



京能集团

# 北京能源國際控股有限公司

Beijing Energy International Holding Co., Ltd.

(Incorporated in Bermuda with limited liability)

(於百慕達註冊成立之有限公司)

Stock Code 股份代號：686

ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT  
環境、社會及管治報告  
2023





## Vision 願景

To become a first-class international clean energy ecological investment operator.

成為一流的國際化清潔能源生態投資運營商。

## Mission 使命

To build an ecological system of clean energy industry that is green, multi-functional, complementary and intelligently coordinated, and provide full lifecycle services to global energy users through value creation.

構建綠色為主、多能互補、智慧協同的清潔能源產業生態體系，通過價值創造為全球能源用戶提供全生命週期服務。



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About this  
**Report**  
關於  
本報告





This is the ninth Environmental, Social and Governance (“ESG”) Report of Beijing Energy International Holding Co., Ltd. (hereinafter referred to as the “Company” or “BJEI”; and collectively with its subsidiaries, the “Group” or “we” or “us”), presenting our continued efforts and effectiveness for driving sustainability and corporate social responsibility. This report should be read in conjunction with the 2023 annual report of the Company (the “2023 Annual Report”) to fully understand the environmental, social and governance performance of the Group. For the corporate governance section, please refer to pages 55 to 95 of the 2023 Annual Report.

The board (the “Board”) of directors (the “Directors”) of the Company acknowledges its responsibility for ensuring the truthfulness of this report. To the best of its knowledge, this report presents the details of material topics of the Group and its impacts, and the Group’s performance in managing such issues is fairly presented. This report has been reviewed and approved by the Board.

## BASIS AND PRINCIPLES FOR PREPARATION

This report is prepared in compliance with the Environmental, Social and Governance Reporting Guide (“ESG Reporting Guide”) set out in Appendix C2 to the Rules Governing the Listing of Securities (the “Listing Rules”) on The Stock Exchange of Hong Kong Limited (the “Stock Exchange”) and with reference to the Global Reporting Initiative (“GRI”) Sustainability Reporting Standards (“GRI Standards”).

本報告為北京能源國際控股有限公司（於本報告簡稱「本公司」或「公司」或「京能國際」，連同其附屬公司統稱為「本集團」或「我們」）的第九份環境、社會和管治（「ESG」）報告，旨在呈列我們為推動可持續發展和企業社會責任所作出的努力與成效。本報告應與本公司二零二三年年報（「二零二三年年報」）一併閱覽，以便全面了解本集團的環境、社會及企業管治表現。有關企業管治章節，請參閱二零二三年年報第55頁至95頁。

本公司董事（「董事」）會（「董事會」）確認其有責任確保本報告的真實性，且就其所知，本報告已詳細披露本集團的重要性議題及其影響，並公正地呈列本集團在管理該等議題的表現。董事會已審閱並通過本報告。

## 編製依據及原則

本報告乃遵循香港聯合交易所有限公司（「聯交所」）證券上市規則（「上市規則」）附錄C2中所載的《環境、社會及管治報告指引》（「ESG報告指引」），並參考全球報告倡議組織（「GRI」）《可持續發展報告標準》（「GRI標準」）而編製。



This report has complied with the “comply or explain” provisions set out in the ESG Reporting Guide, and was prepared on the basis of the reporting principles of “Materiality”, “Quantitative”, “Balance” and “Consistency”. When preparing this report, the Group applied the reporting principles as follows:

本報告已遵守ESG報告指引中有關「不遵守就解釋」的條文，同時以「重要性」、「量化」、「平衡」和「一致性」這四項匯報原則作為編製基礎。在編製本報告的過程中，本集團應用匯報原則的情況如下：

### Reporting principles 匯報原則

### How they are applied in the report preparation 報告編製中的應用

#### Materiality 重要性

The Group has made communication with stakeholders and assessed material topics through online questionnaires to identify the material ESG topics, and to ensure that the concerns of stakeholders were addressed in this report. For the detailed assessment process and results of the material topics, please refer to the section headed “Materiality Assessment” of this report.

本集團通過線上調查問卷的方式開展持份者溝通及重要性議題評估，以識別重大的ESG議題，並確保已於本報告回應持份者的關注。有關重要性議題的詳細評估過程及結果請參見本報告「重要性評估」章節。

#### Quantitative 量化

The data presented in this report have been checked and verified. For the standards, methods, assumptions and/or calculation tools used to calculate quantitative key performance indicators (“KPIs”), and the sources of the conversion factors applied for the Year, please refer to the section headed “Appendix II: Overview of Environmental, Social and Governance Key Performance Indicators” of this report.

本報告所呈列的數據已作檢查及核實。有關本年度計算量化關鍵績效指標（「關鍵績效指標」）所採用的標準、方法、假設及／或計算工具，以及其所使用的轉換因素的來源，請參見本報告「附錄二：環境、社會及管治關鍵績效指標概覽」章節。

#### Balance 平衡

In the preparation of this report, the Group focused on an impartial and transparent presentation of its performance in every aspect of sustainable development.

於本報告編寫的過程中，本集團通過公正、透明的方式闡述其可持續發展各方面的表現。

#### Consistency 一致性

Unless stated otherwise, the statistical methods and criteria applied in this report is consistent with last year. Quantitative data are analysed to account for year-on-year changes and are presented in a way that allows for consistent comparison by the stakeholders.

除非另行說明，本報告採用與往年相同的統計方法及口徑。量化數據經分析後以可作按年比較的一致性方式呈列，以供持份者檢閱。



## REPORTING SCOPE AND PERIOD

The reporting period of this report is consistent with the 2023 Annual Report, covering from 1 January 2023 to 31 December 2023 (the “Year”). We identified the scope of this report encompassing business operations of the Company and its subsidiaries, in accordance with the 2023 Annual Report.

## 匯報範圍及期間

本報告涵蓋的時間範圍與二零二三年年報一致，為二零二三年一月一日至二零二三年十二月三十一日（「本年度」）。我們將報告內容範圍界定為本公司及其附屬公司之業務營運，與二零二三年年報保持一致。

## Feedback

This report is published in both traditional Chinese and English. In case of any discrepancy between the two versions, the traditional Chinese version shall prevail. The Group is committed to maintaining communication with stakeholders, understanding and responding to their concerns and improving the comprehensiveness of this report. We welcome your feedbacks on this report and on any aspect of our sustainability performance through the feedback form which is available at the back of this report.

## 意見 反饋

本報告以繁體中文及英文兩個語言版本發佈。若在內容理解上存在差異，請以繁體中文版本為準。本集團致力與持份者保持溝通，了解及回應彼等之關注，並提高本報告之全面性。我們歡迎閣下通過本報告背面的反饋表對本報告及我們在可持續發展績效的任何方面進行反饋。

About the  
**Company**  
關於  
本公司





## BUSINESS TYPES AND DISTRIBUTION

Beijing Energy International Holding Co., Ltd. is a company listed on the main board of the Stock Exchange. The Group is principally engaged in the development, investment, operation and management of power plants and other clean energy projects which includes project investment and operation in clean energy such as photovoltaic (“PV”) power, wind power, hydropower, as well as hydrogen energy, energy storage, integrated energy, gas turbines and computing. Its business covers 26 provinces across China, as well as overseas new energy markets such as Australia, Vietnam and RCEP countries.

As of 31 December 2023, the Group owned 140 solar power plants, 28 wind power plants, 26 hydropower plants and 1 energy storage power station with an aggregate grid-connected installed capacity of approximately 8,577 megawatt(s) (“MW”), which had total electricity generation volume of approximately 11,994,209 megawatt hours (“MWh”) in 2023. In addition, the Group also held 2 solar power plants, 1 wind power plant and 2 hydropower plants through its associates with an aggregate grid-connected installed capacity of approximately 576MW, which had total electricity generation volume of approximately 1,787,157MWh.

## 業務類型及分佈

北京能源國際控股有限公司是聯交所主板上市公司。本集團主要從事發電站及其他清潔能源項目的開發、投資、營運及管理，包括光伏、風力、水電等清潔能源以及氫能、儲能、綜合能源、燃機、算力等領域的項目投資運營，業務遍佈全國26個省份，以及澳洲、越南等RCEP國家海外新能源市場。

截至二零二三年十二月三十一日，本集團共持有140個太陽能發電站、28個風力發電站、26個水力發電站及1個儲能電站，總併網裝機容量約8,577兆瓦（「兆瓦」），二零二三年的總發電量約為11,994,209兆瓦時（「兆瓦時」）。此外，本集團亦透過其聯營公司持有2個太陽能發電站、1個風力發電站及2個水力發電站，總併網裝機容量約576兆瓦，總發電量約為1,787,157兆瓦時。



- |     |                |     |
|-----|----------------|-----|
| 1.  | Hebei          | 河北  |
| 2.  | Jilin          | 吉林  |
| 3.  | Shandong       | 山東  |
| 4.  | Shanxi         | 山西  |
| 5.  | Henan          | 河南  |
| 6.  | Inner Mongolia | 內蒙古 |
| 7.  | Shaanxi        | 陝西  |
| 8.  | Ningxia        | 寧夏  |
| 9.  | Gansu          | 甘肅  |
| 10. | Anhui          | 安徽  |
| 11. | Zhejiang       | 浙江  |
| 12. | Hubei          | 湖北  |
| 13. | Hunan          | 湖南  |
| 14. | Guangdong      | 廣東  |
| 15. | Guangxi        | 廣西  |
| 16. | Yunnan         | 雲南  |
| 17. | Sichuan        | 四川  |
| 18. | Qinghai        | 青海  |
| 19. | Xizang         | 西藏  |
| 20. | Xinjiang       | 新疆  |
| 21. | Beijing        | 北京  |
| 22. | Heilongjiang   | 黑龍江 |
| 23. | Jiangxi        | 江西  |
| 24. | Liaoning       | 遼寧  |
| 25. | Jiangsu        | 江蘇  |
| 26. | Hainan         | 海南  |

## CHRONOLOGY OF EVENTS IN 2023

## 二零二三年大事記

01 Phase I of Beijing Artificial Intelligence Public Arithmetic Platform Officially Launched  
北京人工智能公共算力平台一期正式上線

On December 26, 2023, the first phase of the 500P (FP16 dense) computing power of the Beijing Artificial Intelligence Public Computing Power Platform (Shangzhuang), which was built by the Group, was officially launched. It can effectively alleviate the tense demand for computing power from Beijing's colleges and universities, scientific research institutes, and small-, medium- and micro-artificial intelligence enterprises. The universal computing power service provided by the platform will help cultivate and build the capital's AI ecosystem and empower the transformation and upgrading of the real economy. Taking this opportunity, the Company cultivates the digital computing power industry and promotes the integrated development of "electrical power + computing power", responding to the "14th Five-Year Plan" to significantly enhance the capacity for innovation and development of the construction of a modern energy system.



北京人工智能公共算力平台(上莊)由本集團承建，一期500P (FP16稠密) 算力於二零二三年十二月二十六日正式上線，可以有效緩解北京市高校、科研院所、中小微人工智能企業對算力需求的緊張現狀。平台提供的普惠算力服務將助力首都人工智能生態的培育建設，賦能實體經濟轉型升級。藉此良機，本公司培育數字算力產業，推動「電力+算力」融合發展，響應「十四五」規劃，大幅提升現代能源體系建設的創新發展能力。

02 Tongliao 2.38GW Wind Farm Completed Wind Turbine Foundation Pouring Project  
通遼2.38吉瓦風電場完成風機基礎澆築工程

Tongliao 2.38 gigawatt(s) ("GW") Base started construction in July 2023 and completed the foundation pouring of all 381 wind turbines within four months, creating the fastest record in the industry. After the completion of the project, it is expected to provide 7.5 billion kilowatt-hours of clean electricity annually, equivalent to saving about 2.61 million tons of standard coal, reducing carbon dioxide emissions of about 6.34 million tons, reducing sulfur dioxide emissions of about 22,000 tons, reducing nitrogen oxide emissions of about 33,200 tons, which will play an important role in the adjustment of Tongliao's energy structure, energy security, and promote rural revitalization and economic and social development, and injecting surging momentum into the high-quality development of the national energy industry.

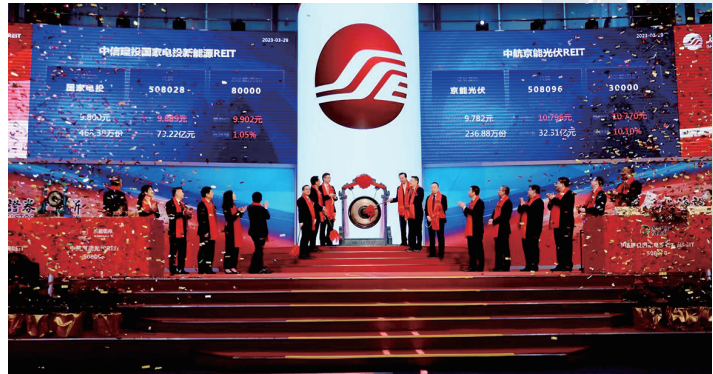


通遼2.38吉瓦(「吉瓦」)基地於二零二三年七月開工建設，四個月內完成全部381台風機的基礎澆築，創造業內最快紀錄。工程竣工後，預計每年可提供75億千瓦時清潔電力，相當於節約標準煤約261萬噸，減少二氧化碳排放約634萬噸，減少二氧化硫排放約2.2萬噸，減少氮氧化物排放約3.32萬噸，將對通遼市能源結構調整、能源安全保障、促進鄉村振興及經濟社會發展發揮重要作用，為國家能源產業高品質發展注入澎湃動力。



### 03 The First Domestic Photovoltaic Theme REITs Product Successfully Listed 國內首單光伏項目REITs產品成功上市

On March 29, 2023, AVIC BJEI Photovoltaic Closed-end Infrastructure Real Estate Investment Trust was successfully listed in Shanghai. The product is the first PV-themed REITs product in China, with two PV power plants of 300MW in Yulin City, Shaanxi Province and 100MW in Suizhou City, Hubei Province in China as the underlying infrastructure projects. The annual power generation of the two projects is equivalent to saving 175,600 tons of standard coal and reducing 479,100 tons of carbon dioxide compared to equivalent thermal power generation. The combination of new energy industry and public REIT can bring the financing advantages of financial products to the development of real economy, which has a positive demonstration effect on promoting China to realise the goal of “dual-carbon” strategy.



於二零二三年三月二十九日，中航京能光伏封閉式基礎設施證券投資基金在上海成功上市。該產品是中國首個光伏項目REITs產品，基礎設施項目為中國陝西省榆林市300兆瓦及湖北省隨州市100兆瓦的兩個光伏電站。兩個項目年發電量與同等火力發電量相比，相當於節約標準煤17.56萬噸，減少47.91萬噸二氧化碳。新能源產業與公募REIT的結合，可以把金融產品的融資優勢帶入到實體經濟發展中來，對推動我國實現「雙碳」戰略目標具有積極的示範效應。

### 04 Capital Increase and Holding of Baoshan Energy, Realising “Zero” Breakthrough in Hydropower Projects 增資控股保山能源，實現水電項目「零」突破

In March 2023, the Group made a capital increase in the amount of RMB960 million to Baoshan Energy Development Company Limited and gained effective control of the company. This capital increase has significant synergies and economies of scale. The Group not only adds nearly 1GW of clean energy installed capacity, but also obtains potential hydropower development opportunities in Baoshan City, realising a “zero” breakthrough in hydropower projects, which is conducive to the creation of a water, light, storage and multi-energy complementary base in Baoshan, and realises the scaled operation and diversified development of the Group in the field of clean energy and has an important synergistic effect on the development of new energy in the region on a large scale.



於二零二三年三月，本集團向保山能源發展股份有限公司增資人民幣9.6億元，獲得其實際控制權。本次增資具有顯著的協同效益和規模效益。本集團不僅新增近1吉瓦清潔能源裝機規模，而且獲得保山市境內潛在的水電開發機會，實現水電項目「零」突破，有利於在保山打造水光儲多能互補基地，實現本集團清潔能源領域規模化運營及多元化發展，並對區域大規模新能源開發具有重要的協同作用。

## 05

## Acquisition of Lightsource BP Assets, Entering a New Stage of Business Development in Australia

## 收購Lightsource BP資產，在澳洲業務發展進入新階段

In 2023, the Group continued to implement the offshore business strategy of "14th Five-Year Plan", with Australia as the foundation, actively expanding the clean energy market in Vietnam and other RCEP countries, increasing project reserves in Southeast Asia, New Zealand, Europe and other countries, and establishing a key regional layout for clean energy. Beijing Energy International (Australia) Holding Pty Ltd formally announced that it had reached an agreement with Lightsource BP on the acquisition of its 1GW asset package in Sydney, Australia. It is expected that after the completion and commissioning of the project, it will provide more than 2,230GWh of clean energy power to Australia, supplying power to more than 380,000 local households, and at the same time reducing emissions by more than 1,695,000 tons of carbon dioxide.



