 危險廢棄物項目所產生的飛灰及爐渣	Fumace ash generated from integrated biomass utilisation projects (biomass) 生物質綜合利用項目(生物質)所產生的爐灰	Bottom ash generated from waste-to-energy projects and integrated biomass utilisation projects 垃圾發電項目和生物質綜合利用項目所產生的爐渣	Sludge generated from waste water treatment projects, waste-to-energy projects and integrated biomass utilisation projects 污水處理項目、垃圾發電項目及生物質綜合利用項目所產生的污泥	General Waste 一般廢棄物產生			
Environmental Water 環境水務	Municipal waste water treatment 市政污水處理	✓				✓	✓	✓	✓
	Industrial waste water treatment 工業廢水處理	✓				✓	✓	✓	✓
	Reusable water 中水回用	✓				✓	✓	✓	✓
	River-basin ecological restoration 流域治理	✓				✓	✓	✓	✓
	Water supply 供水	✓				✓	✓	✓	✓
	Waste water source heat pump 污水源熱泵	✓				✓	✓	✓	✓
	Raw water protection 原水保護								
	Leachate treatment 滲濾液處理	✓					✓	✓	✓

Appendix I – Reporting Boundary  
附錄I – 報告邊界

Operation Unit 運營單位	Hazardous Waste Generated 有害廢棄物產生				Non-Hazardous Waste Generated 無害廢棄物產生				Materials Consumption 物料使用	Waste Recycling 廢棄物回收	
	GHG Emissions 溫室氣體排放	GHG Emissions Avoidance 溫室氣體排放避免	Air Emissions 廢氣排放	Energy Consumption 能源消耗	Water Consumption and Discharge 耗水及排水	Fly ash generated from waste-to- energy projects and integrated biomass utilisation projects (waste-to- energy) 垃圾發電項目 和生物質綜合 利用項目 (垃圾發電) 所產生的飛灰	Fly ash and bottom ash generated from hazardous waste incineration projects 危險廢物項目 所產生的飛灰 及爐渣	Fumace ash generated from integrated biomass utilisation projects (biomass) 生物質綜合 利用項目 (生物質) 所產生的爐灰			Bottom ash generated from waste-to- energy projects and integrated biomass utilisation projects 垃圾發電項目 和生物質綜合 利用項目 所產生的爐渣
Greentech 綠色環保	Integrated biomass utilisation 生物質綜合利用	✓	✓	✓	✓	✓		✓	✓	✓	✓
	Hazardous waste and solid waste treatment 危險及固廢處置	✓		✓	✓	✓	✓				✓
	Leachate treatment 滲濾液處理	✓	✓	△	✓	✓				△	✓
	Environmental remediation 環境修復	✓			✓	✓				✓	✓
	Solar energy 光伏發電	✓	✓		✓	✓				✓	✓
	Wind power 風電	✓	✓		✓	✓				✓	✓

Operation Unit 運營單位	GHG Emissions 溫室氣體排放		GHG Emissions Avoidance 溫室氣體排放避免	Air Emissions 廢氣排放	Energy Consumption 能源消耗	Water Consumption and Discharge 耗水及排水	Hazardous Waste Generated 有害廢棄物產生				Non-Hazardous Waste Generated 無害廢棄物產生			
	溫室氣體排放	溫室氣體排放避免	廢氣排放	能源消耗	耗水及排水	Fly ash generated from waste-to-energy projects and integrated biomass utilisation projects (waste-to-energy) 垃圾發電項目和生物質綜合利用項目(垃圾發電)所產生的飛灰	Fly ash and bottom ash generated from hazardous waste incineration projects 危險廢棄物項目所產生的飛灰及爐渣	Furnace ash generated from integrated biomass utilisation projects (biomass) utilization projects 生物質綜合利用項目(生物質)所產生的爐灰	Bottom ash generated from waste-to-energy projects and integrated biomass utilisation projects 垃圾發電項目和生物質綜合利用項目所產生的爐渣	Sludge generated from waste water treatment projects, waste-to-energy projects and integrated biomass utilisation projects 污水處理項目、垃圾發電項目及生物質綜合利用項目所產生的污泥	General Waste 一般廢物產生	Materials Consumption 物料使用	Waste Recycling 廢棄物回收	
Envirotech 環境研究院	✓				✓	✓					✓	✓	✓	
Equipment Manufacturing 設備製造	✓		△		✓	✓					✓	✓	✓	
Headquarters and Representative Offices 總部及代表處	✓				✓	✓					✓		✓	

\* Under preparatory stage in construction phase

✓ Fully disclosed 全面披露

△ Insignificant 不顯著

■ Not applicable for full disclosure 全面披露不適用

社會數據

Social Statistics

Operation Unit 運營單位	Employee Profile 員工概況 (total number of employees, new hires and employee turnover, employee eligible for retirement) (員工總數、新聘及離職員工、合資退休員工)	Health and Safety Statistics 健康與安全數據			Community Engagement 社會貢獻			Supply Chain 供應鏈		
		Maternity/ Paternity Leave Statistics 產假/待產假數據	Training Hours 培訓時數	Employees 員工	Third-party contractors and sub-contractors working on-site 第三方承包商及 分包商駐場工人	Visitors received by our environmental protection projects 環保項目參觀人次	Volunteer services 義工總時數	Number of suppliers 供應商數目	Number of outsourced service workers 外聘服務工人數目	Remuneration Statistics 薪酬數據
Environmental Energy 環保能源	Waste-to-energy 垃圾發電	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Food waste treatment 餐厨垃圾處理	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Sludge treatment and disposal 污泥處理處置	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Leachate treatment 滲濾液處理	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Methane-to-energy 沼氣發電	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Fecal treatment 糞肥處理	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Fly ash landfill 飛灰填埋	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Medical waste treatment 醫療廢物處理	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Solid waste treatment 固廢處理	✓	✓	✓	✓	✓	✓	✓	✓	✓



Operation Unit 運營單位	Employee Profile 員工概況		Health and Safety Statistics 健康與安全數據		Community Engagement 社區貢獻			Supply Chain 供應鏈		
	total number of employees, new hires and employee turnover for retirement (員工總數、新聘及離職員工、合資退休員工)	Training Hours 培訓時數	Maternity/ Paternity Leave Statistics 產假/ 待產假數據	Employees 員工	Third-party contractors and sub-contractors working on-site 第三方承包商及分包商駐場工人	Visitors received by our environmental protection projects 環保項目參觀人次	Volunteer services 義工總時數	Number of suppliers 供應商數目	Number of outsourced service workers 外聘服務工人數目	Remuneration Statistics 薪酬數據
Municipal waste water treatment 市政污水處理	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Industrial waste water treatment 工業廢水處理	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Reusable water 中水回用	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
River-basin ecological restoration 流域治理	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Water supply 供水	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Waste water source heat pump 污水源熱泵	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Raw water protection 原水保護	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Leachate treatment 滲濾液處理	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Appendix I – Reporting Boundary  
附錄I – 報告邊界

Operation Unit 運營單位	Employee Profile 員工概況 (total number of employees, new hires and employee turnover, employee eligible for retirement) (員工總數、新聘及離職員工、合資退休員工)	Health and Safety Statistics 健康與安全數據			Community Engagement 社會貢獻			Supply Chain 供應鏈		
		Employees 員工	Third-party contractors and sub-contractors working on-site 第三方承包商及分包商駐場工人	Visitors received by our environmental protection projects 環保項目參觀人次	Volunteer services 義工總時數	Number of suppliers 供應商數目	Number of outsourced service workers 外聘服務工人數目	Remuneration Statistics 薪酬數據		
Greentech 綠色環保	Integrated biomass utilisation 生物質綜合利用	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Hazardous waste and solid waste treatment 危險及固廢處置	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Leachate treatment 滲濾液處理	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Environmental remediation 環境修復	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Solar energy 光伏發電	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Wind power 風電	✓	✓	✓	✓	✓	✓	✓	✓	✓
		✓	✓	✓	✓	✓	✓	✓	✓	✓
		✓	✓	✓	✓	✓	✓	✓	✓	✓
		✓	✓	✓	✓	✓	✓	✓	✓	✓
		✓	✓	✓	✓	✓	✓	✓	✓	✓

Operation Unit 運營單位	Employee Profile 員工概況 (total number of employees, new hires and employee turnover, employee eligible for retirement) (員工總數、新聘及離職員工、合資退休員工)		Health and Safety Statistics 健康與安全數據		Community Engagement 社區貢獻			Supply Chain 供應鏈		
	Training Hours 培訓時數	Maternity/ Paternity Leave Statistics 產假/ 侍產假數據	Employees 員工	Third-party contractors and sub-contractors working on-site 第三方承包商及分包商駐場工人	Visitors received by our environmental protection projects 環保項目參觀人次	Volunteer services 義工總時數	Number of suppliers 供應商數目	Number of outsourced service workers 外判服務工人數目	Remuneration Statistics 薪酬數據	
Envirotech 環境研究院	✓	✓	✓	✓		✓	✓	✓	✓	
Equipment Manufacturing 裝備製造	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Headquarters and Representative Offices 總部及代表處	✓	✓	✓	✓			✓	✓	✓	

\* Under preparatory stage 在籌建階段

✓ Fully disclosed 全面披露

■ Not applicable for full disclosure 全面披露不適用

## Appendix II – Main Corporate Memberships

### 附錄II – 主要企業會籍



Key Associations Joined by Everbright Environment 光大環境參與的主要協會	Key Activities in 2023 二零二三年重點活動
<p><b>China Association of Urban Environmental Sanitation</b> 中國城市環境衛生協會</p> <p><b>Association's Ambition</b> 協會抱負</p> <p>To actively promote the scientific development of city appearance and environmental sanitation in cities across the country 積極推進全國城市市容環境衛生事業科學發展。</p>	<ul style="list-style-type: none"><li>Participate in the symposium on relief and problem solving for municipal waste-to-energy enterprises 參加生活垃圾焚燒發電企業紓困解難交流會</li></ul> <p><b>Total amount contributed in 2023: RMB80,000</b> 二零二三年總貢獻金額：人民幣80,000元</p>
<p><b>E20 Environmental Platform – China Solid Waste Web</b> E20環境平台－中國固廢網</p> <p><b>Association's Ambition</b> 協會抱負</p> <p>To utilise the platform to support the growth of environmental companies and to assist local governments to actively explore environmental solutions. 利用平台的力量幫助環保企業成長，協助地方政府積極探索環境解決方案。</p>	<ul style="list-style-type: none"><li>Attended the annual Solid Waste Forum 參與年度固廢論壇</li><li>Recognised as the “Top Ten Most Influential Enterprises” in solid waste industry 獲得固廢行業「十大影響力企業」</li><li>Suzhou project was granted the award of “Intelligent Benchmark of Socialised Waste-to-energy Project in Terms of Construction and Operation” 蘇州項目獲評「社會化垃圾焚燒發電廠建設運營智能化標杆」</li></ul> <p><b>Total amount contributed in 2023: RMB300,000</b> 二零二三年總貢獻金額：人民幣300,000元</p>

**Key Associations Joined by  
Everbright Environment  
光大環境參與的主要協會**

**Key Activities in 2023  
二零二三年重點活動**

**E20 Environmental Platform – China  
Water Web  
E20環境平台 – 中國水網**

- Recognised as the “Top Ten Most Influential Enterprises” in China’s water industry  
獲評中國水業「十大影響力企業」

**Total amount contributed in 2023: RMB120,000  
二零二三年總貢獻金額：人民幣120,000元**

**Association’s Ambition  
協會抱負**

To utilise the platform to support the growth of environmental companies and to assist local governments to actively explore environmental solutions.  
利用平台的力量幫助環保企業成長，協助地方政府積極探索環境解決方案。

**Chinese Society for Environmental  
Sciences  
中國環境科學學會**

- Attended the annual meeting  
參加年會
- Participated in the eco-environmental interpreter contest and awarded Outstanding Enterprise Award  
參加生態環境講解員比賽並獲優秀組織單位獎
- Obtained the Outstanding Contribution Enterprise Award  
獲得突出貢獻單位獎

**Association’s Ambition  
協會抱負**

To enhance the public’s scientific knowledge, and create positive scientific and cultural atmosphere for contribution to ecological civilisation and environmental protection.  
提高全民科學知識，營造良好科學文化氛圍，為生態文明建設和環保事業貢獻力量。



## Appendix III – GRI Content Index

### 附錄III – GRI內容索引



Everbright Environment has reported in accordance with the GRI Standards for the period 1 January 2023 to 31 December 2023. There are no GRI sector standards currently applicable to the Group. For the Content Index – Advanced Service, GRI Services reviewed that the GRI content index has been presented in a way consistent with the requirements for reporting in accordance with the GRI Standards, and that the information in the index is clearly presented and accessible to the stakeholders. The service was performed on the English version of the Report.

光大環境已根據GRI準則針對二零二三年一月一日至二零二三年十二月三十一日期間進行報告。目前沒有適用於本集團的GRI行業準則。於本次內容索引–進階服務(Content Index–Advanced Service)中，GRI服務審查了GRI內容索引的呈現方式符合GRI標準的報告要求，並且索引中的資訊以可供持份者易於閱讀的形式清晰呈現。本次服務按本報告的英文版本進行。

Disclosure 披露編號	Relevant Chapter(s) or Other Reference/Explanation 相關章節或其他參考/解釋	Page Number 頁數		
<b>GRI 1: Foundation 2021 基礎 2021</b>				
<b>GRI 2: General Disclosures 2021 一般披露 2021</b>				
<b>The Organization and its Reporting Practices 組織及其報告做法</b>				
<b>2-1</b>	Organizational details 組織詳細情況	About This Report 關於本報告  About Everbright Environment 關於光大環境  Annual Report 2023 – Notes to the Financial Statements 二零二三年年報—財務報表附註	2-9  18-33  -	
	<b>2-2</b>	Entities included in the organisation's sustainability reporting 納入組織可持續發展報告的實體	About Everbright Environment 關於光大環境  Annual Report 2023 – Notes to the Financial Statements 二零二三年年報—財務報表附註	18-33  -
		<b>2-3</b>	Reporting period, frequency and contact point 報告期、報告頻率和聯繫人	About This Report 關於本報告
<b>2-4</b>	Restatements of information 信息重述	Restated information are annotated clearly in the Report. 本報告對重述信息進行了明確的註釋。	-	
<b>2-5</b>	External assurance 外部鑑證	Verification Statements 審核聲明  The Board reviews the Report and the external assurance report before publication. 董事會在發布前審查本報告和外部鑑證報告。	231-241	

Disclosure 披露編號		Relevant Chapter(s) or Other Reference/Explanation 相關章節或其他參考／解釋	Page Number 頁數
<b>Activities and Workers 活動和工作</b>			
2-6	Activities, value chain and other business relationships 活動、價值鏈和其他業務關係	Message from the Chairman of the Board 董事會主席致辭	10-13
		About Everbright Environment 關於光大環境	18-33
		Sustainable Operations Management 可持續的運營管理	34-53
		Stakeholder Engagement 持份者參與	54-63
		Annual Report 2023 二零二三年年報	-
2-7	Employees 員工	Talent Development 人才發展	144-165
		Key Statistics 主要數據	219-230
2-8	Workers who are not employees 員工之外的工作者	Sustainable Operations Management 可持續的運營管理	34-53
<b>Governance 管治</b>			
2-9	Governance structure and composition 管治架構和組成	Sustainable Operations Management 可持續的運營管理	34-53
		Annual Report 2023 – Corporate Governance Report 二零二三年年報 – 企業管治報告	-
		None of the members of the highest governance body is from an underrepresented social group. 最高治理機構的成員都不是來自弱勢社會群體。	
2-10	Nomination and selection of the highest governance body 最高管治機構的提名和遴選	Annual Report 2023 – Corporate Governance Report 二零二三年年報 – 企業管治報告	-
2-11	Chair of the highest governance body 最高管治機構的主席	Annual Report 2023 – Corporate Governance Report 二零二三年年報 – 企業管治報告	-
2-12	Role of the highest governance body in overseeing the management of impacts 在管理影響方面，最高管治機構的監督作用	Sustainable Operations Management 可持續的運營管理	34-53
		Annual Report 2023 – Corporate Governance Report 二零二三年年報 – 企業管治報告	-
2-13	Delegation of responsibility for managing impacts 為管理影響的責任授權	Sustainable Operations Management 可持續的運營管理	34-53
		Annual Report 2023 – Corporate Governance Report 二零二三年年報 – 企業管治報告	-
2-14	Role of the highest governance body in sustainability reporting 最高管治機構在可持續發展報告中的作用	Sustainable Operations Management 可持續的運營管理	34-53
		Annual Report 2023 – Corporate Governance Report 二零二三年年報 – 企業管治報告	-

Appendix III – GRI Content Index

附錄III – GRI內容索引

Disclosure 披露編號	Relevant Chapter(s) or Other Reference/Explanation 相關章節或其他參考／解釋	Page Number 頁數	
2-15	Conflicts of interest 利益衝突	Annual Report 2023 – Corporate Governance Report 二零二三年年報－企業管治報告	–
2-16	Communication of critical concerns 重要關切問題的溝通	Sustainable Operations Management 可持續的運營管理	34-53
		Stakeholder Engagement 持份者參與	54-63
		Annual Report 2023 – Corporate Governance Report 二零二三年年報－企業管治報告	–
		During the Reporting Period, two whistleblowing cases were reported through the CEO's mailbox, one of which involved tender processes and one involved labour disputes. Both cases have been investigated, and the findings were reported to the Audit Committee in March 2024. 在報告期間，總裁信箱共收到了2宗舉報案件，其中1宗涉及招標程序，1宗涉及勞務糾紛。兩宗案件已完成調查，調查結果已於二零二四年三月向審核委員會報告。	
2-17	Collective knowledge of the highest governance body 最高管治機構的共同知識	Annual Report 2023 – Corporate Governance Report 二零二三年年報－企業管治報告	–
2-18	Evaluation of the performance of the highest governance body 最高管治機構的績效評估	Annual Report 2023 – Corporate Governance Report 二零二三年年報－企業管治報告	–
2-19	Remuneration policies 薪酬政策	Sustainable Operations Management 可持續的運營管理	34-53
		Annual Report 2023 – Notes to Financial Statements 二零二三年年報－財務報表附註	–
		There is no difference in retirement benefits between the Senior Management and other employees of the Group. 本集團高級管理層和其他員工的退休福利並無不一樣。	
2-20	Process to determine remuneration 確定薪酬的程序	Sustainable Operations Management 可持續的運營管理	34-53
		Annual Report 2023 – Notes to Financial Statements 二零二三年年報－財務報表附註	–
		The Group seeks the opinions of the employee representative assembly in the formulation of remuneration policy. 本集團在制定薪酬政策時徵求職工代表大會的意見。	
2-21	Annual total compensation ratio 年度總薪酬比率	Key Statistics 主要數據	219-230
		The main business of the Group and more than 90% of its employees are located in Mainland China. Therefore, we do not report compensation data broken down by geographical region. 本集團的主要業務，以及超過90%的員工均位於中國內地，因此我們沒有匯報按地區劃分的薪酬數據。	