於二零二三年，本集團繼續實施「十四五」發展規劃境外業務戰略，以澳洲為根基，積極拓展越南等RCEP國家清潔能源市場，加大東南亞、新西蘭、歐洲等國家的項目儲備，建立清潔能源重點區域佈局。北京能源國際（澳大利亞）控股有限公司在澳洲悉尼正式宣佈與Lightsource BP就其1吉瓦資產包收購達成協議。預計在項目建成投產後，將為澳洲提供超過2,230吉瓦時的清潔能源電力，為當地超過38萬戶家庭供電，同時減排超過169.5萬噸二氧化碳。

## KEY PERFORMANCE IN 2023

## 二零二三年關鍵績效



EBITDA (RMB' Million)

EBITDA (人民幣百萬元)

4,559

+31.57%

yoy (2022: 3,465)

按年 (二零二二年：3,465)



Aggregate Grid-connected Installed Capacity (MW)

總併網裝機容量 (兆瓦)

8,577

(2022: 5,603)

(二零二二年：5,603)



Revenue (RMB' Million)

收入 (人民幣百萬元)

5,568

+35.31%

yoy (2022: 4,115)

按年 (二零二二年：4,115)



Total number of employees:

員工總數：

1,790

(2022: 1,011)

(二零二二年：1,011)



Total Training Hours

培訓總時數

123,174

(2022: 9,243)

(二零二二年：9,243)

Zero Work-related Fatalities for  
連續

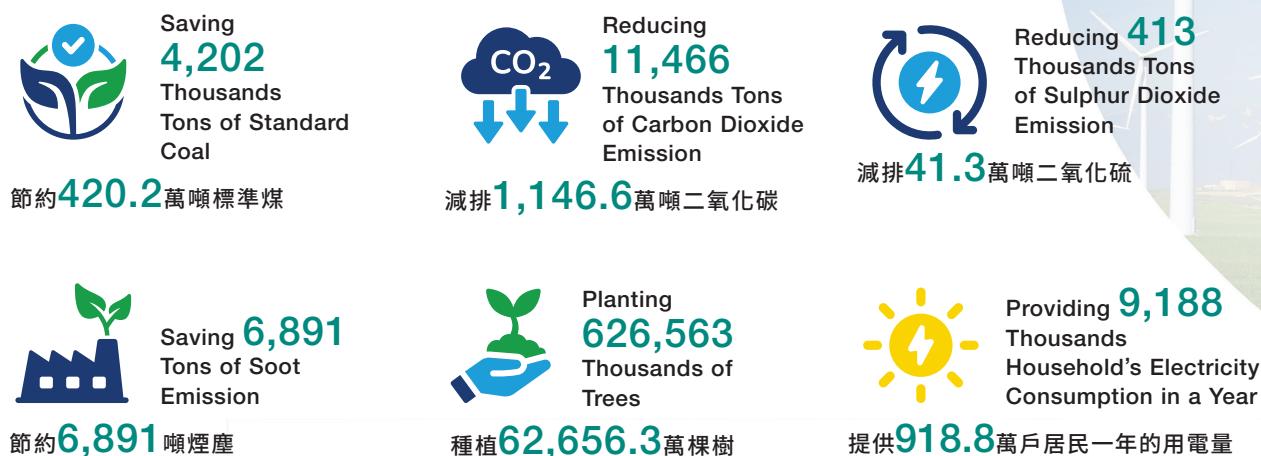
9

Consecutive Years

年因工亡故人數為零



The total electricity generation volume (including associates) for 2023 is 13,781,366MWh, equivalent to: 二零二三年的總發電量(包括聯營公司)為13,781,366兆瓦時,相當於:



## KEY ESG HONOURS IN 2023 二零二三年主要ESG榮譽



ESG Ratings  
ESG評級

**Sustainable Fitch:**  
**ESG Entity Rating of 2,**  
**an entity score of 76**  
惠譽常青:  
**ESG主體評級2級及主體**  
**評分76分**

**MSCI ESG Rating:**  
**BBB**  
明晟ESG評級:  
**BBB**

**Sustainalytics:**  
**23.3 Medium risk**  
晨星:  
**23.3中度風險**



ESG Award  
ESG獎項



BJEI 2022 ESG Report received the Recognition for ESG Disclosure of Hong Kong ESG Reporting Awards. 京能國際2022年ESG報告榮獲香港ESG報告大獎中的ESG披露嘉許狀。



At the 8th Zhitong Caijing Capital Market Annual Conference and Listed Company Award Ceremony, BJEI was awarded the "Best ESG Company Award". 在「第八屆智通財經資本市場年會暨上市公司頒獎典禮」上,京能國際榮獲「最佳ESG公司獎」獎項。



At the 11th Hong Kong Star Brand Award Ceremony, BJEI was awarded the "ESG Award". 在第十一屆香港星級品牌頒獎典禮上,京能國際榮獲「ESG獎」。



BJEI was successfully selected as one of the "2023 ESG Excellent Cases" by Securities Daily and awarded as "ESG Pioneer Practitioner". 京能國際成功入選證券日報「2023 ESG優秀案例」,並獲得「ESG先鋒踐行者」的稱號。

Chairman's  
**Message**  
主席  
致辭





The year of 2023 is the key year of the national “14th Five-Year Plan”; and also the breakthrough year of BJEI. With the main line of “seeking progress amidst stability, optimising layout, fine management, attacking and creating efficiency”, the Company is united in overcoming difficulties, continuing to seize development opportunities, continuing to improve overall management, releasing the vitality of the system and mechanism, and maintaining a strong momentum of high-quality and rapid development.

**During this year, we have optimised the layout of our main business and contributed to the construction of a new national energy system.**

The Group deepened the implementation of the development strategy of “base, synergy and internationalisation”, optimised the layout around the “dual-circle, one-centre and one-focus”. We have continued to pay attention to the “north-circle” base project to achieve the scale effect by efficiently promoting it, and continued to focus on building the scientific layout of the “south-circle” cluster project to achieve the synergy effect. We have plowed into the capital market to promote the green and low-carbon transformation of the capital city’s energy; we have deepen strategic cooperation, with Australia as the foundation, actively expanded the clean energy market in Vietnam and other RCEP countries, and increased the strength of projects in Southeast Asia, New Zealand, Europe, etc. As of 31 December 2023, BJEI and its associate held a total of 142 solar power plants, 29 wind power plants, 28 hydropower plants and 1 energy storage power station with an aggregate grid-connected installed capacity amounted to approximately 9,153MW, and the total power generation capacity in 2023, including the associates, amounted to approximately 13,781,366MWh.

二零二三年，是國家「十四五」規劃的關鍵之年，也是京能國際的攻堅突破年。我們以「穩中求進、優化佈局、精細管理、攻堅創效」為主線，公司上下一心，攻堅克難，繼續搶抓發展機遇，持續全面管理提升，釋放體制機制活力，保持著高質量快速發展強勁態勢。

**這一年，我們堅守主業優化佈局，助力國家新型能源體系建設。**

本集團深化落實「基地化、協同化、國際化」發展戰略，圍繞「雙環線、一中心、一聚焦」優化佈局，持續關注「北環線」基地項目高效推進實現規模效應，重點構建「南環線」集群項目科學佈局實現協同效應；深耕首都市場，推動首都能源綠色低碳轉型；深化戰略合作，以澳洲為根基，積極拓展越南等RCEP國家清潔能源市場，加大東南亞、新西蘭、歐洲等國家項目儲備力度。截至二零二三年十二月三十一日，京能國際及其聯營公司共持有142個太陽能發電站、29個風力發電站、28個水力發電站及1個儲能電站，總併網裝機容量達約9,153兆瓦，以及二零二三年包括聯營公司的總發電量約為13,781,366兆瓦時。



**During this Year, we have empowered high-quality development and continued to improve our corporate governance system.**

We deeply implemented the requirements for high-quality development and became a first-class international clean energy ecological investment operator by benchmarking against the world's best, continuously improving management, optimising the management structure, strengthening team building, and stimulating organisational vitality. In this Year, in order to better integrate sustainable development into the Company's management and operations, we have established a sustainability committee (the "Sustainability Committee"), endeavouring to build an ESG governance system that promotes all aspects of "decision-making level, management level and execution level", and promotes the full implementation of sustainable strategies and work.

**During this Year, we have concentrated our efforts on breakthroughs and achieved landmark results one after another.**

We completed the foundation pouring project of all 2.38GW wind turbines in Tongliao within four months, creating the record of the shortest construction period in the industry; we obtained AAA credit rating in China, and obtained the highest ESG Entity Rating in the history of Sustainable Fitch in China; we completed the listing of the first PV public REITs in China; and we increased the holding of Baoshan Energy, realising the breakthrough of "zero" in the hydropower project.

**這一年，我們賦能高質量發展，持續完善公司治理體系。**

我們深入落實高質量發展要求，通過對標世界一流，持續管理提升，優化管理結構，強化團隊建設，激發組織活力，成為一流的國際化清潔能源生態投資運營商。本年度，為了更好地將可持續發展融入公司管理和運營，我們成立了可持續發展委員會（「可持續發展委員會」），努力打造「決策層—管理層—執行層」全方位推進的ESG治理體系，推動可持續發展戰略和工作全面落實。

**這一年，我們凝心聚力乘勢突破，標誌性成果接連取得。**

我們四個月內完成通遼2.38吉瓦全部風機基礎澆築工程，創造業內最短工期紀錄；我們取得境內AAA信用評級，獲得惠譽常青境內歷史最高分ESG主體評級；我們完成全國首單光伏公募REITs上市；我們增資控股保山能源，實現了水電項目「零」的突破。



**During this Year, we have maintained environmentally friendly operations and built a green and low-carbon future.**

We have adhered to the principles of “protection first, prevention first, comprehensive management, highlighting the key points, and comprehensive control”; established and improved the environmental protection management system, implemented the environmental protection target responsibility system, and effectively controlled the discharge of environmental pollutants during the construction process and the production process of the project. In the development and construction of new energy projects such as photovoltaic and wind power, we have taken ecological environmental protection as a prerequisite, and environmental protection measures have been interlocked to improve the efficiency of natural resources utilisation. In the production process, we have implemented energy-saving and emission reduction technologies to reduce the impact of our operations on the environment. In addition, we are being committed to incorporating climate issues into our overall corporate strategy, actively identifying climate-related risks and opportunities, and enhancing our climate adaptation and response capabilities.

**During this Year, we have anchored the development of intelligent energy to create a new pattern of scientific and technological innovation.**

Innovation is the driving force of the development of enterprises. The Group actively improves its technological innovation system and organisational construction, builds a technological innovation platform, promotes the development and implementation of technological innovation, and continuously enhances its corporate strength. We took the construction of the Beijing Artificial Intelligence Public Computing Platform as an opportunity to cultivate the digital computing industry and promote the integrated development of “power + computing”. We also innovated in the development of integrated intelligent energy and accelerated the landing of “photovoltaic +” projects. During the Year, the Group has added 47 patents and 19 software copyright patents.

**這一年，我們保持環境友好式運營，打造綠色低碳未來。**

我們堅持「保護優先、預防為主、綜合治理、突出重點、全面管控」的原則，建立健全環保管理體系，實施環境保護目標責任制度，有效管控項目建設過程和生產過程的環境污染物排放。在光伏、風電等新能源項目的開發建設中，我們以生態環境保護為先決條件，環保措施環環相扣，提高自然資源利用效益。在生產過程中，我們通過實施節能減排技術，減少自身營運對環境造成的影響。另外，我們正致力於將氣候議題納入企業整體戰略，積極識別氣候相關風險和機遇，提升自身的氣候適應和應對能力。

**這一年，我們錨定智慧能源開發，打造科技創新新格局。**

創新是企業發展的動力。本集團積極完善技術創新體系和組織建設，搭建技術創新平台，推動技術創新的開展和實施，不斷增強企業實力。我們以建設北京人工智能公共算力平台為契機，培育數字算力產業，促進「電力+算力」融合發展；創新綜合智慧能源開發，加快「光伏+」項目落地。本年度，本集團新增47項專利，19項軟件著作專利。



### During this Year, we have continued to collaborate with stakeholders to create a better society.

We have deepened our communication and collaboration with various stakeholders. We continued to strengthen our relationship management with government, shareholders, investors, suppliers, customers, employees and the public through timely disclosure of information, publication of results, strategic partnerships and cooperation, and to care for and safeguard the interests of all parties.

Adhering to the concept of “people-oriented”, we advocate the common growth of corporate value and employee value, and continue to attract and cultivate talents. During the Year under review, we continued to improve employee training management and cultivate a team of professional talents. In addition, we have been developing cultural activities and caring for our employees in various aspects of their lives, emotions, and growth, so that their sense of achievement, happiness, and sense of belonging can be strengthened.

We actively fulfill our corporate social responsibility by insisting on closely combining high-quality development with meeting the people’s needs for a better life, and unswervingly enhancing people’s well-being. We are actively involved in social responsibility practices such as rural revitalization, schooling and education, rural poverty alleviation and community services, demonstrating the responsibility of state-owned enterprises.

In December 2023, the United Nations Climate Change Conference (COP28) was held, and 118 countries committed to triple the global renewable energy capacity by 2030 and double the energy efficiency. Promoting the green and low-carbon transformation of energy and building a new energy system is an international trend, a requirement of the national “14th Five-Year Plan”, and a must-go path for the realisation of the national goal of “2030 Carbon Peak and 2060 Carbon Neutral”.

### 這一年，我們繼續與持份者協同協作，共創美好社會。

我們與各方持份者深入溝通、協同協作。通過及時信息披露、業績發佈、戰略合夥及合作等多種形式，持續加強與政府、股東、投資者、供貨商、客戶、員工及社會公眾等多方的關係管理，關切和維護各方利益。

我們秉承「以人為本」的理念，倡導企業價值與僱員價值共同成長，不斷吸納及培養人才。回顧年度，我們繼續完善僱員培訓管理，培養專業人才隊伍。另外，我們通過開展文化活動，從生活、情感、成長等多個環節關懷員工，讓員工的獲得感、幸福感、歸屬感不斷增強。

我們積極履行企業社會責任，堅持把高質量發展同滿足人民美好生活需要緊密結合起來，堅定不移增進民生福祉。我們積極投身於鄉村振興、助學育人、鄉村扶貧和社區服務等社會責任實踐，彰顯國有企業的责任擔當。

二零二三年十二月，聯合國氣候變化大會(COP28)召開，118個國家承諾到二零三零年將全球可再生能源產能提高三倍，能源效率提高兩倍。推進能源綠色低碳轉型，構建新型能源體系是國際趨勢，是國家「十四五」規劃要求，是國家「2030碳達峰、2060碳中和」目標實現的必經之路。



Looking forward to 2024, we will embrace the new situation, embrace new opportunities and embark on a new journey. We will continue to create value, achieve employees' successes, return shareholders, contribute to society, enhance core competitiveness, and strive to build a clean energy industry ecosystem that is "green-oriented, multi-energy complementary, and intelligent synergistic", in order to build BJEI into a first-class international clean energy ecological investment operator!

**Zhang Ping**  
Chairman

展望二零二四，我們又將迎接新局面，擁抱新機遇，踏上新征程。我們將繼續創造價值，成就員工，回報股東，奉獻社會，提升核心競爭力，努力構築「綠色為主、多能互補、智慧協同」的清潔能源產業生態體系，為把京能國際打造成為一流的國際化清潔能源生態投資運營商而努力奮鬥！

**張平**  
主席

Chairman's Message  
主席致辭



Sustainability  
**Management**  
可持續發展  
管理





## STATEMENT OF THE BOARD OF DIRECTORS

The Board is the highest governance body to monitor sustainable development of the Group and is responsible for overseeing the strategic direction of the Group's sustainable development, including significant ESG-related risks and opportunities, as well as supervising the completion of objectives and fulfilling accountability. The Board has delegated the responsibility for implementing sustainability related issues of the Group to the Sustainability Committee, which consists of at least three Board members. The Board also assumes full responsibility for the ESG report, identifying material topics of the Group, and ensures truthfulness, compliance and effectiveness of the Group's disclosures by reviewing and approving the ESG report.

## ESG GOVERNANCE STRUCTURE

Pursuant to the relevant requirements of the Listing Rules and the bye-laws of the Company as amended from time to time, the Group has established its Sustainability Committee and ESG working group (the "ESG Working Group"). The Committee consists of Board members at the decision-making level and the managerial level, and the ESG Working Group consists of department heads and general staff at the execution level. With clear assignment of responsibilities and roles, the Committee ensures that ESG decisions are integrated into the Group's development strategies and effectively implemented. The detailed ESG governance structure of the Group is as follows:

## 董事會聲明

董事會乃本集團監督可持續發展的最高管治機構，負責監督本集團的可持續發展戰略方向，包括重大ESG相關的風險及機遇，以及監督目標完成情況並履行問責。董事會授權可持續發展委員會負責執行本集團之可持續發展相關事宜，其由至少三名董事會成員組成。董事會亦對ESG報告承擔全部責任，確認本集團的重要議題，並通過審閱及批准ESG報告，確保本集團信息披露的真實、合規及有效。

## ESG管治架構

根據上市規則的相關規定及本公司不時修訂的章程細則，本公司已設立可持續發展委員會以及ESG工作小組（「ESG工作小組」）。委員會由決策層和管理層的董事會成員組成，ESG工作小組由執行層的部門領導及一般員工組成。透過明確的職責及角色分配，委員會確保ESG決策融入至本集團發展戰略中並得到有效實施。本集團ESG管治架構詳情如下：



ESG Governance Structure  
ESG管治架構Main Responsibilities  
主要職責Decision-making  
level and  
managerial level  
決策層及管理層**Board of Directors**  
董事會

- Serving as the highest governance body responsible for oversight and decision-making on ESG matters for the Group;  
擔任本集團最高管治機構，負責監管ESG事宜並就其作出決策；
- Being responsible for nominating and electing the members of the Sustainability Committee; and  
負責提名及挑選可持續發展委員會成員；及
- Receiving presentations from the Sustainability Committee on sustainability issues and matters at Board meetings.  
於董事會會議上聽取可持續發展委員會就有關可持續發展議題及事宜的匯報。

**Sustainability Committee**  
可持續發展委員會

- Developing, directing and reviewing the Group's sustainability management objectives, goals, strategies, policies, systems and frameworks;  
制定、指導及審閱本集團可持續發展管理宗旨、目標、策略、政策、系統及框架；
- Identifying and evaluating the Group's sustainability materiality, prioritisation and process for managing key ESG-related issues, and making recommendations to the Board on the determination of the Group's sustainability materiality and matrix;  
識別及評估就管理關鍵ESG相關議題的本集團可持續發展的重要性、優先次序及流程，並就釐定本集團可持續發展的重要性及矩陣向董事會作出建議；
- Monitoring and regularly reviewing the progress of the Group's sustainability objectives, the implementation of policies and the effectiveness of strategies;  
監察及定期審查本集團可持續發展目標的進展、政策的實施及策略的有效性；
- Monitoring the ratings of third parties in relation to the Group's sustainability performance and advising on the actions required to improve the performance of the ratings;  
監察與本集團可持續發展表現有關的第三方評級，並就改善評級表現所需的行動提供建議；
- Reviewing the Group's climate change related work (including the implementation of climate change related response strategies and measures);  
檢討本集團氣候變化相關工作(包括實施氣候變化相關應對策略及措施)；



ESG Governance Structure ESG管治架構	Main Responsibilities 主要職責
	<ul style="list-style-type: none"> <li>• Discussing regularly with the ESG Working Group and management on sustainability matters and various sustainability strategies and actions; 定期與ESG工作小組及管理層就可持續發展事宜及若干可持續發展戰略及行動進行討論；</li> <li>• Reviewing and ensuring the truthfulness, accuracy and completeness of ESG report, and recommending the report and other relevant documents to the Board for approval; and 審閱及確保ESG報告的真實性、準確性及完整性，並將報告及其他相關文件提交予董事會批准；及</li> <li>• To perform further functions related or incidental to the foregoing which the Sustainability Committee deems appropriate. 履行與前述相關或附帶且可持續發展委員會認為屬適當之其他職能。</li> </ul>
<p>Executive level 執行層</p>	<p><b>ESG Working Group</b> <b>ESG工作小組</b></p> <ul style="list-style-type: none"> <li>• Preparing ESG report and collecting ESG-related information required by the Group; 編製ESG報告及收集本集團所需的 ESG 相關信息；</li> <li>• Monitoring ESG performance of the Group; 監察本集團ESG實踐成效；</li> <li>• Identifying ESG risks of the Group; 識別本集團ESG風險；</li> <li>• Reporting regularly to the Sustainability Committee on the progress and effectiveness of its work; and 定期向可持續發展委員會匯報工作進展及成效；及</li> <li>• Providing other support during the implementation of the Group's ESG strategies. 於實施本集團ESG策略時提供其他支持。</li> </ul>



## ESG PERFORMANCE APPRAISAL

The Group has established a target responsibility management system and signed responsibility letters with its branches and subsidiaries, such as the target responsibility letter for environmental protection and responsibility letter for production safety. ESG indicators are incorporated into the assessment of business performance, in which enterprises, departments and individuals who have made contributions in achieving environmental protection management objectives and safe production are recognised and rewarded, and enterprises, departments and individuals who have suffered environmental incidents and safety accidents are punished.