Disclosure 披露編號	Relevant Chapter(s) or Other Reference/Explanation 相關章節或其他參考/解釋	Page Number 頁數
<b>Strategy, Policies and Practices 戰略、政策和實踐</b>		
2-22	Statement on sustainable development strategy 關於可持續發展戰略的聲明	Message from the Chairman of the Board 董事會主席致辭 10-13
2-23	Policy commitments 政策承諾	Sustainable Operations Management 可持續的運營管理 34-53
		Environmental Protection 環境保護 98-143
		Talent Development 人才發展 144-165
		Safety Culture 安全文化 166-179
		Annual Report 2023 – Sustainability Report 二零二三年年報 – 可持續發展報告 –
	Everbright Environment’s ESG commitments are generally in line with relevant international initiatives including <i>UN Guiding Principles on Business and Human Rights</i> , <i>OECD Guidelines for Multinational Enterprises</i> , <i>OECD Due Diligence Guidance for Responsible Business Conduct</i> , and Principle 15 of the <i>Rio Declaration on Environment and Development</i> . 光大環境的ESG承諾與各相關國際倡議大體一致，包括《聯合國工商企業與人權指導原則》、《經濟合作暨發展組織跨國企業準則》、《經濟合作暨發展組織責任商業行為盡職調查指南》和《里約環境與發展宣言》第十五項原則。	
2-24	Embedding policy commitments 融入政策承諾	Sustainable Operations Management 可持續的運營管理 34-53
2-25	Processes to remediate negative impacts 補救負面影響的程序	Sustainable Operations Management 可持續的運營管理 34-53
		During the period of publicity of procurement bidding results, the public/customer can complain through the procurement platform; during the publicity period before the promotion of employees, employees can make complaints through email; after feedback on the performance appraisal results, employees can appeal through the EHR system or paper documents; Employees who have suggestions and any comments on the Group can provide feedback through the suggestion box or Everbright E-letter public platform. 採購招標結果公示期間，公眾/客戶可通過採購平台進行投訴；在員工晉升前的公示期內，員工可以通過郵件進行投訴；績效考核結果反饋後，員工可通過EHR系統或紙質文件進行申訴；員工對本集團有任何建議和意見，可通過意見箱或光大E信公眾平台進行反饋。
2-26	Mechanisms for seeking advice and raising concerns 尋求建議和提出關切的機制	Sustainable Operations Management 可持續的運營管理 34-53
		Annual Report 2023 – Corporate Governance Report 二零二三年年報 – 企業管治報告 –
2-27	Compliance with laws and regulations 遵守法律法規	Sustainable Operations Management 可持續的運營管理 34-53
		Appendix V – Compliance with Relevant Laws and Regulations that Have a Significant Impact on Everbright Environment 附錄V – 對光大環境有重大影響的相關法律及規例的遵守情況 273-276
		There were no significant instances of non-compliance with laws and regulations during the Reporting Period. 報導期間沒有發生重大違反法規的事件。
2-28	Membership associations 協會的成員資格	Appendix II – Main Corporate Memberships 附錄II – 主要企業會籍 250-251

Disclosure 披露編號		Relevant Chapter(s) or Other Reference/Explanation 相關章節或其他參考/解釋	Page Number 頁數
<b>Stakeholder Engagement 利益相關方參與</b>			
2-29	Approach to stakeholder engagement 利益相關方參與的方法	Stakeholder Engagement 持份者參與	54-63
2-30	Collective bargaining agreements 集體談判協議	There are no formal collective bargaining agreements in place within the Group. The Group and the individual employee sign a separate labour contract to stipulate the rights and obligations of both parties, and if there is a change in the policy related to the vital interests of the employee, it will also be communicated through the employee representative assembly. 本集團內部沒有正式的集體談判協議。本集團與職工個人另行簽訂勞動合同，約定雙方的權利和義務，如涉及職工切身利益的政策發生變化，也將通過職工代表大會進行溝通。	–
<b>GRI 3: Material Topics 2021 實質性議題 2021</b>			
3-1	Process to determine material topics 確定實質性議題的過程	Stakeholder Engagement 持份者參與	54-63
3-2	List of material topics 實質性議題清單	Stakeholder Engagement – List of Sustainability Topics 持份者參與—可持續發展議題列表	62
<b>Economic Performance 經濟績效</b>			
<b>GRI 3: Material Topics 2021 實質性議題 2021</b>			
3-3	Management of material topics 實質性議題的管理	Message from the Chairman of the Board 董事會主席致辭	10-13
<b>GRI 201: Economic Performance 2016 經濟績效 2016</b>			
201-1	Direct economic value generated and distributed 直接產生和分配的經濟價值	Key Statistics 主要數據	219-230
201-2	Financial implications and other risks and opportunities due to climate change 氣候變化帶來的財務影響以及其它風險與機遇	Response to Climate Change 應對氣候變化	64-97
201-3	Defined benefit plan obligations and other retirement plans 義務性固定福利計劃和其他退休計劃	Talent Development 人才發展	144-165
		Annual Report 2023 – Report of the Directors 二零二三年年報—董事會報告	–
201-4	Financial assistance received from government 政府給予的財務補貼	Annual Report 2023—Notes to Financial Statements 二零二三年年報—財務報表附註	–
<b>Anti-corruption 反貪腐</b>			
<b>GRI 3: Material Topics 2021 實質性議題 2021</b>			
3-3	Management of material topics 實質性議題的管理	Sustainable Operations Management 可持續的運營管理	34-53



Disclosure 披露編號	Relevant Chapter(s) or Other Reference/Explanation 相關章節或其他參考／解釋	Page Number 頁數
<b>GRI 205: Anti-corruption 2016 反腐敗 2016</b>		
<b>205-1</b>	Operations assessed for risks related to corruption 已進行腐敗風險評估的運營點	Annual Report 2023 – Audit Committee 二零二三年度報告 – 審核委員會  The risk assessment and internal control carried out by the Group for all operating projects have included the risk of corruption. 本集團為所有運營項目進行的風險評估及內部控制已包含貪腐的風險。
<b>205-2</b>	Communication and training about anti-corruption policies and procedures 反腐敗政策和程序的傳達及培訓	Talent Development 人才發展  Number of employees participated in anti-corruption training: 已接受反貪腐培訓的員工數據：  – Number of senior management (percentage): 539 (100%) – 高級管理人員 (百分比): 539 (100%) – Number of middle-level management (percentage): 2,007 (100%) – 中級管理人員 (百分比): 2,007 (100%) – Other employees (percentage): 9,385 (100%) – 其他員工人數 (百分比): 9,385 (100%)  In 2023, all of the Directors of the Company received trainings on anti-corruption. 於二零二三年，本公司全體董事接受了反貪腐培訓。
<b>205-3</b>	Confirmed incidents of corruption and actions taken 經確認的腐敗事件和採取的行動	Appendix V – Compliance with Relevant Laws and Regulations that Have a Significant Impact on Everbright Environment 附錄V – 對光大環境有重大影響的相關法律及規例的遵守情況
<b>Anti-competitive Behaviour 反競爭行為</b>		
<b>GRI 3: Material Topics 2021 實質性議題 2021</b>		
<b>3-3</b>	Management of material topics 實質性議題的管理	Sustainable Operations Management 可持續的運營管理
<b>GRI 206: Anti-competitive Behavior 2016 不當競爭行為 2016</b>		
<b>206-1</b>	Legal actions for anti-competitive behaviour, anti-trust, and monopoly practices 針對不當競爭行為、反托拉斯和反壟斷實踐的法律訴訟	Sustainable Operations Management 可持續的運營管理

Disclosure 披露編號	Relevant Chapter(s) or Other Reference/Explanation 相關章節或其他參考/解釋	Page Number 頁數
<b>Energy Efficiency 能源效益</b>		
<b>GRI 3: Material Topics 2021 實質性議題 2021</b>		
<b>3-3</b>	Management of material topics 實質性議題的管理	Environmental Protection 環境保護
<b>GRI 302: Energy 2016 能源 2016</b>		
<b>302-1</b>	Energy consumption within the organisation 組織內部的能源消耗量	Environmental Protection 環境保護
	Key Statistics 主要數據	219-230
	Energy consumption within the organisation includes electricity consumption. The Group also sells steam; but no cooling is sold. 組織內部的能源消耗量包括電力消耗。本集團另有出售蒸汽；但沒有出售製冷。	
	With waste to energy as our major business, the Group uses household waste as the major source of fuel to generate green electricity to supply to the grid. Due to the highly varying composition and heat content of household waste, it is not feasible to arrive at a meaningful calculation of total energy consumption within the organisation. 本集團以垃圾發電為主營業務，以生活垃圾為主要燃料，生產綠色電力供應電網。由於生活垃圾的成分和熱值差異很大，因此無法對組織內的總能源消耗進行有意義的計算。	
<b>302-2</b>	Energy consumption outside of the organisation 組織外部的能源消耗量	Environmental Protection 環境保護
	Key Statistics 主要數據	219-230
	Energy consumption outside the organisation includes the Group's supply of on-grid electricity and steam. 組織外部的能源消耗量包括本集團的上網電量及蒸汽供應量。	
<b>302-3</b>	Energy intensity 能源強度	Key Statistics 主要數據
	Energy intensity only includes those within the organisation. 能源密集度只包括組織內部。	219-230
<b>302-4</b>	Reduction of energy consumption 減少能源消耗量	Environmental Protection 環境保護
<b>302-5</b>	Reductions in energy requirements of products and Services 降低產品和服務的能源需求	Environmental Protection 環境保護

Disclosure 披露編號	Relevant Chapter(s) or Other Reference/Explanation 相關章節或其他參考／解釋	Page Number 頁數
<b>Usage of Water Resources, Waste Water Treatment 水資源使用、污水處理</b>		
<b>GRI 3: Material Topics 2021 實質性議題 2021</b>		
<b>3-3</b>	Management of material topics 實質性議題的管理	Environmental Protection 環境保護
<b>GRI 303: Water and Effluents 2018 水資源與污水 2018</b>		
<b>303-1</b>	Interactions with water as a shared resource 組織與水（作為共有資源）的相互影響	Environmental Protection 環境保護
	<p>The Group's operations in Mainland China make use of the municipal water supply, groundwater, surface water and reclaimed water. Among them, the main source of municipal water supply is surface water. Part of the waste water will be reused in the plant, and the rest will be discharged to public or private waste water treatment facilities, surface water and the ocean in accordance with applicable discharge permits and discharge standards.</p> <p>本集團在中國內地的業務會使用市政供水、地下水、地表水及再用水。其中，市政供水主要源自地表水。部分污水會於廠內回用，其餘則按照適用的排放許可證及排放標準排放至公共或私有的污水處理設施、地表水及海洋。</p> <p>The Vietnam operation of the environmental energy sector mainly uses surface water, followed by municipal water supply, where the local municipal water supply also mainly comes from surface water. The Poland operation of this sector uses municipal water supply and groundwater; according to the Polish National Water Agency, the local freshwater sources are mainly surface water, groundwater and from catchment areas. All water used in Vietnam and Poland is consumed and reused in-plant, thus there is no discharge.</p> <p>環保能源板塊的越南業務主要使用地表水，其次為市政供水，而當地的市政供水亦主要源自地表水。該板塊位於波蘭的業務則使用市政供水及地下水；根據波蘭國家水務局，當地的淡水來源主要為地表水、地下水及集水區。越南及波蘭業務的所有用水均為廠內消耗及回用，因此沒有排放。</p> <p>The Group's operation in Hong Kong uses water from the Water Supplies Department, including freshwater for potable use, cooling, washing, toilet and landscaping, and seawater for flushing. Hong Kong's two main sources of freshwater are rainfall from natural catchments and Dongjiang water from Guangdong Province. All effluents are discharged to public sewers and/or the sea in accordance with applicable discharge licences.</p> <p>本集團在香港的業務所使用的水均來自水務署，包括用於飲用水、冷卻、洗滌、洗手間和澆灌的淡水，以及用於沖廁的海水。香港的兩個主要淡水來源是自然流域的降雨和廣東省的東江水。根據適用的排放許可證，所有廢水均排入公共污水收集系統和／或海洋。</p> <p>The Group's operation in Singapore uses water from third-party water source(s) supplied by the Public Utilities Board ("PUB"). According to PUB, Singapore's water demand is currently met by water from local catchment areas, imported water, NEWater and desalinated water. The waste water from Singapore's operation is collected by public sewers.</p> <p>本集團在新加坡的業務所使用的水均由公用事業局第三方水源提供。根據公用事業局，新加坡目前可透過使用當地集水區的水、進口水、「新生水」和化淡水來滿足對水的需求。新加坡的業務的污水均由公共污水收集系統收集。</p>	98-143

Appendix III – GRI Content Index

附錄III – GRI內容索引

	Disclosure 披露編號	Relevant Chapter(s) or Other Reference/Explanation 相關章節或其他參考/解釋	Page Number 頁數
	<b>303-2</b> Management of water discharge-related impacts 管理與排水相關的影響	Environmental Protection 環境保護	98-143
	<b>303-3</b> Water withdrawal 取水	Environmental Protection 環境保護  Key Statistics 主要數據	98-143  219-230
	<b>303-4</b> Water discharge 排水	Environmental Protection 環境保護  Key Statistics 主要數據	98-143  219-230
	<b>303-5</b> Water Consumption 耗水	Environmental Protection 環境保護  Key Statistics 主要數據	98-143  219-230
<b>Greenhouse Gas Management and Climate Change Mitigation 溫室氣體管理及氣候變化的應對</b>			
<b>GRI 3:</b>	<b>Material Topics 2021 實質性議題 2021</b>		
	<b>3-3</b> Management of material topics 實質性議題的管理	Responding to Climate Change 應對氣候變化  Environmental Protection 環境保護	64-97  98-143

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<b>GRI 305: Emissions 2016 排放 2016</b>		
<b>305-1</b> Direct (Scope 1) GHG emissions 直接 (範疇一) 溫室氣體排放	Responding to Climate Change 應對氣候變化	64-97
	Environmental Protection 環境保護	98-143
	Key Statistics 主要數據	219-230
<p>Calculations are based on the global warming potentials published in the IPCC AR6; calculation of GHG emissions include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxides (N<sub>2</sub>O). Emissions of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF<sub>6</sub>) and nitrogen trifluoride (NF<sub>3</sub>) are not significant. 計算參考IPCC AR6中發布的相對全球變暖潛能；溫室氣體排放量的計算包括二氧化碳(CO<sub>2</sub>)、甲烷(CH<sub>4</sub>)及氧化亞氮(N<sub>2</sub>O)。氫氟碳化物(HFCs)、全氟化碳(PFCs)、六氟化硫(SF<sub>6</sub>)及三氟化氮(NF<sub>3</sub>)的排放並不顯著。</p> <p>Scope 1 GHG emissions by biogenic/non-biogenic source: 按生物源／非生物源劃分的範疇1溫室氣體排放量：</p> <p>Biogenic emissions: 30,616 tonnes CO<sub>2</sub> equivalent 生物源排放量：30,616噸二氧化碳當量</p> <p>Non-biogenic emissions: 14,800,577 tonnes CO<sub>2</sub> equivalent 非生物源排放量：14,800,577噸二氧化碳當量</p>		
<b>305-2</b> Energy indirect (Scope 2) GHG emissions 能源間接 (範疇二) 溫室氣體排放	Responding to Climate Change 應對氣候變化	64-97
	Environmental Protection 環境保護	98-143
	Key Statistics 主要數據	219-230



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305-3 Other indirect (Scope 3) GHG emissions 其它間接(範疇三)溫室氣體排放	Responding to Climate Change 應對氣候變化	64-97
	Environmental Protection 環境保護	98-143
	Key Statistics 主要數據	219-230
	Calculations are based on the global warming potentials published in the IPCC AR6; calculation of GHG emissions include carbon dioxide (CO <sub>2</sub> ), methane (CH <sub>4</sub> ) and nitrous oxides (N <sub>2</sub> O). Emissions of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF <sub>6</sub> ) and nitrogen trifluoride (NF <sub>3</sub> ) are not significant. 計算參考IPCC AR6中發布的相對全球變暖潛能；溫室氣體排放量的計算包括二氧化碳(CO <sub>2</sub> )、甲烷(CH <sub>4</sub> )及氧化亞氮(N <sub>2</sub> O)。氫氟碳化物(HFCs)、全氟化碳(PFCs)、六氟化硫(SF <sub>6</sub> )及三氟化氮(NF <sub>3</sub> )的排放並不顯著。  We do not have scope 3 biogenic emissions. 我們沒有範疇3生物源排放。	
305-4 GHG emissions intensity 溫室氣體排放強度	Environmental Protection 環境保護	98-143
	Key Statistics 主要數據	219-230
	Calculations are based on the global warming potentials published in the IPCC AR6; calculation of GHG emissions include carbon dioxide (CO <sub>2</sub> ), methane (CH <sub>4</sub> ) and nitrous oxides (N <sub>2</sub> O). Emissions of hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF <sub>6</sub> ) and nitrogen trifluoride (NF <sub>3</sub> ) are not significant. 計算參考IPCC AR6中發布的相對全球變暖潛能；溫室氣體排放量的計算包括二氧化碳(CO <sub>2</sub> )、甲烷(CH <sub>4</sub> )及氧化亞氮(N <sub>2</sub> O)。氫氟碳化物(HFCs)、全氟化碳(PFCs)、六氟化硫(SF <sub>6</sub> )及三氟化氮(NF <sub>3</sub> )的排放並不顯著。	
305-5 Reduction of GHG emissions 溫室氣體減排量	Environmental Protection 環境保護	98-143
	Key Statistics 主要數據	219-230
305-6 Emissions of ozone-depleting substances (ODS) 臭氧消耗物質(ODS)的排放	The Group's operations do not involve emissions of significant ozone-depleting substances (ODS). 本集團的運營並不涉及顯著的臭氧消耗物質(ODS)排放。	-
305-7 Nitrogen oxides (NO <sub>x</sub> ), sulfur oxides (SO <sub>x</sub> ), and other significant air emissions 氮氧化物(NO <sub>x</sub> )、硫氧化物(SO <sub>x</sub> )，和其它重大氣體排放	Environmental Protection 環境保護	98-143
	Key Statistics 主要數據	219-230
	Not applicable. The Group monitors emissions of heavy metals and dioxins by sampling. Thus, there is no data on total emissions. Nevertheless, all emissions are lower than the threshold as stated in the <i>Standard for Pollution Control on the Municipal Solid Waste Incineration</i> (GB 18485-2014), complying with national standards. 不適用。本集團以採樣檢驗的方式監測重金屬和二噁英的排放，因此未有排放總量的數據。然而，所有排放均低於《生活垃圾焚燒污染控制標準》(GB 18485-2014)中所列的限值，符合國家標準。	
	Not applicable. We could not quantify fugitive emissions, such as volatile organic compounds (VOCs) and odour pollutants. Nonetheless, we ensure all emissions comply with all applicable local standards. 不適用。我們未能量化無組織氣體，例如揮發性有機化合物及惡臭污染物的排放。儘管如此，我們確保排放符合所有適用的當地標準。	

Disclosure 披露編號	Relevant Chapter(s) or Other Reference/Explanation 相關章節或其他參考／解釋	Page Number 頁數
<b>Waste Management 廢物管理</b>		
<b>GRI 3: Material Topics 2021 實質性議題 2021</b>		
<b>3-3</b>	Management of material topics 實質性議題的管理	Environmental Protection 環境保護 98-143
<b>GRI 306: Waste 2020 廢棄物 2020</b>		
<b>306-1</b>	Waste generation and significant waste-related Impacts 廢棄物的產生及廢棄物相關重大影響	Environmental Protection 環境保護 98-143
<b>306-2</b>	Management of significant waste-related impacts 廢棄物相關重大影響的管理	Environmental Protection 環境保護 98-143
<b>306-3</b>	Waste generated 產生的廢棄物	Environmental Protection 環境保護 98-143  Key Statistics 主要數據 219-230
<b>306-4</b>	Waste diverted from disposal 從處置中轉移的廢棄物	Environmental Protection 環境保護 98-143  Key Statistics 主要數據 219-230
<b>306-5</b>	Waste directed to disposal 進入處置的廢棄物	Environmental Protection 環境保護 98-143  Key Statistics 主要數據 219-230