## STAKEHOLDER ENGAGEMENT

The Group deems that thoroughly understanding the opinions and expectations of stakeholders is overarching for sound ESG management and thereby developing effective and diversified channels for fostering communication with stakeholders. Various means of communication are well-established for the major groups of stakeholders which include government and regulators, shareholders, business partners, customers, employees and the public. Having understood the stakeholders' expectations and concerns regarding the ESG risks and challenges, the Group actively responds and formulates strategic policies with a precise direction.

## ESG實踐成效評估

本集團建立目標責任管理系統以及與各分公司及附屬公司訂立責任書，例如環境保護目標責任書及安全生產責任書。將ESG指標納入經營績效考核，對實現環保管理目標及安全生產作出貢獻的企業、部門及個人進行表彰及獎勵，及對發生環境事件及安全事故的企業、部門及個人進行處罰。

## 持份者參與

本集團認為充分了解持份者的意見及期望對健全ESG管理尤為重要，因此發展高效及多元化渠道，以促進與持份者的溝通。本集團已為持份者群體（包括政府及監管機構、股東、業務夥伴、客戶、僱員及大眾）建立多種完善的溝通渠道。經了解持份者對ESG風險及挑戰的預期及關注後，本集團積極響應及制定具有明確方向的戰略政策。

Stakeholders 持份者	Expectations and Requirements 預期及要求	Means of Communication and Response 溝通和回應方式
 <p><b>Government and regulators</b> 政府及監管機構</p>	<ul style="list-style-type: none"> <li>Compliance with national policies, laws and regulations 遵守國家政策、法律和法規</li> <li>Support local economic growth 支持地方經濟增長</li> <li>Drive local employment 推動當地就業</li> <li>Tax payment in full and on time 足額按時納稅</li> <li>Ensure production safety 確保生產安全</li> </ul>	<ul style="list-style-type: none"> <li>Information reporting regularly 定期報告資訊</li> <li>Meet the regulators regularly 定期與監管機構會面</li> <li>Dedicated reports 專責報告</li> <li>Examinations and inspections 檢查及視察</li> </ul>



Stakeholders 持份者	Expectations and Requirements 預期及要求	Means of Communication and Response 溝通和回應方式
 <p><b>Shareholders</b> 股東</p>	<ul style="list-style-type: none"> <li>• Returns 回報</li> <li>• Compliant operation 遵守營運規定</li> <li>• Raise company value 提高公司價值</li> <li>• Transparency in information and effective communication 資訊透明度及有效溝通</li> </ul>	<ul style="list-style-type: none"> <li>• Shareholders meetings 股東大會</li> <li>• Announcements and circulars 公告及通函</li> <li>• Email, telephone communication and company website 電郵、電話溝通及公司網站</li> <li>• Dedicated reports 專責報告</li> <li>• Site visits 實地探訪</li> </ul>
 <p><b>Business partners</b> 業務夥伴</p>	<ul style="list-style-type: none"> <li>• Operate with integrity 誠信經營</li> <li>• Equal rivalry 公平競爭</li> <li>• Performance of contracts 履行合約</li> <li>• Mutual benefit and win-win result 互惠互利及雙贏結果</li> </ul>	<ul style="list-style-type: none"> <li>• Review and assessment meetings 檢討及評核會議</li> <li>• Business communication 業務溝通</li> <li>• Discussion and exchange of opinions 討論與意見交流</li> <li>• Engagement and cooperation 互動與合作</li> </ul>
 <p><b>Suppliers</b> 供應商</p>	<ul style="list-style-type: none"> <li>• Transparency in information and effective communication 資訊透明度及有效溝通</li> <li>• Health and safety 健康及安全</li> <li>• Performance of contracts 履行合約</li> <li>• Operate with integrity 誠信經營</li> </ul>	<ul style="list-style-type: none"> <li>• Tendering process 招標程序</li> <li>• Site visits and audits 實地考察及審計</li> <li>• Monthly assessments 每月考評</li> <li>• Meetings 會議</li> <li>• E-mails 電郵</li> </ul>
 <p><b>Environment</b> 環境</p>	<ul style="list-style-type: none"> <li>• Compliant emission 遵守排放規定</li> <li>• Energy saving and emission reduction 節能及減排</li> <li>• Ecosystem protection 保護生態系統</li> </ul>	<ul style="list-style-type: none"> <li>• Communicate with local environmental department 與當地環保部門溝通</li> <li>• Reporting 報告</li> <li>• Investigations and inspections 調查及視察</li> </ul>

Stakeholders 持份者	Expectations and Requirements 預期及要求	Means of Communication and Response 溝通和回應方式
 <b>Industry</b> 行業	<ul style="list-style-type: none"> <li>• Establishment of industry standards 建立行業標準</li> <li>• Drive industry development 推動行業發展</li> </ul>	<ul style="list-style-type: none"> <li>• Communication with local labour department 與當地勞動部門溝通</li> <li>• Participation in industry forums 參與行業論壇</li> <li>• Visits and inspections 探訪及視察</li> </ul>
 <b>Employees</b> 僱員	<ul style="list-style-type: none"> <li>• Occupational health and safety 職業健康和安全</li> <li>• Remunerations and benefits 薪酬及福利</li> <li>• Career development 事業發展</li> <li>• Care for employee 關愛員工</li> </ul>	<ul style="list-style-type: none"> <li>• Employee communication meetings 僱員溝通會議</li> <li>• House journal and intranet 內部日誌及內聯網</li> <li>• Training and workshop 培訓及工作坊</li> <li>• Employee activity 僱員活動</li> <li>• Workers congress 職工代表大會</li> </ul>
 <b>Community and the public</b> 社區及公眾	<ul style="list-style-type: none"> <li>• Improve community environment 改善社區環境</li> <li>• Participation in charity 參與慈善活動</li> <li>• Information transparency 具透明度資訊</li> </ul>	<ul style="list-style-type: none"> <li>• Company website 公司網站</li> <li>• Announcements 公告</li> <li>• Interview with media 傳媒訪問</li> <li>• Social media platforms 社交平台</li> </ul>

## MATERIALITY ASSESSMENT

The Group understands that the environmental, social and climate-related issues may lead to various risks and opportunities to the Group, potentially impacting the Group in different ways. The materiality assessment is conducted by considering internal and external stakeholders' opinions with questionnaire surveys and referencing materiality maps of the industry developed by well-known external institutions, namely Morgan Stanley Capital International (MSCI) and the Sustainability Accounting Standards Board (SASB). The environmental and social issues that could bring significant impacts positively or negatively to the Group are classified as material issues. By reviewing the results collected from a total of 95 valid questionnaires received, the Group has mapped the material issues in the materiality matrix.

## 重要性評估

本集團理解環境、社會及氣候相關議題可能給本集團帶來不同風險和機遇，可能從不同方式影響本集團。重要性評估乃透過問卷調查及參考知名外部機構（即摩根士丹利資本國際(MSCI)及可持續發展會計準則委員會(SASB)）開發的行業重要性地圖，考慮內部及外部持份者意見後進行的。可能對本集團產生積極或消極重大影響的環境及社會問題獲歸類為重要議題。透過審閱合共收取的95份有效問卷的結果，本集團已將重要議題反映於重要性矩陣中。



## Process to Determine Material Issues

## 重要議題判定流程

### Step 1. Identification of material issues

#### 步驟一. 確定重要議題

Based on the industry research, materiality maps of MSCI and SASB and peer benchmarking, we identified a series of sustainability issues relevant to our environment and social impact and performance, and we prepared questionnaires accordingly for stakeholders.

根據行業研究、MSCI及SASB重要性地圖及同行基準，我們識別了一系列與環境、社會影響及績效有關的可持續發展問題，並就此為持份者編製若干調查問卷。

### Step 2. Ranking of material issues

#### 步驟二. 重要議題排序

We conducted the stakeholder survey, and we prioritised the material issues based on the survey results.

我們對持份者進行了調查及根據調查結果對重要議題進行優先排序。

### Step 3. Verification and establishment of materiality matrix

#### 步驟三. 重要性矩陣的核實及建立

The Group collected and analysed the scores of the issues and assigned risk-based weightings to the issues, forming a two-dimensional representation of the materiality of each issue to stakeholders and to the Group's business. The screening and analysis results were reviewed by internal management and external experts.

本集團收集及分析議題得分，並分配各議題的風險權重，從而形成每個議題分別對持份者及本集團業務重要性的二維表述。內部管理層與外部專家對篩選與分析結果進行了審核。

### Step 4. Reporting

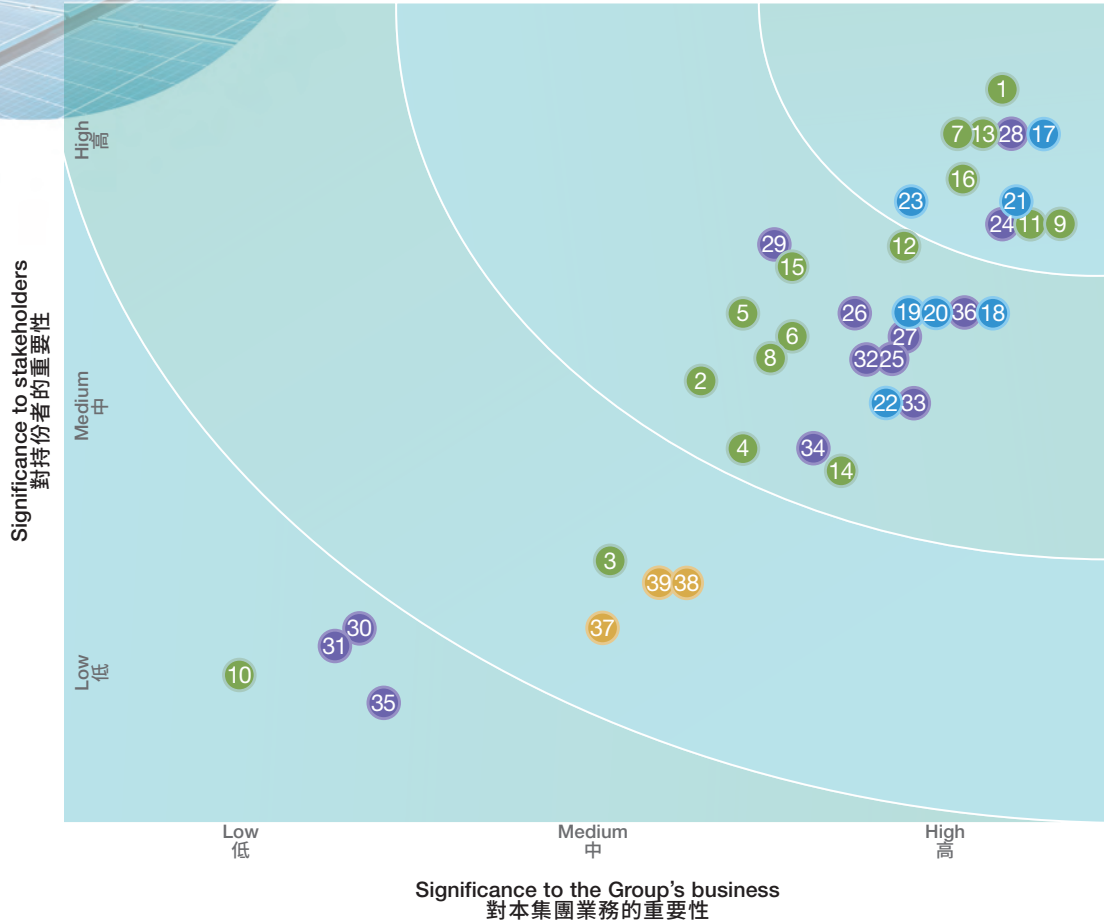
#### 步驟四. 匯報

In the ESG Report, management policies and relevant data of material issues were disclosed. Regular review of material issues are conducted by collecting feedback from stakeholders to ensure that the issues are consistent with the Group's sustainability strategy.

於ESG報告內，已披露重要議題的管理政策及相關數據。透過收集持份者反饋，定期對重要議題進行審閱，以確保該等問題與本集團可持續發展策略保持一致。

2023 Materiality Matrix

二零二三年重要性矩陣



- Environment  
環境
- Labour Practices  
勞工準則
- Operation Practices  
營運守則
- Community Investment  
社區投資



<b>Environment</b> 環境	<b>Labour Practices</b> 勞工準則	<b>Operation Practices</b> 營運守則	<b>Community Investment</b> 社區投資
1 Environmental Compliance 環境合規	17 Employment Compliance 合規僱傭	24 Operational Compliance 經營合規	37 Charity 公益慈善
2 Air Pollutant Management 空氣污染物管理	18 Employees' Remuneration and Benefits 僱員薪酬及福利	25 Managing Environmental Risks of Supply Chain 管理供應鏈的環境風險	38 Promotion of Community Development 推動社區發展
3 Fleet Emissions Management 車輛排放管理	19 Employees' Working Hours and Rest Period 僱員工作時數及假期	26 Managing Social Risks of Supply Chain 管理供應鏈的社會風險	39 Poverty Alleviation 扶貧工作
4 Wastewater Management 廢水管理	20 Diversity and Equal Opportunity 多元化與平等機會	27 Procurement Practices 採購常規	
5 Greenhouse Gas Emission 溫室氣體排放	21 Occupational Health and Safety 職業健康與安全	28 Quality Management 質量管理	
6 Waste Management 廢棄物管理	22 Training and Education 培訓與教育	29 Customer Health and Safety 客戶健康與安全	
7 Energy Consumption 能源消耗	23 Prevention of Child Labour and Forced Labour 防止童工及強制勞工	30 Responsible Sales and Marketing 負責任的營銷及推廣	
8 Use of Water Resources 水資源使用		31 Customer Service Management 客戶服務管理	
9 Green Energy Project 綠色能源項目		32 Intellectual Property Protection 保護知識產權	
10 Use of Raw Materials and Packaging Materials 原材料及包裝材料使用		33 Research and Development 研究及開發	
11 Ecological Protection 生態保護		34 Information Security 資訊安全	
12 Responding to Climate Change 應對氣候變化		35 Customer Privacy Protection 客戶私隱保護	
13 Prevention and Handling of Environmental Incidents 環境事故預防及處理		36 Anti-corruption 反貪污	
14 Green Office 綠色辦公室			
15 Soil Contamination Management 土壤污染管理			
16 Opportunities in Renewable Energy 可再生能源商機			



## Material Issues identified

## 識別重要議題

## Related Section

## 相關章節

1	Environmental Compliance 環境合規	Environmental Management System 環境管理體系
2	Employment Compliance 合規僱傭	Employment Practice 招聘慣例
3	Quality Management 質量管理	Comprehensive Quality Management System 全面的質量管理體系
4	Green Energy Project 綠色能源項目	Integration of Photovoltaic Development with Local Industry 光伏發展與當地產業相結合
5	Prevention and Handling of Environmental Incidents 環境事故預防及處理	Climate Risks and Opportunities 氣候風險及機遇
6	Occupational Health and Safety 職業健康與安全	Ensure Occupational Health and Safety 確保職業健康與安全
7	Energy Consumption 能源消耗	Use of Energy 能源的使用
8	Ecological Protection 生態保護	Care for the Ecological Environment 愛護生態環境
9	Operational Compliance 經營合規	Operation with Integrity 誠信經營
10	Opportunities in Renewable Energy 可再生能源商機	Climate Risks and Opportunities 氣候風險及機遇
11	Prevention of Child Labour and Forced Labour 防止童工及強制勞工	Eliminate Child Labour and Forced Labour 杜絕童工與強制勞工

## CONTRIBUTE TO THE UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

Considering the nature of our business and the materiality assessment results, we have identified 15 out of the 17 United Nations (UN) Sustainable Development Goals that best fit our sustainability strategies. The following table shows the responses we take to contribute to the 15 goals. We will continue to align ourselves with the UN Sustainable Development Goals and explore sustainable development opportunities jointly with relevant stakeholders.

## 貢獻聯合國可持續發展目標

鑒於我們的業務性質及重要性評估結果，我們於17項聯合國可持續發展目標中釐定了15項最適合我們可持續發展戰略的目標。下表顯示我們為貢獻15項目標所採取的措施。我們將繼續與聯合國可持續發展目標保持一致並與有關持份者共同探討可持續發展機遇。

UN Sustainable Development Goals 聯合國可持續發展目標	Corresponding Targets and Indicators 對應目標及指標	Our Responses 我們的措施
	<p>1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than US\$2.15 a day.</p> <p>到二零三零年，消除世界各地的極端貧困，目前的衡量標準為每人每天的生活費不足2.15美元。</p>	<p>Drive local farmers' employment and increase farmers' income through the agriculture and photovoltaic complementary model.</p> <p>透過農光互補模式，帶動當地農民就業及增加農民收入。</p>
	<p>2.1 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.</p> <p>到二零三零年，消除飢餓，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。</p>	<p>Take an active part in charity activities for poverty alleviation, helping people pursue a better life.</p> <p>積極參與扶貧慈善活動，幫助人們追求更美好的生活。</p>
	<p>3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.</p> <p>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。</p>	<p>Carry out health and safety training, implement various measures to ensure the health and safety of employees.</p> <p>開展健康與安全培訓，落實各項措施以確保員工健康安全。</p>



UN Sustainable  
Development

## Goals

聯合國

可持續發展目標

## Corresponding Targets and Indicators

對應目標及指標

## Our Responses

我們的措施

4  
QUALITY  
EDUCATION

4.4 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，包括技術性和職業性技能的青年和成年人數。

Conduct high-quality and comprehensive training projects for employees.