Disclosure 披露編號	Relevant Chapter(s) or Other Reference/Explanation 相關章節或其他參考/解釋	Page Number 頁數
<b>Occupational Health and Safety 職業健康與安全</b>		
<b>GRI 3: Material Topics 2021 實質性議題 2021</b>		
<b>3-3</b>	Management of material topics 實質性議題的管理	Safety Culture 安全文化 166-179
<b>GRI 403: Occupational Health and Safety 2018 職業健康與安全 2018</b>		
<b>403-1</b>	Occupational health and safety management system 職業健康安全管理體系	Safety Culture 安全文化 166-179  The Group's ESHS management system was formulated in accordance with the <i>Labour Law of the PRC</i> , <i>Work Safety Law of the PRC</i> , <i>Criminal Law of the PRC</i> , <i>Social Insurance Law of the PRC</i> , <i>Occupational Health and Safety Management Systems – Requirements with Guidance for Use</i> (GB/T 45001-2020), <i>Environmental Management Systems – Requirements with Guidance for Use</i> (GB/T 24001-2016), etc. 本集團的ESHS管理體系乃依據《中國勞動法》、《中國安全生產法》、《中國刑法》、《中國社會保險法》、《職業健康安全管理體系要求及使用指南》(GB/T 45001-2020)、《環境管理體系要求及使用指南》(GB/T 24001-2016)等編製。
<b>403-2</b>	Hazard identification, risk assessment, and incident investigation 危害識別、風險評估及事件調查	Safety Culture 安全文化 166-179
<b>403-3</b>	Occupational health services 職業健康服務	Safety Culture 安全文化 166-179
<b>403-4</b>	Worker participation, consultation, and communication on occupational health and safety 職業健康安全事務：工作者的參與、協商和溝通	Safety Culture 安全文化 166-179
<b>403-5</b>	Worker training on occupational health and safety 工作者職業健康安全培訓	Safety Culture 安全文化 166-179
<b>403-6</b>	Promotion of worker health 促進工作者健康	Talent Development 人才發展 144-165  Safety Culture 安全文化 166-179
<b>403-7</b>	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships 預防和減輕與商業關係直接相關的職業健康安全影響	Safety Culture 安全文化 166-179
<b>403-8</b>	Workers covered by an occupational health and safety management system 職業健康安全管理體系適用的工作者	The Group's ESHS management system covers all employees of the Group, third-party contractors and subcontractors working onsite. 本集團的ESHS管理體系覆蓋了本集團所有員工、第三方承包商及分包商駐場工人。  The Group conducts annual internal audit for the ESHS system, but has not yet conducted external audits. 本集團每年對ESHS體系進行內部審核，但暫未進行外部審核。

Disclosure 披露編號	Relevant Chapter(s) or Other Reference/Explanation 相關章節或其他參考／解釋	Page Number 頁數
403-9 Work-related injuries 工傷	Safety Culture 安全文化	166-179
	Key Statistics 主要數據	219-230
	The major risks of work-related injury in the waste-to-energy and integrated biomass utilisation industries include musculoskeletal injuries, fractures, and ocular trauma; while that of the water utility industry include slip and fall, and hearing loss. 垃圾發電及生物質綜合利用行業的主要工傷風險包括肌肉骨骼損傷、骨折、及穿透性眼外傷；水務行業的主要工傷風險則包括滑倒、跌倒、及聽力損害。  During the Reporting Period, 0 work-related fatalities involving on-site third-party contractors and subcontractors were recorded, in which one worker died from getting hit by a rebounded pipe wrench after the motor was powered up, and the other two workers died from inhaling harmful gas while repairing the groundwater drainage pipeline at a landfill. The third-party contractors and subcontractors have compensated the families of the diseased after amicable negotiations. 報告期內錄得0宗涉及第三方承包商及分包商駐場工人的工傷死亡事故。	
403-10 Work-related ill health 工作相關的健康問題	Safety Culture 安全文化	166-179
	Key Statistics 主要數據	219-230
	The major risks of work-related ill health in the waste-to-energy and integrated biomass utilisation industries include skin and gastrointestinal disorders, and exposure to concerning substances, such as respirable quartz dust, dioxins, bioaerosols and carcinogens; while that of the water utility industry include waterborne disease, airborne infection, and skin ailments. 垃圾發電及生物質綜合利用行業的主要職業病風險包括皮膚和腸胃疾病、以及由接觸有害物質，例如石英粉塵、二噁英、生物氣溶膠和致癌物等而引發的疾病；水務行業的主要職業病風險包括水源性疾病、空氣傳播疾病、及皮膚病。	
<b>Employee Training 員工培訓</b>		
<b>GRI 3: Material Topics 2021 實質性議題 2021</b>		
3-3 Management of material topics 實質性議題的管理	Talent Development 人才發展	144-165
<b>GRI 404: Training and Education 2016 培訓與教育 2016</b>		
404-1 Average hours of training per year per employee 每名員工每年接受培訓的平均小時數	Talent Development 人才發展	144-165
	Key Statistics 主要數據	219-230
404-2 Programs for upgrading employee skills and transition assistance programs 員工技能提升方案及過渡協助方案	Talent Development 人才發展	144-165
404-3 Percentage of employees receiving regular performance and career development reviews 定期接受績效和職業發展考核的員工百分比	Talent Development 人才發展	144-165
	Key Statistics 主要數據	219-230

Appendix III – GRI Content Index

附錄III – GRI內容索引

Disclosure 披露編號	Relevant Chapter(s) or Other Reference/Explanation 相關章節或其他參考/解釋	Page Number 頁數
<b>Child Labour and Forced Labour 童工與強制勞工</b>		
<b>GRI 3: Material Topics 2021 實質性議題 2021</b>		
<b>3-3</b>	Management of material topics 實質性議題的管理	Sustainable Operations Management 可持續的運營管理  Talent Development 人才發展
		34-53  144-165
<b>GRI 408: Child Labor 2016 童工 2016</b>		
<b>408-1</b>	Operations and suppliers at significant risk for incidents of child labor 具有重大童工事件風險的運營點和供應商	Sustainable Operations Management 可持續的運營管理  Talent Development 人才發展
		34-53  144-165
<b>GRI 409: Forced or Compulsory Labor 2016 強迫或強制勞動 2016</b>		
<b>409-1</b>	Operations and suppliers at significant risk for incidents of forced or compulsory labor 具有強迫或強制勞動事件重大風險的運營點和供應商	Sustainable Operations Management 可持續的運營管理  Talent Development 人才發展
		34-53  144-165
<b>Rights of Indigenous Peoples 原住民權利</b>		
<b>GRI 3: Material Topics 2021 實質性議題 2021</b>		
<b>3-3</b>	Management of material topics 實質性議題的管理	Community Care 社區關懷
		180-203
<b>GRI 411: Rights of Indigenous Peoples 2016 原住民權利 2016</b>		
<b>411-1</b>	Incidents of violations involving rights of indigenous Peoples 涉及侵犯原住民權利的事件	The Group has no incidents of violations involving rights of indigenous peoples in 2023. 本集團於二零二三年沒有涉及侵害原住民權利的事件。
		-



Disclosure 披露編號	Relevant Chapter(s) or Other Reference/Explanation 相關章節或其他參考／解釋	Page Number 頁數	
<b>Customer Privacy 客戶隱私</b>			
<b>GRI 3: Material Topics 2021 實質性議題 2021</b>			
<b>3-3</b>	Management of material topics 實質性議題的管理	Sustainable Operations Management 可持續的運營管理	34-53
<b>GRI 418: Customer Privacy 2016 客戶隱私 2016</b>			
<b>418-1</b>	Substantiated complaints concerning breaches of customer privacy and losses of customer data 侵犯客戶隱私和丟失客戶資料有關經證實的投訴	The Group has no substantiated complaints concerning breaches of customer privacy and losses of customer data in 2023. 本集團於二零二三年沒有經證實侵犯客戶隱私或遺失客戶資料的投訴。	–
<b>Disaster and Emergency Planning and Response 災難及應急預案規劃</b>			
<b>GRI 3: Material Topics 2021 實質性議題 2021</b>			
<b>3-3</b>	Management of material topics 實質性議題的管理	Safety Culture 安全文化	166-179
<b>Technological R&amp;D 技術研發</b>			
<b>GRI 3: Material Topics 2021 實質性議題 2021</b>			
<b>3-3</b>	Management of material topics 實質性議題的管理	Environmental Protection 環境保護	98-143

## Appendix IV – Stock Exchange ESG Reporting Guide Content Index

### 附錄IV – 聯交所《環境、社會及管治報告指引》內容索引



ESG Aspects ESG層面	Description 描述	Relevant Chapter(s) of the Report and/or Other Explanation(s) 報告章節及/或其他說明
<b>Governance Structure</b> <b>管治架構</b>	A statement from the board containing the following elements: (i) a disclosure of the board's oversight of ESG issues; (ii) the board's ESG management approach and strategy, including the process used to evaluate, prioritise and manage material ESG-related issues (including risks to the issuer's businesses); and (iii) how the board reviews progress made against ESG-related goals and targets with an explanation of how they relate to the issuer's businesses. 由董事會發出的聲明，當中載有下列內容： (i) 披露董事會對環境、社會及管治事宜的監管； (ii) 董事會的環境、社會及管治管理方針及策略，包括評估、優次排列及管理重要的環境、社會及管治相關事宜（包括對發行人業務的風險）的過程；及 (iii) 董事會如何按環境、社會及管治相關目標檢討進度，並解釋它們如何與發行人業務有關連。	About This Report, Sustainable Operations Management 關於本報告、可持續的運營管理
<b>Reporting Principles</b> <b>匯報原則</b>	A description of, or an explanation on, the application of the following Reporting Principles in the preparation of the ESG report: Materiality, Quantitative and Consistency. 描述或解釋在編備環境、社會及管治報告時如何應用下列匯報原則：重要性、量化、一致性。	About This Report 關於本報告
<b>Reporting Boundary</b> <b>匯報範圍</b>	A narrative explaining the reporting boundaries of the ESG report and describing the process used to identify which entities or operations are included in the ESG report. If there is a change in the scope, the issuer should explain the difference and reason for the change. 解釋環境、社會及管治報告的匯報範圍，及描述挑選哪些實體或業務納入環境、社會及管治報告的過程。若匯報範圍有所改變，發行人應解釋不同之處及變動原因。	About This Report, Stakeholder Engagement 關於本報告、持份者參與
<b>“Comply or Explain” Provisions 「不遵守就解釋」條文</b>		
<b>A. Environmental 環境</b>		
<b>Aspect A1: Emissions 層面 A1：排放物</b>		
<b>General Disclosure</b> <b>一般披露</b>	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. 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。	Environmental Protection, Appendix V – Compliance with Relevant Laws and Regulations that Have a significant impact on Everbright Environment 環境保護、附錄V—對光大環境有重大影響的相關法律及規例的遵守情況
<b>KPI A1.1</b>	The types of emissions and respective emissions data. 排放物種類及相關排放數據。	Environmental Protection, Key Statistics 環境保護、主要數據  Air Emissions <sup>(1)</sup> : 煙氣排放量 <sup>(1)</sup> :  Particulate Matter (PM): 626 tonnes 顆粒物(PM): 626噸  Sulphur Dioxide (SO <sub>2</sub> ): 5,750 tonnes 二氧化硫(SO <sub>2</sub> ): 5,750噸  Nitrogen Oxides (NO <sub>x</sub> ): 26,716 tonnes 氮氧化物(NO <sub>x</sub> ): 26,716噸  Hydrochloric Acid (HCL): 1,344 tonnes 鹽酸(HCL): 1,344噸  Carbon Monoxide (CO): 13,868 tonnes 一氧化碳(CO): 13,868噸  The Group monitors other emissions by sampling. Thus, there is no data on total emissions. Nevertheless, all emissions outstripped prevailing statutory standards. 本集團以採樣檢驗的方式監測其他排放物，因此未有排放總量的數據。然而，所有排放均優於現行的法定標準。
<b>KPI A1.2</b>	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). 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）。	Environmental Protection, Key Statistics 環境保護、主要數據
<b>KPI A1.3</b>	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility). 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）。	Environmental Protection, Key Statistics 環境保護、主要數據
<b>KPI A1.4</b>	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility). 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）。	Environmental Protection, Key Statistics 環境保護、主要數據

Note:

<sup>(1)</sup> Includes all operations that involve incineration of household and hazardous waste; and combustion of agricultural and forestry waste.

附註：

<sup>(1)</sup> 涵蓋所有生活垃圾及危廢焚燒，及農林廢棄物的燃燒運營。

ESG Aspects ESG層面	Description 描述	Relevant Chapter(s) of the Report and/or Other Explanation(s) 報告章節及/或其他說明
KPI A1.5	Description of emissions target(s) set and steps taken to achieve them. 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。	Environmental Protection, Together for the Sustainable Development Goals 環境保護、攜手邁向可持續發展目標
KPI A1.6	Description of how hazardous and non-hazardous wastes are handled, and a description of reduction target(s) set and steps taken to achieve them. 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。	Environmental Protection, Together for the Sustainable Development Goals 環境保護、攜手邁向可持續發展目標  Hazardous waste is mainly composed of fly ash generated from the incineration of household waste. The amount of fly ash generated is highly dependent on the quantity and composition of household waste received, which are beyond Everbright Environment's control. 有害廢棄物主要包括焚燒生活垃圾所產生的飛灰。飛灰的數量主要取決於接收生活垃圾的數量及成分，而這些因素均不在光大環境的控制範圍之內。
<b>Aspect A2: Use of Resources 層面A2：資源使用</b>		
<b>General Disclosure 一般披露</b>	Policies on the efficient use of resources, including energy, water and other raw materials. 有效使用資源（包括能源、水及其他原材料）的政策。	Environmental Protection 環境保護
KPI A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility) by type of energy (e.g. electricity, gas or oil) total consumption (in thousand kWh calculation) and density (calculated by unit of production volume, per facility).	Environmental Protection, Key Statistics 環境保護、主要數據
KPI A2.2	Water consumption in total and intensity (per unit of production volume, per facility) total consumption and density (calculated by unit of production volume, per facility).	Environmental Protection, Key Statistics 環境保護、主要數據  The Group's total freshwater consumption and freshwater consumption intensity in 2023 were 80,165,527 m <sup>3</sup> and 0.004 m <sup>3</sup> /kWh respectively. 本集團於二零二三年的淡水消耗總量及淡水消耗強度分別為80,165,527立方米和0.004立方米/千瓦時。
KPI A2.3	Description of energy use efficiency target(s) set and steps taken to achieve them. 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。	Environmental Protection, Together for the Sustainable Development Goals 環境保護、攜手邁向可持續發展目標
KPI A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency target(s) set and steps taken to achieve them. 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。	Environmental Protection, Together for the Sustainable Development Goals 環境保護、攜手邁向可持續發展目標  Regarding water sourcing, all of the Group's projects under construction and operation have obtained the respective environmental impact assessment approvals and waterdrawing permits. There are no issues related to sourcing water that is fit for purpose. 在取水方面，本集團的所有在建及運營項目均已獲得相關的環評批覆及取水證，本集團在獲得適用水源上沒有發現任何問題。
KPI A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced. 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。	The primary products of the Group are clean energy and clean effluent, no packaging materials are used. 本集團的主要產出物為清潔能源及潔淨出水，並不使用包裝物料。
<b>Aspect A3: The Environment and Natural Resources 層面A3：環境及天然資源</b>		
<b>General Disclosure 一般披露</b>	Policies on minimising the issuer's significant impact on the environment and natural resources. 減低發行人對環境及天然資源造成重大影響的政策。	Environmental Protection 環境保護
KPI A3.1	Description of the significant impacts of activities on the environment and natural resources. 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。	Environmental Protection 環境保護
<b>Aspect A4: Climate Change 層面A4：氣候變化</b>		
<b>General Disclosure 一般披露</b>	Policies on identification and mitigation of significant climate-related issues which have impacted, and those which may impact, the issuer. 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。	Responding to Climate Change 應對氣候變化
KPI A4.1	Description of the significant climate-related issues which have impacted, and those which may impact, the issuer, and the actions taken to manage them. 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。	Responding to Climate Change 應對氣候變化

Appendix IV – Stock Exchange ESG Reporting Guide Content Index

附錄IV – 聯交所《環境、社會及管治報告指引》內容索引

ESG Aspects ESG層面	Description 描述	Relevant Chapter(s) of the Report and/or Other Explanation(s) 報告章節及/或其他說明
<b>B. Social 社會</b>		
<b>Employment and Labour Practices 僱傭及勞工常規</b>		
<b>Aspect B1: Employment 層面B1：僱傭</b>		
<b>General Disclosure 一般披露</b>	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. 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。	Talent Development, Appendix V – Compliance with Relevant Laws and Regulations that Have a Significant Impact on Everbright Environment 人才發展、附錄V—對光大環境有重大影響的相關法律及規例的遵守情況
<b>KPI B1.1</b>	Total workforce by gender, employment type (for example, full- or part-time), age group and geographical region. 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。	Talent Development, Key Statistics 人才發展、主要數據
<b>KPI B1.2</b>	Employee turnover rate by gender, age group and geographical region. 按性別、年齡組別及地區劃分的僱員流失比率。	Talent Development, Key Statistics 人才發展、主要數據
<b>Aspect B2: Health and Safety 層面B2：健康與安全</b>		
<b>General Disclosure 一般披露</b>	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. 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。	Safety Culture, Appendix V – Compliance with Relevant Laws and Regulations that Have a Significant Impact on Everbright Environment 安全文化、附錄V—對光大環境有重大影響的相關法律及規例的遵守情況
<b>KPI B2.1</b>	Number and rate of work-related fatalities occurred in each of the past three years including the reporting year. 過去三年(包括匯報年度)每年因工亡故的人數及比率。	Safety Culture, Key Statistics 安全文化、主要數據
<b>KPI B2.2</b>	Lost days due to work injury. 因工傷損失工作日數。	Safety Culture, Key Statistics 安全文化、主要數據
<b>KPI B2.3</b>	Description of occupational health and safety measures adopted, and how they are implemented and monitored. 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。	Safety Culture 安全文化
<b>Aspect B3: Development and Training 層面B3：發展及培訓</b>		
<b>General Disclosure 一般披露</b>	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities. 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。	Talent Development 人才發展
<b>KPI B3.1</b>	The percentage of employees trained by gender and employee category (e.g. senior management, middle management). 按性別及僱員類別(如高級管理層、中級管理層等)劃分的受訓僱員百分比。	Male: 100% 男： Female: 100% 女： Senior management: 100% 高級管理層： Middle level management: 100% 中級管理層： General and technical staff: 100% 一般員工：
<b>KPI B3.2</b>	The average training hours completed per employee by gender and employee category. 按性別及僱員類別劃分，每名僱員完成受訓的平均時數。	Talent Development, Key Statistics 人才發展、主要數據