開展高質量及全方位的員工培訓項目。

5  
GENDER  
EQUALITY

5.1 End all forms of discrimination against all women and girls everywhere.

在全球消除對婦女和女童一切形式的歧視。

Pursue equal employment, ensure equal pay for men and women, and protect the legitimate rights and interests of employees.

追求平等就業，確保男女同工同酬及保障員工合法權益。

5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life.

確保婦女全面有效參與各級政治、經濟和公共生活的決策，並享有進入以上各級決策領導層的平等機會。

7  
AFFORDABLE AND  
CLEAN ENERGY

7.1 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。

Fully tap into the potential of new energy development and keep exploring new models for comprehensive utilisation of clean energy.

充分挖掘新能源發展潛力，不斷探索清潔能源綜合利用新模式。

7.2 By 2030, increase substantially the share of clean energy in the global energy mix.

到二零三零年，大幅增加清潔能源在全球能源結構中的比例。

8  
DECENT WORK AND  
ECONOMIC GROWTH

8.8 Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.

保護勞工權利，推動為所有工人，包括移民工人，特別是女性移民和沒有穩定工作的人創造安全和有保障的工作環境。

Establish a comprehensive employee rights protection mechanism.

建立全面的員工權利保護機制。

Prohibit the use of child labour and forced labour.

禁止使用童工和強迫勞工。

UN Sustainable Development	Corresponding Targets and Indicators	Our Responses
Goals	Corresponding Targets and Indicators	Our Responses
聯合國	對應目標及指標	我們的措施
可持續發展目標	對應目標及指標	我們的措施



9.b Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities.

支持發展中國家的國內技術開發、研究與創新，包括提供有利的政策環境，以實現工業多樣化，增加商品附加值。

Strive to building an intelligent energy system and leading digital transformation.

努力建設智慧能源系統，引領數字化轉型。



10.4 Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality.

採取政策，特別是財政、薪資和社會保障政策，逐步實現更大的平等。

Protect the human rights of employees and avoid inequality.

保護員工人權，避免不平等現象。



11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities.

到二零三零年，向所有人（特別是婦女、兒童、老年人和殘疾人士）普遍提供安全、包容、無障礙、綠色的公共空間。

Help vulnerable groups through voluntary services, environment protection, poverty alleviation and other activities for public welfare.

通過志願服務、環境保護、扶貧和其他公益活動幫助弱勢群體。



12.2 By 2030, achieve the 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。

Make good use of natural resources.

充分利用自然資源。

12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.

到二零三零年，通過預防、減排、回收和再利用大幅減少廢物的產生。

Reduce waste and environmental impact caused by production activities.

減少生產活動造成的浪費和環境影響。



UN Sustainable  
Development

## Goals

聯合國

可持續發展目標

## Corresponding Targets and Indicators

對應目標及指標

## Our Responses

我們的措施

13 CLIMATE  
ACTION

13.1 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。

Establish carbon reduction plans and take energy-saving measures to achieve carbon reduction goals.

制定減碳計劃，採取節能措施，實現減碳目標。

13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.

加強氣候變化減緩、適應、減少影響和早期預警等方面的教育和宣傳，加強人員和機構在此方面的能力。

Formulate special inspection system and contingency plans for natural disaster accidents.

制定專項檢查制度和自然災害事故應急預案。

15 LIFE  
ON LAND

15.3 By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world.

到二零三零年，防治荒漠化，恢復退化的土地和土壤，包括受荒漠化、乾旱和洪澇影響的土地，努力建立一個不再出現土地退化的世界。

Conduct environmental impact assessments prior to photovoltaic and wind power projects to avoid or minimise impacts on natural life.

在進行光伏發電和風力發電項目前進行環境影響評估，以避免或盡量減少對自然生命的影響。

16 PEACE, JUSTICE  
AND STRONG  
INSTITUTIONS

16.5 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。

Organise anti-corruption training to raise employee awareness.

組織反腐敗培訓，提高員工意識。

17 PARTNERSHIPS  
FOR THE GOALS

17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships.

借鑒夥伴關係的經驗和籌資戰略，鼓勵和推動建立有效的公共、公私和民間社會夥伴關係。

Build a responsible supply chain that promotes win-win cooperation across the entire industrial chain.

建立負責任供應鏈，促進整個產業鏈的合作共贏。



## BUSINESS ETHICS

The Group conducts stringent compliance management and follows high-level business ethics to prevent the risk of non-compliance and protect the sound operation of the enterprise, while building an important foundation for sustainable development. The Group all along adhere to good business practices and values, persistently improve compliance management system, conduct integrity and anti-corruption training, and strictly regulate the behaviours of all employees and partners to ensure compliance and transparency in business activities, and is committed to being a responsible and outstanding corporate citizen.

### Operation with Integrity

The Group believes that integrity is an important intangible asset of an enterprise. The Group strives to create a corporate culture of integrity management and improve sustainable development. The Group is committed to winning the trust of stakeholders by gaining reputation with integrity and ensuring benefits with quality.

The Group has been in strict compliance with local and international laws, and formulated comprehensive compliance management foundation and special series of standards, which have standardised the basic moral standards for employees under various management principles of conflicts of interest, and continuously monitored potential dishonesty. The Group's management has also taken the lead in establishing standards and norms to encourage integrity in enterprises, improving the positions, evaluation standards and incentive standards for employees at all levels, and strengthening integrity education in the construction of corporate culture so as to continuously enhance the level of enterprise integrity.

## 商業道德

本集團開展嚴格的合規管理並遵循高水準的商業道德準則，在防範違規風險及保障企業穩健運營的同時，構建可持續發展的重要根基。本集團長期恪守良好的商業行為準則和價值觀，持續健全合規管理體系，開展誠信和反貪污培訓，嚴格規範全體僱員及合作夥伴的行為，確保經營活動之合規與透明，致力成為負責任的優秀企業公民。

### 誠信經營

本集團相信誠信是企業的重要無形資產。本集團竭力打造誠信經營之企業文化並健全可持續發展。本集團致力於通過誠信贏得聲譽、憑藉質量確保效益，從而贏取持份者之信任。

本集團嚴格遵守當地及國際法律，制定完善的合規管理基礎、專項系列標準，規範於各種利益衝突管理原則下的僱員基本道德準則，並持續監察潛在的不誠信行為。本集團管理層亦牽頭建立鼓勵企業誠信行為的標準規範，完善各級人員的崗位、考核標準及激勵標準，強化企業文化建設中的誠信教育，從而持續提升企業誠信水平。



**Case:  
案例：****Annual Compliance Effectiveness Evaluation Launching Meeting  
年度合規有效性評價啟動會**

The Group organised an annual conference on evaluation of the effectiveness of compliance in order to ensure effective implementation of compliance. This conference also provides targeted training on the basics and practical evaluation of the company's series of standards such as the Compliance Code of Conduct. A total of 148 compliance officers participated in the conference, which was conducted both online and offline.

為確保有效落實合規工作，本集團舉辦合規成效評價年會。這次會議亦就《合規行為準則》等一系列公司標準的基礎知識及實際評價提供針對性培訓。會議採用線上線下同步進行，共計148名合規人員參加會議。

**Anti-corruption**

The Group is vigilant in preventing irregularities such as bribery and conflict of interest, and has strict requirements on the behaviours of employees. All employees are prohibited from soliciting any advantages from clients, suppliers, or any person in connection with the Group's business. The Group believes that the acceptance of relevant benefits may affect the objectivity of employees in performing their duties, resulting in employees acting against the interests of the Group. Therefore, the Group requires employees to decline advantages offered on any occasion, including the gifts such as cash, red packets, shopping cards, checks and securities, etc.; if they cannot refuse immediately, they should take the initiative to report to their superiors and hand it over to the department heads for unified treatment. Meanwhile, the Group signs a "Statement on Anti-Commercial Bribery Practices" with other co-operative enterprises to further standardise compliance.

**反貪污**

本集團嚴防賄賂及利益衝突等不合規行為的發生，並對僱員行為作出嚴格要求。本集團禁止所有僱員向與本集團業務相關的客戶、供應商或任何人士索取任何利益。本集團認為收受相關利益可能會影響僱員履行職責的客觀性，從而導致僱員作出違背本集團利益的行為。因此，本集團要求僱員在任何場合下都應當面謝絕收受相關利益，包括現金、紅包、購物卡、支票及有價證券等禮品；如不能當即謝絕，應主動向上級匯報，並上交予部門負責人統一處理。同時，本集團與其他合作企業簽署《反商業賄賂行為的聲明》，進一步規範合規行為。

During the Year, the Group has promulgated the Compliance Code of Conduct, formulated a standard system to regulate the compliance behaviour of employees, all employees are required to sign a compliance pledge to further improve the compliance management system. Besides, the Measures for Compliance Consultation and Reporting Management clarifies the responsibilities of the legal compliance department, the audit and supervision department and other relevant departments, and provides clear guidelines on the reporting management process.

於本年度，本集團頒佈了《合規行為準則》，並制定規範僱員合規行為的標準體系，全體員工均需簽訂合規承諾書，以進一步完善合規管理體系。此外，《合規諮詢與舉報管理辦法》明確了法務合規部、審計監督部及其他相關部門職責，並提供清晰的舉報管理流程指引。

### Measures for Compliance Consultation and Reporting Management 《合規諮詢與舉報管理辦法》



The Group encourages all employees to seek guidance from the relevant departments on compliance policies that are in doubt and also supports employees, customers, business partners and other stakeholders in monitoring and reporting violations of compliance management and other related policies. The Group provides multiple channels for whistleblowers to report in real names or anonymously such as email, phone, and visits. The legal compliance department and the audit and supervision department will be responsible for handling the reported incidents, respect the wishes of the whistleblower and keep strict confidentiality regarding the whistleblower and the contents of the report. Once the behaviours are ruled as a violation of ethical standards, involved employees would be subject to economic and administrative penalties. If the violation is serious, the Group will consider terminating their employment or report to the relevant authorities.

本集團鼓勵全體僱員針對有疑問的合規政策向相關部門尋求指導意見，亦支持僱員、客戶、商業夥伴及其他持份者監督和舉報違反合規管理及其他相關政策的行為。本集團開設多條舉報渠道供舉報者進行實名或匿名舉報，包括郵件、電話及來訪等。法務合規部與審計監督部將負責處理舉報事件，並尊重舉報者意願，對舉報者和舉報內容進行嚴格保密。若有關行為獲認定為違反道德標準，涉事僱員將受到經濟和行政處罰；情況嚴重者，本集團會考慮終止其僱傭關係或向有關機關上報。





During the Year, the Group conducted training on the theme of corporate integrity regularly and conducted 3 anti-corruption training sessions with 1,312 hours, covering 328 people, including 31 senior management personnel and 297 general employees.

於本年度，本集團定期舉辦企業誠信主題培訓，開展3場反貪污學習培訓，培訓時數達1,312小時，覆蓋328人，包括31名高級管理人員及297名普通僱員。

**Case:**  
**案例：**

**Specialised training seminar on integrity and legal compliance**  
**誠信與法務合規專題培訓講座**

During the Year, the Group held a specialised training seminar on integrity and legal compliance, with staff from the Beijing Municipal People's Procuratorate as the speakers. The training covered corporate governance and potential corruption risks, relevant offences that may be involved in integrity risks, with the aim of preventing employees from falling into corruption traps and ensuring that the Group's directors, management and employees have a better understanding of corporate anti-corruption building efforts.

於本年度，本集團舉辦誠信與法務合規專題培訓講座，由北京市人民檢察院工作人員擔任主講。培訓內容涵蓋企業管治及潛在貪污風險、可能涉及誠信風險的相關違規行為等，旨在提防僱員誤入貪污陷阱，並確保本集團董事、管理層及僱員對企業反貪污建設工作有更深刻的認識。



During the Year, the Group strictly complied with the Criminal Law of the People's Republic of China, the Anti-Money Laundering Law of the People's Republic of China, the Supervision Law of the People's Republic of China, Prevention of Bribery Ordinance and other relevant national laws and regulations against corruption. The Group was not aware of any violation of relevant laws and regulations that have a significant impact on the Group relating to bribery, extortion, fraud and money laundering and the Group was not involved in any corruption case.

於本年度，本集團嚴格遵守《中華人民共和國刑法》、《中華人民共和國反洗錢法》、《中華人民共和國監察法》、《防止賄賂條例》以及其他反貪污相關國家法律及規例。本集團並不知悉任何違反有關賄賂、勒索、欺詐及洗黑錢且對本集團有重大影響的法律及規例的情況，亦無涉及任何貪污訴訟個案。

## ADVOCATE COMPETITION COMPLIANCE

The Group strictly complies with the Company Law of the People's Republic of China, the Anti-Monopoly Law of the People's Republic of China, the Anti-Unfair Competition Law of the People's Republic of China and other applicable laws and regulations to ensure that the Group does not engage in conduct that may harm the market and fair competition, and aware that management should bear corresponding economic and legal responsibilities. The Group believes that the healthy development of the entire industry depends on the strict compliance of all enterprises with laws and regulations related to anti-monopoly and fair competition, as well as the joint maintenance of fair market order.

For a long time, the Group has adhered to the principle of "integrity of contracts" to compete and cooperate on the premise of complying with national policies and laws as well as perform the agreements and contracts to achieve common interests and mutual development. During the Year, the Group did not have legal proceedings relating to improper competition and anti-monopoly incidents.

## 倡導競爭合規

本集團嚴格遵循《中華人民共和國公司法》、《中華人民共和國反壟斷法》、《中華人民共和國反不正當競爭法》及其他適用的法律及法規，確保本集團不從事有可能損害市場和公平競爭的行為，並知悉管理層應承擔的相應經濟及法律責任。本集團相信，整個行業的健康發展有賴於所有企業對反壟斷和公平競爭相關法律法規的嚴格遵守，以及對市場公平秩序的共同維護。

長期以來，本集團堅持「誠信訂約」的原則，在遵守國家政策和法律的前提下開展競爭與戰略協作，認真履行協約與合同，以求獲得各方的共同利益和共同發展。於本年度，本集團並無針對不當競爭行為和反壟斷事件的法律訴訟個案。





Deepen Modernisation  
Reform and **Focus**  
on **Clean Energy**

深入現代化改革  
聚焦清潔能源





Our Government has put forward a series of important initiatives and propositions to strengthen the construction of a global ecological civilisation and the protection of biodiversity, actively and steadily promote carbon peaks and carbon neutrality, and strive to build a modernisation in which human beings coexist harmoniously with nature.

BJEI has endeavoured to promote green and low-carbon transformation, and further enhance the resilience of the energy supply chain and industrial chain. By the end of the “14th Five-Year Plan”, the Group’s total installed capacity is targeted to be more than 22 million kilowatts, opening a new chapter of high-quality and rapid development.

我們的政府提出了一系列加強全球生態文明建設和生物多樣性保護的重要倡議和主張，積極穩定地推進碳達峰和碳中和，並努力建設人與自然和諧共生的現代化。

京能國際始終致力於推動綠色低碳轉型，進一步增強能源供應鏈與產業鏈的彈性。在「十四五」規劃結束前，本集團的總裝機容量目標為超過2,200萬千瓦，開啟高質素及快速發展的新篇章。

**KPI:**  
關鍵績效指標：



Proportion of attributable operational generation capacity of clean energy projects:  
清潔能源項目的可歸屬營運發電容量比例：**100%**

Number of Clean Energy Power Plants (including associates):  
清潔能源發電站數量 (包括聯營公司)：

**142** solar power plants, **29** wind power plants,  
個太陽能電站、個風力發電站、  
**28** hydropower plants and **1** energy storage power station.  
個水力發電站及個儲能電站。

**DOVETAILING WITH NATIONAL STRATEGIES**

“Clean, low-carbon, safe and efficient” is the core connotation of a modern energy system and an overall requirement for how the energy system should be modernised. With the mission goal of reaching the carbon peak by 2030 and striving for carbon neutrality by 2060, our government has elevated the response to climate change to a major strategy for the country’s economic and social development. Clean energy, as a major component of a new energy system, is an important engine for the rapid realisation of carbon peaking and carbon neutrality. The “14th Five-Year Plan” explicitly calls for the promotion of green and low-carbon energy transformation and the construction of a new energy system. As a key investment and operation enterprise in the field of clean energy in China, BJEI has been continuing to improve the quality of clean energy development and enrich the diversified layout of the industry. By the end of the “14th Five-Year Plan”, the Group’s total installed capacity is targeted to be more than 22 million kilowatts.

**銜接國家戰略**

「清潔低碳、安全高效」乃現代能源體系的核心內涵，亦為實現能源體系現代化的總體要求。我國政府以二零三零年前實現碳達峰，力爭二零六零年前實現碳中和為任務目標，將應對氣候變化提升為國家經濟社會發展的重大戰略。作為新能源體系的重要組成部分，清潔能源為快速實現碳達峰及碳中和的重要引擎。「十四五」發展規劃明確提出推進能源綠色低碳轉型，構建新能源體系。作為中國清潔能源領域的關鍵投資運營企業，京能國際一直不斷提高清潔能源發展質量，豐富行業多元化佈局。到「十四五」發展規劃結束前，本集團的總裝機容量目標將超過2,200萬千瓦。



During the Year, the Group continued to accelerate the pace of scale expansion of clean energy by actively expanding the management scale of the solar power and wind power businesses through self-development and mergers and acquisitions, as well as continuously improving the management of its clean energy power business. The Group had well-diversified its solar and wind power plants in China in 26 different provinces during the Year.

The Group firmly believes that further transformation of renewable and clean energy is the key to tackling future climate change. We insist on strategic development, construction and acquisition of power plants, and select power plants based on a combination of factors, including solar irradiation, wind velocity of the site, water resource conditions, applicable feed-in tariffs, government subsidies, and conditions for local grid connection, electricity transmission infrastructure and demand for electricity so as to achieve predetermined minimal rate of return. During the Year, the Group continued to build 20 new energy projects which had not yet completed the construction in last year, with aggregate installed capacity of approximately 707MW and aggregate grid-connected installed capacity of approximately 668MW. A total of 33 new energy projects were newly built during the Year, with aggregate installed capacity of approximately 4,249MW and aggregate grid-connected installed capacity of approximately 465MW. 33 new projects are planned to be started, with aggregate installed capacity of approximately 2,440MW in 2024.

## INTEGRATION INTO THE INTERNATIONAL MARKET

In response to the “14th Five-Year Plan”, BJEI focuses on global development, deeply participates in global energy transformation, promotes energy transformation and low-carbon cooperation, and strengthens cooperation in science and technology innovation. In recent years, the Group has been focusing on the changes in international relations, actively expanding the clean energy market in Australia, Vietnam and other RCEP countries, and establishing a key regional layout for clean energy.

於本年度，本集團繼續加快清潔能源規模化的步伐，積極通過自主開發及併購拓展太陽能及風力發電業務的管理規模，並不斷提升對清潔能源發電業務的管理水平。於本年度，本集團位於中國的太陽能及風力發電站遍佈26個不同省份。

本集團堅信深入推進可再生清潔能源轉型是應對未來氣候變化的關鍵。我們堅持有策略地開發、建設及收購發電站，在選定發電站時綜合考慮光照情況、當地風速大小、水資源狀況、適用的上網電價、政府補貼、當地的併網條件、輸電基礎設施及電力需求等因素以達到預先確定的最低回報率。於本年度，本集團續建新能源項目20個（去年仍未竣工），總裝機容量約為707兆瓦及總併網裝機容量約為668兆瓦。本年度新建新能源項目共33個，總裝機容量約為4,249兆瓦及總併網裝機容量約為465兆瓦。二零二四年擬新開工33個項目，項目總裝機容量約為2,440兆瓦。

## 融入國際市場

為響應「十四五」發展規劃，京能國際聚焦全球發展、深度參與全球能源轉型、推動能源轉型與低碳合作、加強科技創新合作。近年來，本集團持續關注國際關係變化，積極拓展澳洲、越南等RCEP國家的新能源市場，並構建清潔能源重點區域佈局。

Case:  
案例：

**Acquisition of Lightsource BP Assets, Entering a New Stage of Business Development in Australia**  
**收購Lightsource BP資產，在澳洲業務發展進入新階段**

The assets to be acquired are located in New South Wales, Victoria, Queensland and other areas where electricity demand is concentrated, including 522MW of operating assets, 515MW of assets under construction and energy storage development assets. The acquisition is an important step for the Group to realise its “14th Five-Year Plan” overseas business strategy, reflects its firm confidence in the development of the Australian renewable energy market, and marks a new stage in its investment and business in Australia.



擬收購資產分佈於新州、維州、昆州等電力需求集中地區，包含522兆瓦運營資產、515兆瓦在建資產及儲能開發資產。該收購為本集團實現其

「十四五」發展規劃境外業務戰略的重要舉措，體現了其對澳洲可再生能源市場發展的堅定信心，標誌著其在澳洲的投資及業務進入新階段。





## COORDINATION OF REGIONAL DEVELOPMENT

In response to the modern energy system plan of the “14th Five-Year Plan”, the Company actively cooperates with the overall improvement of the regional energy development level, promotes the green and efficient development of clean energy bases in the west, and vigorously develops new energy sources such as wind power and solar power generation. We have developed wind power and photovoltaic projects in Yunnan, Xizang, Heilongjiang, Guangxi, etc. to promote local economic development under the premise of ecological priority. In coal resource-rich areas such as Shanxi, we help to develop clean energy and promote the transformation and upgrading of the energy structure, so as to rationally control the intensity and scale of coal development in the Yellow River Basin.

## 協調區域發展

為響應「十四五」發展規劃的現代能源體系規劃，本公司積極配合整體提升區域能源發展水平、推進西部清潔能源基地綠色高效發展、大力發展風能、太陽能等新能源發電。我們已於雲南、西藏、黑龍江、廣西等地區開發風力及光伏項目，以在生態優先的前提下促進當地經濟發展。於山西等煤資源富饒地區，我們助力發展清潔能源，促進能源結構轉型升級，以合理控制黃河流域的煤開發強度及規模。

### Case: 案例：

### BJEI Successfully Wins the Fangcheng 300MW Agricultural Photovoltaic Complementary Project in Zhanyi District, Qujing, Yunnan 京能國際成功中標雲南曲靖沾益區方城300兆瓦農光互補項目

BJEI has successfully won the bid for the 300MW Agricultural Photovoltaic Complementary Project in Fangcheng, Zhanyi District, Qujing, Yunnan Province. This is the largest single photovoltaic project in Yunnan Province, marking another major breakthrough in the development of new energy in the southwest region. The project adopts the “agriculture and photovoltaic complementary” mode, forming a win-win situation of agricultural income and energy generation, realising the social benefits of energy saving and emission reduction, effectively improving the land utilisation rate, vigorously promoting the employment of local villagers, and increasing the income of farmers. It further promotes regional economic development and environmental protection, and makes an important contribution to the transformation and upgrading of the energy structure of Yunnan Province.

京能國際已成功中標雲南省曲靖沾益區方城300兆瓦農光互補項目。此乃於雲南省的最大單體光伏項目，標誌著於西南地區新能源開發取得又一重大突破。該項目採用「農光互補」模式，形成農業收益與能源發電雙贏的局面，既實現節能減排的社會效益，又有效提高土地利用效率，有力推動當地村民就業、增加農民收入。該項目進一步促進區域經濟發展和環境保護，為雲南省能源結構轉型升級做出重要貢獻。



Case:  
案例：

**BJEI's 100MW PV Project in Yungang District, Datong, Shanxi, Successfully Connects to Grid**  
**京能國際山西大同雲岡區100兆瓦光伏項目成功併網發電**

On October 23, 2023, the first unit of 43MW of BJEI's 100MW PV project in Yungang District, Datong, Shanxi was successfully connected to the grid. The project is a key project of Datong City for the year 2022-2023. The grid-connected power generation of the project provides strong support for the high-quality development of the new energy industry in Datong City, which has significant social, environmental and economic benefits, and will further assist the economic development and energy structure transformation and upgrade of Shanxi Province.



於二零二三年十月二十三日，京能國際山西大同雲岡區100兆瓦光伏項目首單元43兆瓦成功併網發電。該項目是大同市二零二二至二零二三年度重點項目。該項目的併網發電為大同市新能源產業高質量發展提供了有力支撐，具有顯著的社會、環境和經濟效益，將進一步助力山西省經濟發展和能源結構轉型升級。

環境和經濟效益，將進一步助力山西省經濟發展和能源結構轉型升級。

Case:  
案例：

**BJEI Obtains Construction Targets for 150MW Wind Power Project in Guangxi Zhuang Autonomous Region**  
**京能國際獲得廣西壯族自治區150兆瓦風電項目建設指標**

Guangxi Baise Tianyang District Nadong 90MW wind power project and Guangxi Baise Tianyang District Gufeng 60MW wind power project, which BJEI participated in declaring in a joint way, successfully entered the list of onshore wind power construction projects in Guangxi. As a useful supplement to green power, the projects will contribute to the high-quality development of modern industry and green water and green mountains, and help the region continue to write a new chapter of green development.



京能國際以聯合方式參與申報的廣西百色田陽區那東90兆瓦風電項目和廣西百色田陽區谷豐60兆瓦風電項目，順利進入廣西陸上風電建設項目清單。作為綠色電力的有益補充，該等項目將為現代工業與綠水青山交相輝映高質量發展貢獻力量，助力地區續寫綠色發展新篇章。

綠水青山交相輝映高質量發展貢獻力量，助力地區續寫綠色發展新篇章。

## STABILISATION OF ENERGY SUPPLY

In November 2022, the National Energy Administration issued the Circular on Actively Promoting New Energy Power Generation Projects to be Integrated as Much as Possible and as Early as Possible and Related Work, which points out that each power grid enterprise, under the premise of ensuring the safety and stability of the grid and the orderly supply of electric power, and in accordance with the principle of “integrating as much as possible and as early as possible”, shall take effective measures to ensure timely integration of the wind power and photovoltaic power generation projects that have the conditions for integration into the network and will allow them to integrate into the network by batches and shall not take the completion of the full-capacity construction as a necessary condition for integration into the network of the new energy projects.

To ensure energy security and stable supply, the Group took a series of measures and actions to enhance the service security of power plants. Firstly, in accordance with the Company’s Measures for Safety Inspection Management, the Group comprehensively sorted out the safety management work, refined the content of the inspection and formulated a safety inspection plan. Up to now, safety inspection of a total of 138 projects has been completed. Safety inspections throughout the year improved the safety management level of each branches, subsidiaries and their own power plants. Secondly, the Group attached great importance to preventive maintenance work, quarterly inspection of photovoltaic area equipment, focused on the inspection of electrical heating areas, preventive experiments on electrical equipment, verification of relay protection devices and protection transmission, internal ash cleaning of SVG and inverter device, inspection of high and low voltage rooms of voltage converter and temperature testing of junction box, component wiring boxes and MC4 plugs. Thirdly, the Group carried out a special investigation to comprehensively check and verify the rectification situation of the problem, objectively understand and grasp the real situation of safety production, and earnestly find the problems of safety management. For the key infrastructure projects of the safety management institution system construction, safety management personnel configuration, dual prevention mechanism construction (risk classification and control & Investigation and management of hidden dangers), foundation construction, fan lifting and other high-risk operations throughout the process of key inspections, a total of 86 problems were found, and rectification plans were formulated for all of them. Fourthly, the Group utilised 14 hot spot inspection drones to carry out inspections on power plants annually, which not only eliminates fire hazards in PV zones that may be caused by severe hot spots, but also identifies and replaces inefficient modules in advance to enhance power generation. In general, the types of problems found include severe hot spots, broken glass, and junction box failures, etc., which are repaired or replaced immediately after discovery.

## 穩定能源供應

於二零二二年十一月，國家能源局發佈《關於積極推動新能源發電項目應併盡併、能併早併有關工作的通知》，該通知指出，各電網企業在確保電網安全穩定、電力有序供應前提下，按照「應併盡併、能併早併」原則，對具備併網條件的風電、光伏發電項目，切實採取有效措施，保障及時併網，允許分批併網，不得將全容量建成作為新能源項目併網必要條件。

為確保能源安全穩定供應，本集團採取了一系列措施及行動，以加強發電站的服務安全。一是根據本公司的《安全檢查管理辦法》，全面梳理安全管理工作，細化檢查內容及制定安全檢查規劃；截至目前，合共138個項目完成安全檢查，全年安全檢查提高了各下屬分、子公司及彼等自身發電站的安全管理水平。二是高度重視預防性維護工作及對光伏區設備的季度檢查，集中安排電氣發熱部位檢查，並開展電氣設備預防性實驗，繼電保護裝置定值核對和保護傳動工作，SVG和逆變器內部清灰，箱變高低壓室檢查及匯流箱、組件接線盒和MC4插頭測溫等工作。三是開展專項調查，全面檢查並核實問題的整改情況，客觀了解並掌握安全生產的實際情況，認真發現安全管理存在的問題。在對安全管理機構體系建設的關鍵基礎設施項目、安全管理人員配置、雙重預防機制建設（風險分類與控制及隱患排查與管理）、基礎建設、風機吊裝等高危作業進行重點檢查的全過程中，共發現86項問題，均已制定整改計劃。四是每年使用14架熱斑檢測無人機對發電站進行檢查，此舉不僅消除了嚴重熱斑可能導致的光伏區火災隱患，亦可提前識別並替換低效組件，以提高發電量。總體來說，所發現的問題類型包括嚴重熱斑、玻璃破碎、接線盒故障等問題，均於發現後進行維修或更換處理。



Protect Our  
Environment and  
**Create a Beautiful  
Home Together**  
守護綠水青山  
共創美麗家園



BJEI insists on integrating the concept of green development into the whole process from site selection, design, and construction to operation of projects. The Group continues to improve the environmental protection management system, implements the list of ecological and environmental protection responsibilities, and improves the ability of environmental protection risk prevention and control. The Group is committed to building itself into a “leader in energy conservation and environmental protection, a model in ecological governance, and a pioneer in achieving the dual carbon goals”.

京能國際堅持將綠色發展理念貫穿於項目選址、設計及施工到運營的全過程。本集團不斷完善環境保護管理體系，落實生態環境保護責任清單，提高環境保護風險防控能力。本集團致力於將其打造為「節能環保的領跑者、生態治理的典範、實現雙碳目標的先鋒」。

#### KPI: 關鍵績效指標：



During the reporting period, the energy intensity is  
於報告期間內，能源強度為

**5.13** MWh per GWh electricity generated.  
兆瓦時／吉瓦時發電量。

Amount of Recycled Solar Panels:  
已回收太陽能電池板數量：

**75.28** Tons  
噸

During the reporting period,  
於報告期間內，所產生廢棄物的

**82.94%** of the waste generated was recycled.  
已回收利用。

Number of trees planted up to the reporting period:  
直至報告期間所植樹木數量：

**2,207**

## ENVIRONMENTAL MANAGEMENT SYSTEM

The Group adheres to the principles of “protection first, prevention first, comprehensive management, highlighting key points and comprehensive control”; we strictly comply with the Environmental Protection Law of the People’s Republic of China, Solid Waste Pollution Prevention and Control Law of the People’s Republic of China, Environmental Impact Assessment Law of the People’s Republic of China, Law of the People’s Republic of China on Water and Soil Conservation, Regulations on the Administration of Construction Project Environmental Protection etc. Internally, we promulgated the policy of Measures for Environmental Protection Management. We have also issued a policy of Guidelines of Environmental Protection Technical Supervision to regulate the responsibilities and scope of the technical supervision of environmental protection covering the period of project construction and the period of electricity production and operation.

## ENVIRONMENTAL EMERGENCIES RESPONSE

In response to environmental emergencies and according to the Emergency Response Plan, we require our branches and subsidiaries to carry out regular troubleshooting of environmental protection hazards in light of the actual situation. At the same time, our branches and subsidiaries should prepare contingency plans, and carry out publicity and professional training on a regular basis.

## 環境管理體系

本集團堅持「保護優先、預防為主、全面管理、突出重點、綜合治理」的原則，嚴格遵守《中華人民共和國環境保護法》、《中華人民共和國固體廢物污染環境防治法》、《中華人民共和國環境影響評價法》、《中華人民共和國水土保持法》、《建設項目環境保護管理條例》等。對內，我們頒佈《環境保護管理辦法》方針。我們亦頒佈《環境保護技術監督導則》方針，以監管項目建設期及電力生產經營期環境保護技術監督的職責及範圍。

## 突發環境事件響應

針對環境應急事件，根據《突發事件應急預案》，我們要求下屬分、子公司結合實際情況，定期開展環保隱患排查工作。同時分、子公司要編製應急計劃，並且定期開展宣傳和專業培訓。





## ENVIRONMENTAL OBJECTIVES MANAGEMENT

Highlighting environmental protection, the Group incorporates the environmental protection efforts of affiliates into annual environmental targets and signs a target responsibility letter with its branches and subsidiaries annually.

## 環境目標管理

本集團注重環境保護，將聯屬公司的環保工作納入年度環境目標，並每年與下屬分、子公司簽訂目標責任書。

### Environmental objectives management organisational structure

#### 環境目標管理組織結構



In 2023, we established the Group's environmental targets and stipulated strict requirements in four areas, namely, emissions, energy use efficiency, water efficiency and waste. We have achieved all of environmental objectives through concerted efforts.

於二零二三年，我們已制定本集團的環境目標，對排放、能源使用效益、用水效益及廢棄物四個方面作出嚴格要求。經過共同的努力，我們已全面完成所有環境目標。

Focus Area 關鍵領域	Environmental Objectives 環境目標	Accomplishment of Objectives 目標完成情況
<p><b>Emissions</b> 排放</p>	<p>No ecological environment damage incidents, and no excessive discharge of pollutants 不發生生態環境破壞事件，不發生污染物超標排放</p>	<p>Achieved 已完成</p>
<p><b>Energy use efficiency</b> 能源使用效益</p>	<p>Strengthening the management of electricity consumption in plant and energy saving to ensure the average annual comprehensive electricity consumption rate of the plant less than 1.8% 加強廠用電和節能管理，確保年平均綜合廠用電率低於1.8%</p>	<p>Achieved (In 2023, the comprehensive electricity consumption rate of the plant of the Company was 1.55%) 已完成 (二零二三年公司綜合廠用電率為1.55%)</p>
<p><b>Water efficiency</b> 用水效益</p>	<p>Strengthening the publicity of water-saving measures and prohibiting water waste 加強節水措施宣傳，杜絕水浪費</p>	<p>Achieved 已完成</p>
<p><b>Waste</b> 廢棄物</p>	<p>The management of solid waste (including hazardous waste) complies with the relevant provisions of national and local regulations 固體廢棄物(含有害廢棄物)管理符合國家及地方法規相關規定</p>	<p>Achieved 已完成</p>



## STRICT ENVIRONMENTAL MANAGEMENT

The management representative is responsible for coordinating the Group's daily implementation of the environmental management system, with assistance from departments including engineering management department and safety production department. The Group signs the "Safety and Environmental Protection Target Responsibility Letter" with its branches and subsidiaries annually to fully realise the main responsibility for environmental protection and to ensure that the environmental management system is strictly enforced. The Measures for Project Construction Safety Management standardised the monitoring and measurement of environmental management system implementation at construction sites.

The Group has formulated the Measures for Environmental Protection Management and the Guidelines of Environmental Protection Technical Supervision to standardise and accelerate the improvement of the Group's standard system and meet the needs of national standards and international advanced standards. The Measures for Environmental Protection Management helps us to implement comprehensive and systematic environmental protection and management, establish "Three Simultaneities"<sup>1</sup> management system for construction projects, and standardise the acceptance inspection regarding to environmental protection, the construction of major environmental protection governance projects, and the environmental protection management during the production process. While the Guidelines of Environmental Protection Technical Supervision clearly defines the scope of technical supervision of environmental protection, the contents and methods of environmental protection monitoring, the technical management of environmental protection supervision and the assessment indicators.

The Group's emission types mainly include exhaust gas, waste water and waste. During the Year, we were not aware of any violation of relevant laws and regulations that have a significant impact on the Group relating to air emissions, wastewater discharges and generation of hazardous and non-hazardous waste.

<sup>1</sup> The pollution prevention and control facilities in the construction project shall be designed, built and put into operation together with the principal part of the project.