ESG Aspects ESG層面	Description 描述	Relevant Chapter(s) of the Report and/or Other Explanation(s) 報告章節及/或其他說明
<b>Aspect B4: Labour Standards 層面B4：勞工準則</b>		
<b>General Disclosure 一般披露</b>	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour. 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。	Talent Development, Appendix V – Compliance with Relevant Laws and Regulations that Have a Significant Impact on Everbright Environment 人才發展、附錄V – 對光大環境有重大影響的相關法律及規例的遵守情況
<b>KPI B4.1</b>	Description of measures to review employment practices to avoid child and forced labour. 描述檢討招聘慣例的措施以避免童工及強制勞工。	Talent Development 人才發展  The Group regularly reviews its employment practice to ensure compliance with applicable laws and regulations in preventing child and forced labour. 本集團定期檢討其招聘措施以確保遵守適用於有關避免童工及強制勞工的法律及規例。
<b>KPI B4.2</b>	Description of steps taken to eliminate such practices when discovered. 描述在發現違規情況時消除有關情況所採取的步驟。	The Group has zero tolerance towards such practice. Violations are subject to internal disciplinary actions or handled by relevant authorities. 本集團並不容忍此違規情況。如有發現，將進行內部處分或送官究治。
<b>Operating Practices 運營慣例</b>		
<b>Aspect B5: Supply Chain Management 層面B5：供應鏈管理</b>		
<b>General Disclosure 一般披露</b>	Policies on managing environmental and social risks of the supply chain. 管理供應鏈的環境及社會風險政策。	Sustainable Operations Management 可持續的運營管理
<b>KPI B5.1</b>	Number of suppliers by geographical region. 按地區劃分的供應商數目。	Sustainable Operations Management 可持續的運營管理
<b>KPI B5.2</b>	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored. 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。	Sustainable Operations Management 可持續的運營管理
<b>KPI B5.3</b>	Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored. 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。	Sustainable Operations Management 可持續的運營管理
<b>KPI B5.4</b>	Description of practices used to promote environmentally preferable products and services when selecting suppliers, and how they are implemented and monitored. 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。	Sustainable Operations Management 可持續的運營管理
<b>Aspect B6: Product Responsibility 層面B6：產品責任</b>		
<b>General Disclosure 一般披露</b>	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. 有關所提供產品和服務的健康與安全、廣告、標籤及隱私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。	Sustainable Operations Management, Environmental Protection, Appendix V – Compliance with Relevant Laws and Regulations that Have a Significant Impact on Everbright Environment 可持續的運營管理、環境保護、附錄VI – 對光大環境有重大影響的相關法律及規例的遵守情況  The Group has not identified material concerns in its operations regarding advertising and labelling matters, thus dedicated policies are not in place. 本集團並未發現運營中有關廣告及標籤事宜的重大問題，故此，本集團並無相關專門政策。  There are no laws and regulations that have a significant impact on the Group regarding advertising and labelling matters relating to products and services provided by the Group. 本集團並無有關廣告及標籤事宜的相關法律及規例對其構成重大影響。



## Appendix IV – Stock Exchange ESG Reporting Guide Content Index

### 附錄IV – 聯交所《環境、社會及管治報告指引》內容索引

ESG Aspects ESG層面	Description 描述	Relevant Chapter(s) of the Report and/or Other Explanation(s) 報告章節及/或其他說明
KPI B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons. 已售或已運送產品總數中因安全與健康理由而須回收百分比。	The Group had no products recalled for safety and health reasons in 2023. 本集團於二零二三年沒有因安全與健康理由而須回收產品。
KPI B6.2	Number of products and service related complaints received and how they are dealt with. 接獲關於產品及服務的投訴數目以及應對方法。	Community Care 社區關懷
KPI B6.3	Description of practices relating to observing and protecting intellectual property rights 描述與維護及保障知識產權有關的慣例。	Sustainable Operations Management 可持續的運營管理
KPI B6.4	Description of quality assurance process and recall procedures 描述質量檢定過程及產品回收程序。	Sustainable Operations Management, Environmental Protection 可持續的運營管理、環境保護  The majority of the Group's business is integrated environmental solutions and there are no specific product quality assurance process and recall procedures applicable. 本集團的主要業務為綜合環境解決方案，並無適用的特定產品質量保證程序和召回程序。
KPI B6.5	Description of consumer data protection and privacy policies, how they are implemented and monitored. 描述消費者資料保障及隱私政策，以及相關執行及監察方法。	Sustainable Operations Management 可持續的運營管理
<b>Aspect B7: Anti-corruption 層面B7：反貪污</b>		
<b>General Disclosure 一般披露</b>	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. 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。	Sustainable Operations Management, Appendix V – Compliance with Relevant Laws and Regulations that Have a Significant Impact on Everbright Environment 可持續的運營管理、附錄V—對光大環境有重大影響的相關法律及規例的遵守情況  No loyalty payment was made to any governments in 2023. 本集團於二零二三年沒有向任何政府支付任何特許權費用。
KPI B7.1	Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the Reporting Period and the outcomes of the cases. 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。	In 2023, there was no confirmed case of non-compliance in relation to corrupt practices that would have a significant impact on the Group. 二零二三年並沒有任何與反貪污相關並對本集團有重大影響的已確認違規事件。
KPI B7.2	Description of preventive measures and whistle-blowing procedures, and how they are implemented and monitored. 描述防範措施及舉報程序，以及相關執行及監察方法。	Sustainable Operations Management 可持續的運營管理
KPI B7.3	Description of anti-corruption training provided to directors and staff. 描述向董事及員工提供的反貪污培訓	Sustainable Operations Management 可持續的運營管理
<b>Community 社區</b>		
<b>Aspect B8: Community Investment 層面B8：社區投資</b>		
<b>General Disclosure 一般披露</b>	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. 有關以社區參與來了解運營所在社區需要和確保其業務活動會考慮社區利益的政策。	Community Care 社區關懷
KPI B8.1	Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport). 專注貢獻範疇 (如教育、環境事宜、勞工需求、健康、文化、體育)。	Community Care 社區關懷
KPI B8.2	Resources contributed (e.g. money or time) to the focus area. 在專注範疇所動用資源 (如金錢或時間)。	Community Care, Key Statistics, Appendix II – Main Corporate Memberships 社區關懷、主要數據、附錄II—主要企業會籍



## Stock Exchange ESG Reporting Guide Subject Area

## 聯交所《環境、社會及管治報告指引》 範疇

### Aspect A1: Emissions

### 層面A1：排放物

In order to protect and improve the environment, prevent pollution and other public hazards, safeguard public health, promote the development of ecological civilisation, and promote sustainable economic and social development, the PRC has enacted a vast amount of laws and regulations to protect environmental resources. Key laws and regulations applicable to the Group's business include the *Environmental Protection Law of the PRC*, *Law of the PRC on Environmental Impact Assessment*, *Water Pollution Prevention and Control Law of the PRC*, *the Marine Environment Protection Law of the PRC*, *Law of the PRC on Prevention and Control of Noise Pollution*, *Atmospheric Pollution Prevention and Control Law of the PRC*, *Law of the PRC on the Prevention and Control of Environmental Pollution by Solid Waste*, *Wetlands Conservation Law of the PRC*, *Yangtze River Protection Law of the PRC*, *Yellow River Protection Law of the PRC*, *Provisions on the Compensation for Ecological and Environmental Damage*, *Regulation on Ecological Protection Compensation*, *Measures for the Disclosure of Environmental Information by Enterprises*, *Measures for the Administration of Permit for Operation of Dangerous Wastes*, *Measures for the Administration of the Transfer of Dangerous Wastes*, *Regulation on Medical Wastes Management*, *Measures for the Administration of Environmental Surveillance*, *Measures for the Administration of Automatic Monitoring of Pollution Sources*, *Measures for the Administration of the List of Key Units of Environmental Supervision*, *Regulation on the Administration of Permitting of Pollutant Discharges*, *Administrative Measures for Permitting of Pollutant Discharges*, *Administrative Measures for Urban Household Waste*, *Provisions on the Administration of Urban Construction Waste and Regulation on Urban Drainage and Sewage Treatment*, *Regulation on Water Conservation and Measures for Ecological Environmental Administrative Penalty*. These laws and regulations provide clear requirements on air and GHG emissions, discharges into water and land, and generation of hazardous and non-hazardous waste. The Group understands the importance of complying with these statutory obligations as violation of any applicable environmental laws and regulations may result in penalties, suspension of operation, and/or legal action against the Group imposed by regulatory authorities.

為保護和改善環境，防治污染和其他公害，保障公眾健康，推進生態文明建設，促進經濟和社會的可持續發展，中國制定實施了大量環境資源保護的法律及法規。適用於本集團的主要法律及規例包括《中華人民共和國環境保護法》、《中華人民共和國環境影響評價法》、《中華人民共和國水污染防治法》、《中華人民共和國海洋環境保護法》、《中華人民共和國噪聲污染防治法》、《中華人民共和國大氣污染防治法》、《中華人民共和國固體廢物污染環境防治法》、《中華人民共和國濕地保護法》、《中華人民共和國長江保護法》、《中華人民共和國黃河保護法》、《生態環境損害賠償管理規定》、《生態保護補償條例》、《企業環境信息依法披露管理辦法》、《危險廢物經營許可證管理辦法》、《危險廢物轉移管理辦法》、《醫療廢物管理條例》、《環境監測管理辦法》、《污染源自動監控管理辦法》、《環境監管重點單位名錄管理辦法》、《排污許可管理條例》、《排污許可管理辦法》、《城市生活垃圾管理辦法》、《城市建築垃圾管理規定》、《城市排水與污水處理條例》、《節約用水條例》及《生態環境行政處罰辦法》。該等法律及規例對廢氣及溫室氣體排放、向水及土地的排污以及有害及無害廢棄物的產生等方面提供了明確要求。本集團深明履行該等法定義務的重要性，因為違反任何適用的環境法律和法規均可能會導致監管機構對本集團作出罰款、勒令停運及／或採取法律行動。

In 2023, there was no confirmed case of non-compliance in relation to environmental protection that would have a significant impact on the Group. Please refer to the "Environmental Protection" chapter of the Report on how Everbright Environment ensures compliance with applicable environmental laws and regulations.