## 嚴格環境管理

本集團環境管理體系的日常運作由管理層代表負責協調，包括工程管理事業部及安全生產部負責協助。本集團每年與下屬分、子公司簽訂《安全環保目標責任書》，全面落實環保主題責任，確保環境管理體系嚴格執行。《工程安全施工管理辦法》則規範項目施工現場的環境管理體系運行的監視和測量。

為規範並加快本集團標準體系的完善，適應國家標準和國際先進標準的需要，本集團制定《環境保護管理辦法》和《環境保護技術監督導則》。《環境保護管理辦法》有助於我們實行環境保護全面化、系統化管理，建立建設項目「三同時」<sup>1</sup>管理體制，規範竣工環保驗收、重大環保治理項目建設、以及生產過程環境保護管理。《環境保護技術監督導則》明確界定環境保護技術監督的範圍、環保監測的內容和方法、環保監督的技術管理和考核指標。

本集團的排放物類型主要包括廢氣、廢水及廢棄物。於本年度，我們並不知悉任何違反有關廢氣排放、廢水排放、有害及無害廢棄物的產生且對本集團造成重大影響的法律及規例事宜。

<sup>1</sup> 建設項目中防治污染的設施，應當與主體工程同時設計、同時施工、同時投產使用。



## Air Emission Management

The Group strictly complies with Law of the People’s Republic of China on the Prevention and Control of Atmospheric Pollution, Emission Standard of Air Pollutants for Thermal Power Plants, Emission Standard of Air Pollutants for Stationary Gas Turbines and other local standards, and did not violate laws and regulations that have a significant impact on the Group regarding air and greenhouse gas emissions. The Group mainly operates photovoltaic and wind power generation – a new type of clean energy that is green and environmentally friendly and does not involve the use of fuel, thus does not emit any hazardous gases in the electricity generation process, without radiation, noise and pollution. The air emissions of our Group mainly involve emissions of sulphur oxide, nitrogen oxide and particulate matter generated by fuel consumption of vehicles in the course of operations. To control the air emissions from vehicles, the Group has formulated Measures for Vehicle Management to standardise vehicle management and improve vehicle utilisation. During the Year, the Group’s sulphur oxide, nitrogen oxide and particulate matter emissions were approximately 5.1kg, 2,856.8kg and 265.6kg, respectively. These emissions have no significant impact on business operation and the environment. In the future, the Group will continue to work hard to manage the impact of air emissions through emission reduction measures to ensure that the emission target is met.

## 廢氣排放管理

本集團嚴格遵守《中華人民共和國大氣污染防治法》、《火電廠大氣污染物排放標準》、《固定式燃氣輪機大氣污染物排放標準》及其他地方標準，且並無違反有關廢氣及溫室氣體排放並對本集團有重大影響的法律法規。本集團以運營光伏及風力發電—綠色環保的新型清潔能源為主，不涉及燃料的使用，故於發電過程中不會排放任何有害氣體，無輻射、無噪音、無污染。本集團的廢氣排放主要涉及營運過程中車輛燃油消耗產生的硫氧化物、氮氧化物及顆粒物排放。為控制車輛廢氣排放，本集團制定《車輛管理辦法》，以規範車輛管理，提高車輛利用率。於本年度，本集團產生的硫氧化物、氮氧化物及顆粒物排放量分別約為5.1公斤、2,856.8公斤及265.6公斤。該等排放量對我們的業務營運及環境影響並不重大。未來，本集團將繼續致力透過減排措施管理廢氣排放的影響，確保完成排放目標。

### Amount of Air Emissions in 2023

#### 二零二三年廢氣排放量

Sulfur Oxide (kg) 硫氧化物 (公斤)	5.1
Nitrogen Oxide (kg) 氮氧化物 (公斤)	2,856.8
Particulate Matter (kg) 顆粒物 (公斤)	265.6

## Wastewater Management

The Group strictly complies with Water Pollution Prevention and Control Law of the People's Republic of China, Integrated Wastewater Discharge Standard, Integrated Discharge Standard of Water Pollutants and other provisions of local standards, and did not violate laws and regulations that have a significant impact on the Group regarding discharges into water and land. The Group has established the environmental protection technical supervision system and set up the environmental protection technical supervision positions to supervise the wastewater indicators including the concentration of pollutants at the outlet of industrial wastewater treatment facilities, wastewater treatment rate, wastewater reuse rate, treated water volume, etc. The ultimate goal is to achieve 100% compliance with wastewater discharge standards.

The wastewater discharged by the Group consists of domestic and production sewage and it will be discharged to the municipal sewage treatment pipeline network finally. The domestic sewage is mainly from toilet water used in offices and construction sites, while production sewage mainly consists of water used for cleaning of solar panels. During the Year, we discharged a total of 77,069.45 tons of wastewater. Due to the increase in an aggregate grid-connected installed capacity of the Group and new mergers and acquisitions of more power plants, the amount of wastewater discharged during the Year has increased.

## 廢水管理

本集團嚴格遵守《中華人民共和國水污染防治法》、《污水綜合排放標準》、《水污染物綜合排放標準》及其他地方標準規定，且並無違反有關向水及土地排放並對本集團有重大影響的法律法規。本集團建立環境保護技術監督體系並設立環境保護技術監督崗位，以對工業廢水處理設施出口污染物濃度、廢水處理率、廢水再利用率、經處理水量等廢水指標進行監督。最終目標為實現100%遵守廢水排放標準。

本集團排放的廢水包括生活污水及生產污水，廢水排放的最終地點為市政污水處理管網。生活污水主要來自辦公室及建築工地的廁所用，而生產污水主要源自清潔太陽能電池板用水。於本年度，我們排放的廢水總量為77,069.45噸。由於本集團的總併網裝機容量增加和新併購了較多電站，故本年度廢水排放量有所增加。

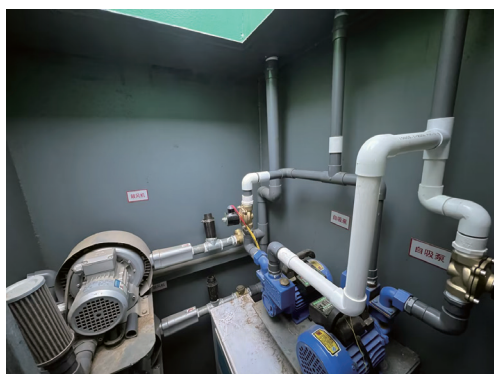
Wastewater 廢水	2023 二零二三年	2022 二零二二年
Wastewater discharge (Tons) 廢水排放量 (噸)	77,069.45	57,044.60
Emission intensity (Tons per GWh electricity generated) 排放強度 (噸／吉瓦時發電量)	5.59	7.99

To ensure compliant discharge of domestic wastewater from power plants, the Group has set up sewage treatment facilities (toilet sewage has to go through sedimentation in septic tanks before discharging into municipal sewage pipeline), which undergoes a series of physical, biological and chemical processes to transform domestic wastewater into water quality that meets discharge standards, thereby reducing potential hazards to the environment and public health.

為確保發電站生活廢水的合規排放，本集團設置污水處理設施（廁所污水經過化糞池的沉澱才可進入市政污水管道），該設施經過一系列物理、生物及化學過程，將生活廢水轉化為符合排放標準的水質，從而減少對環境及公眾健康的潛在危害。

**Case:**  
案例：

**Sewage Treatment Facilities at Damao Aodu Power Plant**  
達茂傲都發電站的污水處理設施



sewage pipe  
污水管



Operation Panel  
操作面板

**Solid Waste Management**

The Group strictly complies with Solid Waste Pollution Prevention and Control Law of the People's Republic of China, Standard for Pollution Control on Hazardous Waste Storage, Technical Specifications for Collection, Storage, and Transportation of Hazardous Waste, Standard for Pollution Control on the Non-hazardous Industrial Solid Waste Storage and Landfill and other relevant regulations, and did not violate laws and regulations that have a significant impact on the Group regarding generation of hazardous and non-hazardous waster.

The Group adheres to the principle of "Reduction, Recycling, and Harmlessness" to build up a systematic approach for waste management and waste reduction targets achievement. All hazardous waste is clearly labelled and stored separately according to different categories in accordance with the National Catalogue of Hazardous Wastes and the accounts of hazardous waste and solid waste are regularly updated. There is also a designated department to check the storage of waste weekly to ensure that there is no pollution to the surrounding environment.

**固體廢棄物管理**

本集團嚴格遵守《中華人民共和國固體廢物污染環境防治法》、《危險廢物貯存污染控制標準》、《危險廢物收集、貯存、運輸技術規範》、《一般工業固體廢物貯存和填埋污染控制標準》及其他相關規例，且並無違反有關產生有害及無害廢物並對本集團有重大影響的法律法規。

本集團以「減量、回收利用、無害」為原則，建立廢棄物管理及達致減廢目標的系統方法。所有有害廢棄物均按照《國家危險廢物名錄》明確標示，按不同類別分開存放，並定期更新有害廢棄物及固定廢棄物賬目。亦有指定部門每週核查廢棄物存放情況，以確保不會對周邊環境造成污染。



## The Waste Management Principle of the Group

**Reduction and Recycling:** The Group have actively promoted the construction of “tapping and saving resources” project by preferentially repairing and recycling solid waste to minimise the discharge of hazardous wastes. The Group requires manufacturers to recycle the waste related to power plants as much as possible.

**Harmlessness:** The Group has signed cleaning and transportation contracts with qualified third parties. For waste that cannot be repaired, reused or recycled and have no use value, the Group collects them and appoints qualified waste collection experts to carry out harmless treatment to eliminate the impact on the surrounding environment.

## 本集團廢棄物管理原則

**減量及回收利用：**本集團積極推進「開源節流」項目建設，對廢棄物優先進行維修再利用，最大限度減少有害廢棄物的排放。本集團要求製造商盡可能回收與發電站有關的廢棄物。

**無害：**本集團與有資質的第三方簽訂清運合同。對於不可修復或重複使用或回收的無利用價值的廢棄物，本集團先將其進行收集，再委聘合資格的廢棄物收集專家對其進行無害化處理，消除對周邊環境的影響。

### Case: 案例：

### Training for Hazardous Waste Management 有害廢棄物管理培訓

The Group invited internal and external experts to conduct training on hazardous waste management, including storage and transfer of hazardous waste, hazardous waste identification, pollution control of hazardous waste, etc. At the same time, the Group also organised emergency hazardous waste disposal drills for power plant's frontline staff to further strengthen the professionalism and continuously enhance environmental awareness.

本集團邀請內外部專家對有害廢棄物管理進行培訓，包括存放和轉移廢棄物、識別有害廢棄物、有害廢棄物的污染控制等。與此同時，本集團亦對發電站前線員工組織有害廢棄物應急處置演習，以進一步加強專業能力及持續提高環保意識。



Training for Hazardous Waste Management System  
有害廢棄物管理體系培訓



Hazardous Waste Disposal Practical Exercise  
有害廢棄物處置實務練習

Case:  
案例：

Waste Segregation Initiatives in Office Areas  
辦公區的廢棄物分類措施

The Group organised waste classification activities in the office area, held relevant training to explain in detail the common recyclables, classification of waste and other related contents, providing relevant instructions on how to reduce waste generation in daily work and lives to improve the employees' awareness of resource conservation.



Waste separation bins in office areas  
辦公區的廢棄物分類箱

本集團於辦公區組織廢棄物分類活動，舉辦相關培訓，詳細講解常見的可回收物、廢棄物分類及其他相關內容，對於日常生活中如何減少廢棄物產生提供相關指導，提高員工節約資源意識。

During the Year, the Group has generated a total of approximately 75.36 tons of hazardous waste, mainly comprised of solar panels and their components, and generated approximately 15.51 tons of non-hazardous waste, including domestic waste and office paper, a total of 75.36 tons waste recycled, representing a recycle rate of approximately 82.94%. During the Year, on average, approximately 1.13 kg of non-hazardous waste and approximately 5.47 kg of hazardous waste were generated per GWh electricity generated respectively. During the Year, we recycled a total of approximately 75.28 tons of scrapped solar panels.

於本年度，本集團共產生約75.36噸的有害廢棄物，以太陽能電池板及其組件為主；另產生約15.51噸無害廢棄物，包括生活廢物及辦公室用紙，共75.36噸廢棄物回收利用，回收率達約82.94%。於本年度，平均每吉瓦時發電量分別產生約1.13公斤無害廢棄物及約5.47公斤有害廢棄物。我們於本年度回收的報廢太陽能電池板共約75.28噸。

Year 年度	2023 二零二三年	2022 二零二二年
Hazardous waste generated (tons) 有害廢棄物產生量 (噸)	75.36	0.03
Recyclable hazardous waste (tons) 可回收有害廢棄物 (噸)	75.32	—
Non-recyclable hazardous waste (tons) 不可回收有害廢棄物 (噸)	0.04	—
Waste intensity (kg per GWh electricity generated) 產生廢棄物強度 (公斤／吉瓦時發電量)	5.47	0



Year 年度	2023 二零二三年	2022 二零二二年
Non-hazardous waste generated (tons) 無害廢棄物產生量 (噸)	15.51	17.21
Recyclable non-hazardous waste (tons) 可回收無害廢棄物 (噸)	0.04	3.2
Non-recyclable non-hazardous waste (tons) 不可回收無害廢棄物 (噸)	15.47	14.01
Waste intensity (kg per GWh electricity generated) 產生廢棄物強度 (公斤／吉瓦時發電量)	1.13	2.41

## RESPONSE TO CLIMATE CHANGE

Climate change has become a major challenge faced by human beings around the world. As a responsible enterprise, the Group actively responds to the impact of climate change. From last year, the Group began to disclose with reference to the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), so as to identify climate change-related risks and opportunities that may have a significant impact on the Group's operation, as well as the corresponding financial impacts.

## 應對氣候變化

氣候變化已成為全球人類面臨的重大挑戰。作為負責任的企業，本集團積極應對氣候變化帶來的影響。自去年起，本集團開始參照氣候相關財務信息披露工作組(TCFD)的建議進行披露，識別可能對本集團的營運有重大影響的氣候變化相關風險和機遇，以及相應的財務影響。



## Climate Governance Framework

## 氣候治理框架

### Climate Governance Framework of BJEI

#### 京能國際氣候治理框架

#### Governance 治理

The Board established the Sustainability Committee to provide leadership, guidance and supervision on the Group's policy formulation on, and practical implementation of, sustainable development matters.

董事會已成立可持續發展委員會，負責領導、指導及監督本集團制定有關可持續發展事宜的政策，及可持續發展事宜的具體實施工作。

#### Strategy 戰略

BJEI analyses the impacts of physical and transition risks of its current main businesses brought by climate change to formulate its strategic directions and implement business transformation accordingly.

京能國際分析氣候變化對當前主營業務帶來的實體風險及轉型風險的影響，從而制定戰略方向，並進行相應的業務轉型。

#### Risk Management 風險管理

The Sustainability Committee is responsible for reviewing the Group's climate change related work to ensure that the impact of related risks on the Group's business development is effectively minimized and the impact on climate change during the course of the Group's business development is reduced.

可持續發展委員會負責檢討本集團氣候變化相關工作，以確保有效降低相關風險對本集團業務發展的影響，同時減少本集團業務發展過程中對氣候變化產生的影響。

#### Metrics and Targets 指標及目標

BJEI strengthens the management of energy consumption and saving in the power plant and set the related goals. BJEI has subdivided the goals and assigned various performance indicators in order to conduct annual reviews with objective and quantitative criteria.

京能國際加強電站能耗及節能管理並制定相關目標。京能國際對目標進行細分，並分配各種績效指標，以便以客觀及量化的標準進行年度審查。

#### Practice 實踐

BJEI has regularly invited external professional parties to provide training on ESG knowledge for the management and various functional departments and to review the effectiveness of the Group's ESG-related works.

京能國際定期邀請外部專業機構為管理層及各職能部門提供ESG知識培訓，並對本集團ESG相關工作的成效進行審閱。

## Climate Risks and Opportunities

## 氣候風險及機遇

Risk 風險	Aspect 層面	Description of Risk 風險描述	Financial Impact 財務影響	Actions 行動
Physical risks 實體風險	Acute 急性	Increased severity and frequency of extreme weather events as a result of rising global temperatures, which have a certain degree of impact on the construction and operation of the Group's power plant projects 全球氣溫升高導致極端天氣事件的嚴重性和頻率增加，對本集團電站項目的建設和營運造成一定程度的影響	Increase in operating costs Increase in capital costs/Reduction in capital availability Negative impacts on workforce 營運成本增加 資本成本增加/可用資本減少 對勞動力的負面影響	Establishment of a special contingency plan in response to the increased severity and frequency of extreme weather events due to climate change 制定特別應急計劃，以應對氣候變化導致的極端天氣事件的嚴重性和頻率增加
	Chronic 慢性	Chronic risks such as global warming and rising sea levels may cause damage to the facilities and equipments in the Group's power plants 全球變暖和海平面上升等慢性風險可能使本集團電站的設施及設備受到損壞	Increase in operating and maintenance costs 經營及維護成本增加	Regularly carry out comprehensive preventive maintenance inspections of equipment to ensure stable operation 定期對設備進行全面的預防性維護檢查，確保設備穩定運行

Risk 風險	Aspect 層面	Description of Risk 風險描述	Financial Impact 財務影響	Actions 行動
Transition risks 轉型風險	Policies and regulations 政策及法規	Changes in international and domestic policies related to climate change may cause the Group incurring additional costs to ensure compliance 國際內外氣候變化相關政策的改變可能導致本集團產生更多的成本以確保合規	Increase in compliance costs 合規成本增加	Optimise resource utilisation, implement energy efficiency measures, adopt cleaner technologies and promote sustainable practices to minimise compliance costs 優化資源利用，實施節能措施，採用清潔技術並推廣可持續實踐，以最大限度地降低合規成本
	Market 市場	The market has higher requirements on the power generation efficiency and power generation cost of new energy projects, and the Group may face more competitive pressure 市場對新能源項目的發電效率及發電成本有更高的要求，本集團可能面臨更多的競爭壓力	Decrease in income 收入減少	Invest in research and development (R&D) to drive technological advancements in power generation and explore more efficient new energy sources 投資研發，以推動發電技術進步並探索更高效的新能源資源
	Technologies 技術	The update and iteration of emerging technologies related to new energy projects may cause the Group to invest more costs in R&D and the cultivation of professional talents 與新能源項目相關的新興科技的更新和迭代可能導致本集團投入更多成本用以研發和培養專業人才	Increase in R&D costs Increase in talent cultivation costs 研發成本增加 人才培養成本增加	Increase R&D budget to support the development and iteration of new energy projects to maintain a competitive edge 增加研發預算，支持新能源項目的開發和疊代，以保持競爭優勢
	Reputation 聲譽	If the Group fails to fulfil its social responsibilities and take appropriate measures to manage the potential impacts of climate change, it may affect the evaluation of the Group by various stakeholders, including investors 如果本集團未履行其社會責任，及採取適當措施管理氣候變化帶來的潛在影響，可能影響各持份者包括投資者對本集團的評價	Damage to corporate image Decrease in investment 企業形象受損 投資減少	Conduct thorough climate risk assessments to identify the potential impacts of climate change and actively publicise sustainability initiatives, progress and challenges, so as to build trust and transparency 進行全面的氣候風險評估，以確定氣候變化的潛在影響，並積極宣傳可持續發展舉措、進展及挑戰，以建立信任及透明度



Risk 風險	Aspect 層面	Description of Risk 風險描述	Financial Impact 財務影響	Actions 行動
Opportunities 機遇	Market 市場	Against the background of the China's Dual-Carbon Policy, the market demand for new energy has increased, which will help the Group to expand the market scale of its new energy projects and attract more investments 在國家雙碳政策的背景下，市場對新能源的需求增加，有助於本集團擴大新能源項目的市場規模，吸引更多投資	Increase in investment 投資增加	Conduct a comprehensive analysis of the new energy market and expand portfolio of new energy projects to capture a larger market share 全面分析新能源市場，擴大新能源項目組合，以搶佔更大的市場份額
	Resource efficiency 資源效率	The Group's technological progress in new energy projects can improve the efficiency and quality of new energy development and operation 本集團在新能源項目方面的技術進步能夠提高新能源開發及營運的效率和質量	Reduction of operating costs 營運成本降低	Embrace emerging technologies and innovative solutions to enhance the competitiveness of new energy projects 採用新興技術及創新解決方案，提高新能源項目的競爭力

In order to cope with the physical risks caused by climate change, the Group has formulated special inspection system and contingency plans for natural disaster accidents such as fog, thunderstorm, flood, gale, mudflow, earthquake, geologic hazard, frost and rainstorm in accordance with the Emergency Response Plan to guide the emergency rescue work of emergency events. The Group has set up an emergency command centre and divided the responsibilities of each working group to effectively manage the emergency rescue work of emergency events. At the same time, the Group regularly carries out operation safety and emergency drills and rescue training to comprehensively improve the emergency response capabilities of employees. In order to mitigate the transition risks caused by climate change, the Group will improve its ability to adapt to and mitigate climate change, constant improvement of research and development in new energy areas, continuous cultivation of professional talents, active performance of social responsibilities and other measures.

為應對氣候變化帶來的實體風險，本集團根據《突發事件應急預案》，針對大霧、雷暴、洪水、大風、泥石流、地震、地質災害、霜凍、大雨等自然災害事故設立專項檢查制度及事故應急預案，以指導突發事件的應急救援工作。本集團搭建應急指揮機構，並劃分各個工作小組職責，以有效管理突發事件的應急救援工作。同時，本集團定期開展作業安全和應急演練及救援方面培訓，全面提升僱員突發事件應急處理能力。為緩解氣候變化帶來的轉型風險，本集團將不斷加強新能源領域的研發、持續培養專業人才、積極履行社會責任等措施，以提高其對氣候變化的適應及緩解能力。

## Greenhouse Gas Emissions

## 溫室氣體排放

Greenhouse Gas Emissions 溫室氣體排放	Scope 範圍	Unit 單位	2023 二零二三年	2022 二零二二年	2021 二零二一年
<b>Total greenhouse gas emissions</b> 溫室氣體排放總量	Scope 1: Direct emissions 範圍1: 直接排放	(tCO <sub>2</sub> e) (噸二氧化碳當量)	790	729	1,980
	Scope 2: Energy Indirect emissions 範圍2: 能源間接排放	(tCO <sub>2</sub> e) (噸二氧化碳當量)	37,159	34,468	23,336
	Scope 3: Other indirect emissions 範圍3: 其他間接排放	(tCO <sub>2</sub> e) (噸二氧化碳當量)	369	-	-
<b>Emissions intensity</b> 排放強度	Scope 1, 2, 3 範圍1、2、3	(tCO <sub>2</sub> e per GWh electricity generated) (噸二氧化碳當量／吉瓦時發電量)	2.78	4.93	6.53

Notes: Scope 1 covers greenhouse gas emissions directly generated from the operations owned or controlled by the Group, including emissions from fuel consumed by corporate vehicles and emissions reductions due to tree planting.

Scope 2 covers electricity and heating purchased externally which are necessary for operating and production activities of the Group.

Scope 3 covers business travel by employees, methane gas generation at landfill due to disposal of paper waste and electricity used for fresh water and sewage processing which are other indirect emissions that occur outside the Company.

註：範圍1包括本集團擁有或控制的業務活動直接產生的溫室氣體排放，包括公司車輛所消耗燃料產生的排放及植樹引起的排放減少。

範圍2包括本集團營運及生產活動所需的外部購買的電力及熱力。

範圍3包括僱員差旅、因處理廢紙而在垃圾填埋場產生的甲烷氣體以及用於淡水及污水處理的電力，該等均產生於本公司外部的其他間接排放。



## PRESERVE LAND RESOURCES

The Group strictly comply with Environmental Protection Law of the People's Republic of China, Law of the People's Republic of China on Water and Soil Conservation, Notification of Soil Pollution Prevention and Control Action Plan provided by the State Council, Regulations on the Administration of Construction Project Environmental Protection. The Group does its best to reduce the possibility of negative impacts of clean energy projects on land through the effective application of scientific management and land restoration measures such as construction of berms, diversion channels and revegetation to prevent soil erosion.

### Selecting Sites Carefully

The Group has reduced the impact on existing land use by selecting wastelands, deserts and idle lands in coal mining subsidence areas as the preferred sites for project construction. When the use of relatively valuable land, such as farmland or woodland, is unavoidable, we will strive to preserve the original landscape and work closely with local governments to meet national and local agroforestry regulations.

### Reversing Land Degradation

The Group has been actively taking steps to reverse land degradation. During the Year, the Group implemented a number of soil and water conservation measures to avoid soil erosion and land degradation caused by clean energy projects. Meanwhile, in the preliminary feasibility study stage of new projects, the Group conducts special reviews on ecological environmental protection sections in conjunction with project characteristics to ensure that the surrounding environment will not be affected during the construction period.

## 保護土地資源

本集團嚴格遵守《中華人民共和國環境保護法》、《中華人民共和國水土保持法》、《國務院關於印發土壤污染防治行動計劃的通知》、《建設項目環境保護管理條例》。本集團通過有效運用科學管理及土地恢復措施，如修建護堤、導流渠及植被重建，防止土壤侵蝕，竭力降低清潔能源項目對土地造成負面影響的可能性。

### 審慎選址

本集團通過項目建設場地首選荒地、沙漠及採煤沉陷區閒置土地等措施，減少對現有土地用途的影響。當不可避免使用農地或林地等相對寶貴的土地時，我們會竭力維護原始地貌，並與地方政府緊密溝通，以滿足國家及當地農林業的規定。

### 逆轉土地退化

本集團積極採取措施以逆轉土地退化。於本年度，本集團實施多項水土保持措施，避免清潔能源項目造成土壤侵蝕及土地退化。同時，在新項目的前期可行性研究階段，本集團結合項目特點，對生態環保部分進行專項審查，以確保施工建設期不影響周圍環境。



**Case:**  
**案例：**

**Shandong Haiyang Power Plant Water and Soil Restoration Project**  
**山東海陽電站水土修復項目**

Shandong Haiyang Power Plant is located in the mountainous area which is a photovoltaic power plant. In the rainy season every year, there are many water and soil erosion parts in the photovoltaic area. The Shandong Haiyang Power Plant actively devotes a special fee for water and soil conservation every year and has implemented a series of measures such as slope protection and construction of diversion channels to reduce land degradation and avoid soil erosion.



Berms  
護坡

山東海陽電站位於山區，為一間光伏電站。每年雨季，光伏區均會出現多處水土流失現象。山東海陽電站每年均會主動投入水土保持專項費用，並採取如護坡、修建引水渠等一系列措施以減少土地退化，避免土壤侵蝕。



Diversion Channels  
引水渠

**Case:**  
**案例：**

**Qingshuihe Power Plant Water and Soil Restoration Project**  
**清水河電站水土修復項目**

The site of Qingshuihe Power Plant has been subject to long-term erosion by flowing water, with complex terrain and many gullies and ravines. In the second half of 2023, the Qingshuihe Power Plant invested RMB173,900 in cultivating alfalfa grass in the photovoltaic field area. The growth of alfalfa grass will effectively combat wind erosion, reduce land degradation, and prevent soil erosion.



Before Revegetation  
植被重建前

清水河電站長期受流水侵蝕，地形複雜，溝壑縱橫。二零二三年下半年，清水河電站投資人民幣173,900元在光伏場區種植苜蓿草。苜蓿草的生長將有效防治風蝕，減少土地退化，防止土壤侵蝕。



After Revegetation  
植被重建後

**Case:  
案例：****Damao Power Plant Water and Soil Restoration Project  
達茂電站水土修復項目**

Damao Power Plant also has taken proactive measures including oatgrass planting in the second phase of photovoltaic zone to reduce soil erosion and facilitate water and soil restoration.

達茂電站亦採取積極措施，包括於二期光伏區種植燕麥草，以減少土壤侵蝕，促進水土修復。



Before Revegetation  
植被重建前



After Revegetation  
植被重建後

**Integration of Photovoltaic Development with Local Industry**

In addition to the traditional PV power plant industry model, the application of PV + various scenarios has become a hotspot. The Group has been actively exploring the innovative possibilities of applying photovoltaics in various scenarios, these new industry models such as "PV + Agriculture", realising the integrated use of green energy and land in an intensive and three-dimensional process to maximise the use of land resources, and providing new driving force for the transformation and development of the industry, so as to achieve significant economic and social benefits.

**光伏發展與當地產業相結合**

除傳統光伏電站產業模式外，光伏+各種場景的應用亦成為熱點。本集團一直積極探索光伏應用於各種場景的創新可能性，該等新產業模式如「光伏+農業」，實現了綠色能源和土地集約化、立體化的綜合利用，最大限度地利用土地資源，為產業轉型發展提供新動力，從而實現顯著的經濟和社會效益。

**Case:  
案例：****"PV + Factory Roof"  
「光伏+廠房屋頂」**

The Project of Tuyou Photovoltaic Power Plant + Factory Roof, making full use of the space on the roof of the closed storage and transportation workshop, laying solar photovoltaic power generation silicon panels, and constructing a rooftop solar photovoltaic power plant with a total installed capacity of 30MW. This not only enhances the comprehensive utilisation of land and improvements in the efficiency of energy use, but also the innovative features that pioneered the circular economy.

土右光伏電站+廠房屋頂項目，充分利用封閉儲運車間屋頂空間，鋪設太陽能光伏發電矽板，建設屋頂太陽能光伏電站，總裝機容量為30兆瓦。該項目不僅提高了土地的綜合利用率，改善了能源的使用效率，亦體現了開創循環經濟的創新特色。



Tuyou Photovoltaic Power Plant + Factory Roof

土右光伏電站+廠房屋頂



**Case:**  
**案例：**

**“PV + Carport”**  
**「光伏+車棚」**

The Project of Nanchang Jiangling Photovoltaic Power Plant is a combination of carport building and photovoltaic power generation technology. It changes the single role of the traditional carport, making full use of the original site, not only provides a site for parking, but also utilises clean energy to generate electricity and reduces carbon emissions to achieve a win-win situation for both social and environmental benefits.



Nanchang Jiangling Photovoltaic Power Plant + Carport  
南昌江鈴光伏電站+車棚

南昌江鈴光伏電站項目乃車棚建築與光伏發電技術的結合。其改變了傳統車棚的單一作用，充分利用原有場地，既提供停車場地，又利用清潔能源發電，減少碳排放，實現了社會與環境效益的雙贏。

**Case:**  
**案例：**

**PV + Animal husbandry**  
**光伏+畜牧業**

The Project of Zhenglan Banner Silangcheng Photovoltaic Power Plant is a ground photovoltaic-animal husbandry complementary distributed power plant, developed by using the grassland of photovoltaic area to develop the animal husbandry. Sheep grazing in the photovoltaic area not only saves herdsman's feed costs, but also reduces the labour cost of weeding in photovoltaic power plant, to achieve the two-way benefit for the Group and herdsmen. During the Year, the grassland of the photovoltaic area provided about 600 to 800 tons of forage, saving the herdsmen more than RMB50,000 in costs.



Zhenglan Banner Silangcheng Photovoltaic Power Plant + Animal husbandry  
正藍旗四郎城光伏電站+畜牧業

正藍旗四郎城光伏電站項目乃利用光伏區草場發展畜牧業開發的地面光伏-畜牧互補分布式電站。在光伏區放牧羊群，既節省了牧民的飼料成本，亦減少了光伏電站除草的人工成本，實現了本集團及牧民的雙向受益。於本年度，光伏區草場提供飼草約600至800噸，為牧民節省成本超過人民幣50,000元。





**Case:**  
**案例：****Nangong Photovoltaic Power Plant + Agriculture**  
**南宮光伏電站+農業**

The project of Photovoltaic Power Plant in Nangong City, Hebei Province, adopting the "PV + Agriculture" mode of application, combining photovoltaic power generation with agricultural production, installing photovoltaic panels in the upper space to generate electricity, and planting crops in the lower land to realise the three-dimensional production mode of agriculture and energy, enhances the space utilisation rate, and maximise output per unit area of land.



河北省南宮市光伏電站項目採用「光伏+農業」的應用模式，將光伏發電與農業生產相結合，上層空間安裝光伏板發電，下層土地種植農作物，實現農業與能源的立體生產模式，提高空間利用率，實現土地單位面積產出最大化。

**Case:**  
**案例：****Tangshan Photovoltaic Power Plant + Agriculture**  
**唐山光伏電站+農業**

The project of Photovoltaic Power Plant in Tangshan City, Hebei Province is an agricultural-photovoltaic complementary project. By planting perennial herbal corps such as peonies and rhizoma anemarrhenae under the modules of the power plant, which effectively use the land and achieved income generation for local farmers.

河北省唐山市光伏電站乃農光互補項目。通過在電站組件下種植牡丹、知母等多年生草本植物，有效利用土地並實現了當地農民的增收。



Tangshan Photovoltaic Power Plant + Peonies  
唐山光伏電站+牡丹



Tangshan Photovoltaic Power Plant + Rhizoma  
Anemarrhenae  
唐山光伏電站+知母

## EFFECTIVE RESOURCES CONSERVATION

The resource conservation management work is managed under the unified leadership of the Group with a hierarchical approach. The Group is in charge of providing general guidance to and supervising its branches and subsidiaries in resource conservation, while the branches and subsidiaries shall perform their duties within the stipulated scope of resource conservation management. The Group promulgates a customised management system for the office area, strengthened the standardised management of the office space, and put forward effective resource-saving measures in conjunction with the Group's actual practice.

### Use of Energy

The safety production department of the Group has formulated the Measures for Energy Conservation Management to improve the energy management work, which clearly stipulated the corresponding responsibility of the Group, its branches and subsidiaries in energy conservation management. During the Year, the Group has implemented the management system of energy conservation and consumption reduction in office space and a number of environmental protection measures in power plants and offices. Besides, the Group also has carried out training on the theme of low-carbon environmental protection and energy saving knowledge to improve the staff's awareness of environmental protection and energy saving in daily life and work. The Group hopes to continuously improve employees' energy-saving awareness and regulate their energy saving behaviours. Some energy saving measures listed below:

Registering the energy conservation registration form with the local government department at the project approval stage, and designing the energy saving scheme for the electrical power supply and distribution system as required. The design ideas include: 1) reasonably selecting the capacity and number of transformers to reduce line loss; 2) improving the power factor of the system by configuring supporting electrical equipment, thereby reducing the energy consumption of the power plants

在項目立項階段向當地政府部門備案節能登記表，按其要求為供配電系統設計節能方案。設計思路包括：1)合理選擇變壓器的容量和台數，以減少線路損耗；2)通過配置配套電器設備來提高系統的功率因素，從而降低電站的能源能耗

Using external wall insulation technology to reduce power consumption of air conditioning

採用外牆隔熱技術以減少空調耗電量

## 有效節省資源

節省資源管理工作由本集團統一領導，實行分級管理。本集團負責對其分、子公司節省資源工作的宏觀管理與監督，而分、子公司則在其職責範圍內開展相關的節省資源管理工作。本集團為辦公區域制定定製化的管理制度，加強辦公場所的規範化管理，並結合本集團的實際實踐，提出有效的資源節約措施。

### 能源的使用

本集團安全生產部已編製《節能管理辦法》來完善能源管理工作，對本集團及其分、子公司節能工作管理作出明確規定。於本年度，本集團在辦公場所推行節能降耗管理制度，以及在電站及辦公室推行多項環保措施。此外，本集團亦開展了低碳環保及節能知識主題培訓，以提升員工在日常生活及工作中的環保節能意識。本集團希望不斷提高員工的節能意識，規範員工節約能源的行為。以下是一些節能措施：

Strictly implementing the seasonal use time of electrical equipment to control energy consumption  
嚴格執行用電設備的季節使用時間，控制能源消耗

Using LED lights with automatic switch at some power plant bases to avoid energy waste  
於部分電站基地採用帶有自動開關的LED燈，避免能源浪費

Turning off lights and air conditioners as well as other idle electrical appliances that are not in use, and prohibiting the use of everburning lamps and daytime lamps  
關閉並無使用的照明設備、空調及其他閒置電器，要求人走燈滅，杜絕長明燈、白晝燈

Adding supporting facilities such as charging piles for new energy vehicles to new construction projects, and giving priority to new energy vehicles when purchasing operation and maintenance vehicles  
新建項目增設新能源汽車的充電樁等配套設施，並在購買運維車輛時，優先選擇新能源汽車

In addition, in terms of improving energy efficiency, the Group conducted quantitative analysis of electricity consumption to understand the major power consumptions, so as to take targeted measures to reduce power consumption. By studying the policy on electric dispatch network and electric charge, the Group applied the optimal SVG output method and the frequency conversion technology for cooling fans to reduce the SVG power consumption reasonably. Besides, the Group also flexibly applies the "PV+" model to utilise clean energy to reduce its own energy consumption.