二零二三年並無任何與環境保護相關並對本集團有重大影響的已確認違規事件。如欲了解更多光大環境遵守相關環境法律法規的情況，請參閱本報告的「環境保護」一章。

## Aspect B1: Employment

The *Labour Law of the PRC*, *Labour Contract Law of the PRC*, *Labour Union Law of the PRC*, *Regulation on the Implementation of the Labour Contract Law of the PRC*, *Regulation on Unemployment Insurance*, *Regulation on Work-Related Injury Insurance*, *Regulation on Paid Annual Leave for Employees*, *Regulation on Labour Security Supervision*, *Special Provision on Labour Protection of Female Employees* and the *Employment Ordinance* of Hong Kong stipulate the legal obligations and responsibilities of employers to provide employment protection and benefits covering compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare. The *Social Insurance Law of the PRC* is formulated for the purpose of regulating sickness insurance, occupational injury insurance, maternity insurance, medical insurance, retirement insurance and death insurance, and also clarifies the legal liabilities of the employers. *The Regulation on the Management of Housing Provident Fund of the PRC* is formulated for the purpose of maintaining the lawful rights and interests of housing provident fund owners. These laws and regulations provide relevant protection for the Group's employees and safeguard their lawful rights. The Group will continue to comply with all relevant employment laws and regulations to protect the Group's most valuable asset – employees.

In 2023, there was no confirmed case of non-compliance in relation to the Group's employment practices that would have a significant impact on the Group. Please refer to the "Talent Development" chapter of the Report on how Everbright Environment ensures compliance with applicable employment laws and regulations.

## 層面B1：僱傭

《中華人民共和國勞動法》、《中華人民共和國勞動合同法》、《中華人民共和國工會法》、《中華人民共和國勞動合同法實施條例》、《失業保險條例》、《工傷保險條例》、《職工帶薪年休假條例》、《勞動保障監察條例》、《女職工勞動保護特別規定》及香港《僱傭條例》提供了全面的僱傭保障和福利，涵蓋對賠償及解僱、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方面的要求，明確了僱主的法定義務和責任。《中華人民共和國社會保險法》規定了疾病、工傷、生育、醫療、退休及死亡保險，並釐清了僱主的相關法律責任。《住房公積金管理條例》則維護了住房公積金所有者的合法權益。以上法律和規例為本集團的員工提供相關保障，保護員工的合法權利。本集團將繼續遵守所有相關的僱傭法律和規例，保障本集團最寶貴的財富—員工。

二零二三年並無任何與僱傭相關並對本集團有重大影響的已確認違規事件。如欲了解更多光大環境遵守相關僱傭法律法規的情況，請參閱本報告的「人才發展」一章。

## Aspect B2: Health and Safety

*The Labour Law of the PRC, Work Safety Law of the PRC, Law of the PRC on the Prevention and Treatment of Occupational Diseases, the Criminal Law of the PRC, Provisions on Fine Penalties for Work Safety Accidents and Provisions on the Administration of Occupational Health at Workplaces* commit to the protection of occupational safety and health and industrial safety, and require production and business units and employers to provide a safe working environment and protect employees from occupational hazards. The *Social Insurance Law of the PRC* is formulated for the purpose of regulating sickness insurance, occupational injury insurance, maternity insurance, medical insurance, retirement insurance and death insurance, and also clarifies the legal liabilities of the employers. Compliance with these laws and regulations is paramount as workplace safety is of critical importance to each and every employee of the Group. As a socially responsible enterprise, the Group complies with relevant health and safety laws and regulations to provide employees with a safe workplace and suitable insurance.

In 2023, there was no confirmed case of non-compliance in relation to health and safety that would have a significant impact on the Group. Please refer to the “Safety Culture” chapter of the Report on how Everbright Environment ensures compliance with applicable laws and regulations relating to health and safety.

## Aspect B4: Labour Standards

*The Labour Law of the PRC, Provisions on the Prohibition of Using Child Labour and the Employment Ordinance of Hong Kong* set out clear rules for preventing child labour and forced labour, and elaborate on the legal liabilities of employers who violate the relevant laws and regulations. Everbright Environment highly values human rights and aims to demonstrate its “People-Oriented” corporate spirit through compliance with the relevant labour standards.

In 2023, there was no confirmed case of non-compliance in relation to labour standards that would have a significant impact on the Group. Please refer to the “Talent Development” chapter of the Report on how Everbright Environment ensures compliance with applicable laws and regulations relating to labour standards.

## 層面B2：健康與安全

《中華人民共和國勞動法》、《中華人民共和國安全生產法》、《中華人民共和國職業病防治法》、《中華人民共和國刑法》、《生產安全事故罰款處罰規定》及《工作場所職業衛生管理規定》旨在維護勞動安全健康及工業安全，要求生產經營單位及僱主提供安全工作環境及保障僱員避免職業性危害。《中華人民共和國社會保險法》則規定了疾病、工傷、生育、醫療、退休及死亡保險，並釐清了僱主的相關法律責任。遵守這些法律法規是本集團的首要任務，因為工作場所的安全對本集團每一位員工都十分重要。為員工提供安全工作環境及合適保險是本集團作為良心企業的實踐，本集團會嚴守相關健康與安全法律和規例。

二零二三年並無任何與健康與安全相關並對本集團有重大影響的已確認違規事件。如欲了解更多光大環境遵守相關健康與安全法律法規的情況，請參閱本報告的「安全文化」一章。

## 層面B4：勞工準則

《中華人民共和國勞動法》、《禁止使用童工規定》及香港《僱傭條例》對防止童工或強制勞動列有明確規定，並詳細地闡述違反相關法律及規例的僱主的法律責任。光大環境高度重視人權，透過遵守相關勞工準則，充分反映其「以人為本」的企業精神。

二零二三年並無任何與勞工準則相關並對本集團有重大影響的已確認違規事件。如欲了解更多光大環境遵守相關勞工準則法律法規的情況，請參閱本報告的「人才發展」一章。



### Aspect B6: Product Responsibility

Relevant laws and regulations applicable to the Group mainly include the *Civil Code of the PRC* (Tort Liability Book), *Patent Law of the PRC*, *Criminal Law of the PRC*, *Product Quality Law of the PRC*, *Environmental Protection Law of the PRC*, *Atmospheric Pollution Prevention and Control Law of the PRC*, *Water Pollution Prevention and Control Law of the PRC*, *Law of the PRC on the Prevention and Control of Environmental Pollution by Solid Waste* and the *Administrative Penalty Law of the PRC*. These laws and regulations provide clear requirements on health and safety, and remedial methods relating to products and services provided. It is the Group's core value to abide by these rules in providing safe and reliable products and services.

In 2023, there was no confirmed case of non-compliance in relation to product responsibility that would have a significant impact on the Group. Please refer to the "Sustainable Operations Management" and "Environmental Protection" chapters of the Report on how Everbright Environment ensures compliance with applicable laws and regulations relating to product responsibility.

### Aspect B7: Anti-Corruption

The *Anti-Unfair Competition Law of the PRC*, *Criminal Law of the PRC*, *Anti-Money Laundering Law of the PRC*, and the *Prevention of Bribery Ordinance of Hong Kong* set out clear rules on preventing bribery, extortion, fraud and money laundering. These laws and regulations aim to maintain social integrity and fairness, prevent unfair competition, and protect the legal rights of service providers and customers. The Group firmly believes that misconduct such as corruption has significant negative impact to the business development. Therefore, the Group strictly complies with relevant anticorruption laws and regulations to maintain a good reputation and enhance its competitiveness.

It is the Group's policy to avoid making any kind of political contribution. In 2023, the Group did not make payment to any lobbying, interest representation, or political campaigns or organisations.

In 2023, there was no confirmed case of non-compliance in relation to anti-corruption practices (including any form of facilitating payment) that would have a significant impact on the Group. Please refer to the "Sustainable Operations Management" chapter of the Report on how Everbright Environment ensures compliance with applicable laws and regulations relating to anti-corruption practices.

### 層面B6：產品責任

與本集團相關的法律法規主要包括《中華人民共和國民法典》(侵權責任編)、《中華人民共和國專利法》、《中華人民共和國刑法》、《中華人民共和國產品質量法》、《中華人民共和國環境保護法》、《中華人民共和國大氣污染防治法》、《中華人民共和國水污染防治法》、《中華人民共和國固體廢物污染環境防治法》及《中華人民共和國行政處罰法》。該等法律及規例對產品和服務的健康與安全、以及補救方法提供了明確的要求。在符合這些規則的前提下提供安全可靠的產品和服務是本集團的核心價值。

二零二三年並無任何與產品責任相關並對本集團有重大影響的已確認違規事件。如欲了解更多光大環境確保遵守相關產品責任法律法規的情況，請參閱本報告的「可持續的運營管理」及「環境保護」章節。

### 層面B7：反貪污

《中華人民共和國反不正當競爭法》、《中華人民共和國刑法》、《中華人民共和國反洗錢法》及香港《防止賄賂條例》對防止賄賂、勒索、欺詐及洗黑錢行為提供了明確的規定，旨在維護社會廉潔公平，制止不正當競爭行為，保護服務提供者和消費者的合法權益。本集團深信貪污等不當行為對業務發展百害而無一利，因此嚴格遵循相關的反貪污法律法規，致力維持本集團良好的聲譽及提升競爭力。

本集團政策是避免作出任何形式的政治捐款。在二零二三年，本集團沒有向任何遊說、利益代表和政治活動或組織支付款項。

二零二三年並無任何與反貪污相關(包括支付任何形式的通行費)並對本集團有重大影響的已確認違規事件。如欲了解更多光大環境確保遵守相關反貪污法律法規的情況，請參閱本報告的「可持續的運營管理」一章。





CHINA EVERBRIGHT ENVIRONMENT GROUP LIMITED

中國光大環境(集團)有限公司

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SUSTAINABILITY REPORT

可持續發展報告



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