此外，在提高能源使用效益方面，本集團對用電消耗進行量化分析，掌握耗電主要去向，並採取針對性改善耗電的措施。研究電網力調電費收取的政策，本集團採取最優SVG輸出方式，實施冷卻風機變頻技改，合理降低SVG耗電量。此外，本集團亦靈活運用「光伏+」模式，利用清潔能源，以降低自身能源消耗。

#### Case: 案例：

#### SVG Cooling Fan Transformation of Zhenglan Banner Photovoltaic Power Plant 正藍旗光伏電站SVG散熱風扇改造

The SVG cooling fans of Zhenglan Banner Photovoltaic Power Plant have been transformed from power frequency operation mode to frequency conversion operation mode, effectively lowering the comprehensive electricity consumption rate of the power plant.



正藍旗光伏電站SVG散熱風扇由工頻運行方式改造為變頻運行方式，有效降低了電站的綜合用電率。



**Case:**  
**案例：** **Rooftop Photovoltaic Energy Storage Systems**  
**屋頂光伏儲能系統**

During the Year, the Datong Panda Photovoltaic Power Plant has constructed a rooftop photovoltaic energy storage system using the unused roof of the activity centre building, which can reduce office electricity consumption by about 2,000kWh per month.

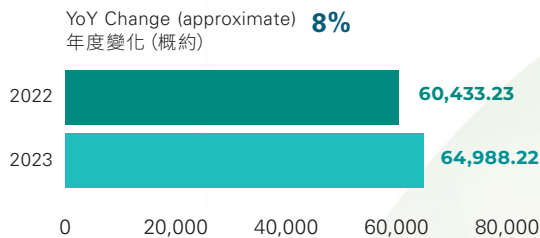


於本年度，大同熊貓光伏電站利用活動中心大樓閒置屋頂建設屋頂光伏儲能系統，每月可減少辦公用電約0.2萬千瓦時。

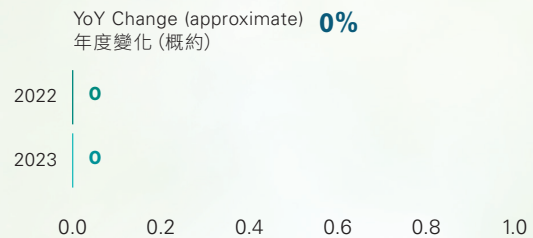
Electricity, natural gas and fuel oil consumed in offices and power plants are the main sources of the Group's energy consumption. During the Year, the Group consumed a total of approximately 70,748.91MWh of energy. The total energy consumption comprised approximately 91.86%, 3.77%, 0.91% and 3.46% of electricity, gasoline, diesel and heating respectively. Consumption intensity was approximately 5.13 MWh per gigawatt hour ("GWh") electricity generated. The annual electricity consumption was equivalent to approximately 0.51% of the total power generation of the Group's power plants. During the Year, the comprehensive electricity consumption rate of the plant of the Group was 1.55%, achieving the target of a comprehensive electricity consumption rate of the plant of less than 1.8% by 2023.

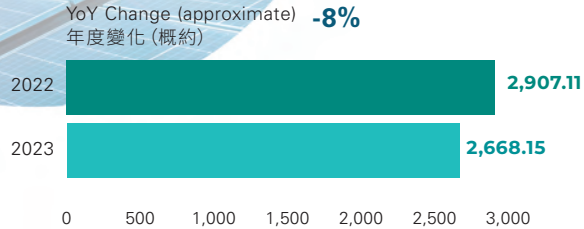
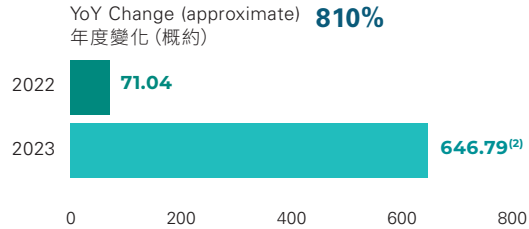
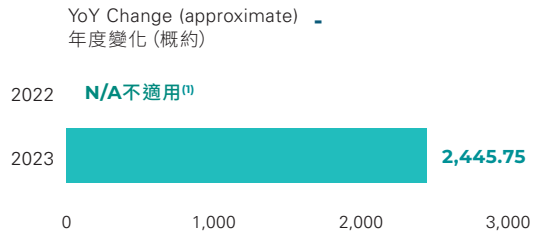
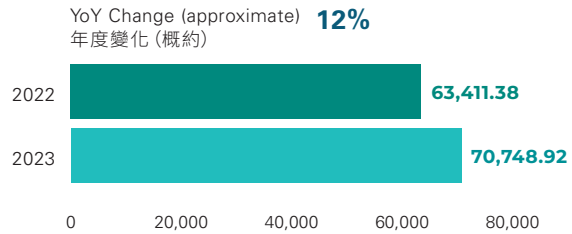
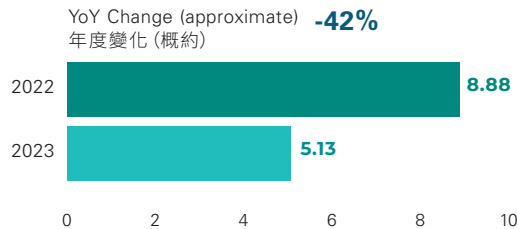
辦公室及發電站所使用的電力、天然氣及燃油為本集團的能源消耗的主要來源。於本年度，本集團共計消耗約70,748.91兆瓦時的能源。電力、汽油、柴油及熱力的消耗分別佔總能耗的約91.86%、3.77%、0.91%及3.46%。消耗強度約為每吉瓦時（「吉瓦時」）發電量消耗5.13兆瓦時能源。年度用電量相當於本集團發電站總發電量約0.51%。於本年度，本集團綜合廠用電率為1.55%，達成了二零二三年前綜合廠用電率低於1.8%的目標。

**Electricity 電力**  
MWh 兆瓦時



**Natural gas 天然氣**  
MWh 兆瓦時



**Gasoline 汽油**  
MWh 兆瓦時**Diesel 柴油**  
MWh 兆瓦時**Heating 暖氣**  
MWh 兆瓦時**Total 合計**  
MWh 兆瓦時**Energy consumption intensity****能源消耗強度**MWh per GWh electricity generated  
兆瓦時/吉瓦時發電量

Notes:

- The heating data began to be collected in 2023, hence the heating data for the 2022 is marked as not applicable.
- Due to the increase in power plant projects under construction in 2023 compared to the previous year, the number of diesel vehicles used at construction sites increased, leading to a significant rise in diesel consumption compared to the previous year.

附註：

- 暖氣數據於二零二三年開始統計，因此二零二二年暖氣數據標記為不適用。
- 由於二零二三年在建電站項目較去年增加，導致施工現場所用柴油車輛增加，因此柴油消耗較去年大幅增加。

**Use of Water**

The Group used less water during the construction of photovoltaic power plants, and usually used village waterwheels to fetch water locally. After operation, the power plants are usually connected to the municipal water pipes according to its geographical location, and the major water consumption consists of water usage for solar panel cleaning and in offices.

**水資源使用**

本集團光伏電站建設過程中的用水量較少，通常藉助村鎮水車取水。發電站營運後通常根據其地理位置接入市政水管，主要用水包括清洗太陽能電池板用水及辦公室用水。

On the power plant side, the Group arranges the cleaning times and cleaning methods of components in a reasonable manner to save water. The power plant reuses the wastewater treated by the wastewater treatment facilities for irrigation or toilet flushing, reducing domestic water consumption. On the office side, the Group promulgates a customised management system for the office area to conserve water and raise employees' awareness of water conservation. Some water saving measures listed below:

於電站方面，本集團合理安排組件的清洗次數和清洗方式，以此節約用水。電站將污水處理設施處理後的廢水再用於灌溉或沖廁，減少生活用水量。於辦公室方面，本集團為辦公區域制定定製化的管理制度，以節約用水，提高員工的節水意識。以下是一些節水措施：



During the Year, the Group consumed a total of approximately 96,336.81 tons of water and the water consumption intensity was approximately 6.99 tons per GWh electricity generated. The Group did not have any problems with access to applicable water sources during the Year.

於本年度，本集團的水資源消耗共約 96,336.81 噸，耗水強度約為每吉瓦時發電量消耗 6.99 噸水資源。本集團於本年度並無任何獲取適用水源上的問題。





## Water Consumption in FY2023 二零二三財政年度水資源消耗

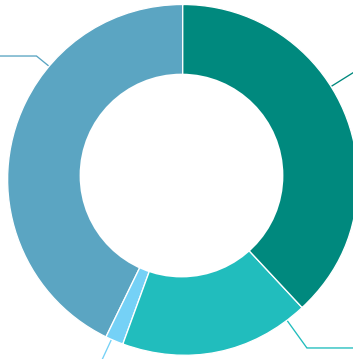
(tons) (噸)

Groundwater  
地下水  
**40,950.7**  
**42.51%**

Municipal water supply  
市政供水  
**36,683.91**  
**38.08%**

Surface water (from  
wetlands, rivers and lakes)  
地面水 (來自濕地、河流和  
湖泊)  
**1,713.7**  
**1.78%**

Water supply from  
other public or private  
waterworks  
其他公共或私人水務設施  
供水  
**16,988.5**  
**17.63%**

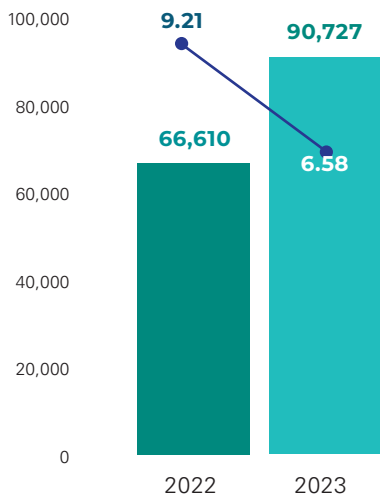


## Total Water Consumption (tons) and Water Consumption Intensity 水資源消耗總量 (噸) 及耗水強度

(tons per GWh electricity generated) (噸/吉瓦時發電量)

### Power Plants 電站

Total Water  
Consumption  
(tons)  
水資源  
消耗總量  
(噸)

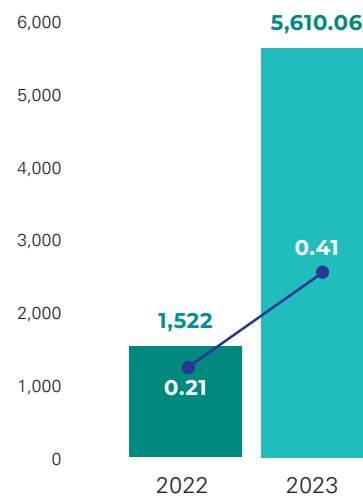


Water  
Consumption  
Intensity  
(tons/GWh)  
耗水強度  
(噸/吉瓦時)



### Offices 辦公室

Total Water  
Consumption  
(tons)  
水資源  
消耗總量  
(噸)



Water  
Consumption  
Intensity  
(tons/GWh)  
耗水強度  
(噸/吉瓦時)



## Use of Paper

Paper conservation plays a crucial role in reducing greenhouse gas emissions. By minimising paper usage and promoting sustainable practices, the Group can achieve significant environmental benefits, and the Group has also stipulated paper conservation measures in its customised management system for office areas, as follows:



Moving to paperless office by fully utilisation of electronic transmission system  
推行無紙化辦公，充分使用電子傳輸系統

Using both sides of all office papers to reduce paper consumption and reduce the number of repeated printing and copying  
提倡雙面用紙，降低紙張消耗，減少重覆打印、複印次數

Setting up waste paper recycling bins and reusing all papers except for confidential and important documents  
設置廢紙回收箱，將非機密文件回收作為稿紙使用

Advocating repair instead of replacement of faulty machine and utilising the waste to extend the life-time of printing machine  
提倡修舊利廢，延長打印設備的使用壽命

Keeping monthly paper usage records and reporting any abnormal usage in a timely manner  
保存月度用紙記錄，以及時發現任何異常使用情況

## 紙的使用

節約用紙在減少溫室氣體排放方面發揮著至關重要的作用。通過盡量減少用紙及推廣可持續實踐，本集團可取得顯著的環境效益，而本集團亦在辦公區域的定製化管理制度中規定了節約用紙措施，具體如下：

## CARE FOR THE ECOLOGICAL ENVIRONMENT

The Group prevents environmental pollution and ecological damage at source in accordance with the principle of “conservation first, ecology first”, and formulated the Measures for Environmental Protection Management and the Guidelines of Environmental Protection Technical Supervision to take environmental protection measures in the design, construction and operation of each project to reduce the impact on the ecological environment, promoting the harmonious development of human and nature with practical actions.

The Group strictly abides by various rules and regulations related to biodiversity, clarifies the requirements for biodiversity protection in the process of project development, construction, operation and maintenance, fully identifies and analyses the biodiversity risks in wind farms and its surrounding habitats, especially in areas rich in biological resources, focuses on the impact of bird strikes, blocking of wildlife migration channels, habitat loss and environmental pollution, and takes various measures to strictly implement biodiversity protection, so as to avoid or reduce relevant impacts.

## 愛護生態環境

本集團根據「保護第一、生態第一」的原則，從源頭上預防環境污染及生態破壞，並制定《環境保護管理辦法》和《環境保護技術監督導則》，並在每個項目的設計、建設和運營過程中採取環境保護措施，以減少對生態環境的影響，以實際行動推動人與自然和諧發展。

本集團嚴格遵守生物多樣性有關的各項規章制度，明確項目開發、建設和運維過程中生物多樣性保護的要求，充分識別和分析風電場及周邊棲息地，特別是在生物資源豐富地區的生物多樣性風險，重點關注鳥類撞擊，野生動物遷移通道遮擋、棲息地喪失及環境污染等影響，採取多種措施，嚴格落實生物多樣性保護，避免或減少相關影響。

During the Year, the Group carried out a series of ecological protection measures, including environmental impact assessment in the 100MW agricultural solar power project of Yongdeng in Gansu Province, with an investment in environmental protection of RMB1.24 million. For the Sanchahe Photovoltaic Power Plant, the Group signed an agreement with the Yunnan Provincial Department of Agriculture to fund aquatic ecological conservation work including the supervision of protected areas, infrastructure construction, and aquatic ecological monitoring systems, with an investment of RMB35.66 million. In addition, the Group introduced ecological protection knowledge, ecological protection laws, ecological protection systems, pollution control and other knowledge through trainings, so as to enhance the ecological protection awareness of the operation and maintenance personnel in the power plants, and to do a good job in the ecological protection work of power plants.

於本年度，本集團開展了一系列生態保護措施，包括甘肅省的永登100兆瓦農業太陽能項目的環境影響評價，環境保護投入資金為人民幣1.24百萬元。就三岔河光伏電站而言，本集團與雲南省農業廳簽訂協議以資助水生生物生態保護工作，包括保護區監管、基礎設施建設及水生生物生態監測系統，投入資金人民幣35.66百萬元。此外，本集團通過培訓的開展，介紹生態保護常識、生態保護法律、生態保護制度、污染治理等知識，提升電站運維人員的生態保護意識，做好電站生態保護工作。

#### Case: 案例：

#### Datong Panda Power Plant Carried out Tree-Planting Activities 大同熊貓電站開展植樹活動

In order to effectively strengthen the construction of ecological environment protection and help realise the “dual carbon” goals, Datong Panda Power Plant organised tree planting and greening activities for all employees at the power plant during the Year, planting a total of 200 trees, which interpreted the beautiful concept of ecological protection and harmonious coexistence with actions. This greening activity not only improved staff’s awareness of participating in the daily maintenance and construction of the power plant, but also enhanced the awareness of protecting the ecological environment and building a beautiful homeland.

為切實加強生態環境保護建設，助力「雙碳」目標實現，大同熊貓電站於本年度組織該電站的全體僱員參與的植樹綠化活動，共計植樹200棵，用行動詮釋了保護生態、和諧共存的美好理念。此次綠化活動不僅提高了員工參與電站日常維護建設的意識，也增強了保護生態環境、建設美好家園的意識。





Adhere to  
People-Oriented  
and **Build a  
Harmonious Team**

堅持以人為本  
**打造和諧團隊**



The Group is dedicated to building a diverse and dynamic team aligned with our vision to be a top-tier global clean energy operator. We believe in nurturing talent with competitive compensation and a culture of respect, growth, and excellence. Our focus is on creating a fair and inspiring environment where every individual can thrive, contributing to our innovative drive and accelerating our commitment to quality development.

本集團致力於打造一支多元化且充滿活力的團隊，這與我們成為一流的國際化清潔能源運營商的願景一致。我們信奉以具競爭力的薪酬以及尊重、成長及卓越的文化培育人才。我們專注於創造公平、積極的環境，讓每個人都能茁壯成長，從而增強創造力，加快實現高質量發展。

**KPI:**  
關鍵績效指標：



Total number of employees:  
僱員總數：**1,790**

Total hours of training per capita:  
人均受訓總時數：**69**

Total hours of occupational health and safety training:  
職業健康與安全培訓總時數：**12,016**



## DIVERSITY OF TALENT TEAM

### Employment Practice

The Group places a high emphasis on talent development, recruiting suitable candidates based on principles of openness, equality, competition, and merit. We strictly abide by national laws and regulations, including but not limited to the Labour Law of the People's Republic of China and the Labour Contract Law of the People's Republic of China, as well as the laws and regulations of the countries in which we operate. Internally, the Group has formulated Measures for Labour Contract Management, Measures for Recruitment and Employment Management, and the Employee Handbook to standardise employment processes and safeguard the rights and interests of employees. During the recruitment process, we select suitable applicants based on their performance in written test and interview, educational background, industry background, experience, and their suitability for the relevant positions, and we firmly forbid any discrimination against any applicant for personal characteristics such as race, sex, colour, age, family background, national tradition, religion, physical fitness, and original nationality. In addition, we implement risk control measures for recruiting and hiring. For instance, recruitment plans are finalised after review and approval by the President of the Group and the Board, registration forms for job application and employment approval forms are filed and recorded properly, so that the corresponding management department can control and monitor the hiring process at a later stage.

## 多元人才隊伍

### 招聘慣例

本集團高度重視人才發展，本著公開、平等、競爭及擇優的原則招聘合適的人才。我們嚴格遵守國家法律法規，包括但不限於《中華人民共和國勞動法》及《中華人民共和國勞動合同法》，同時也嚴格遵守境外業務所在地的法律法規。本集團內部制定了《勞動合同管理辦法》、《招聘和錄用管理辦法》及《員工手冊》，規範招聘流程，保障僱員的權益。在招聘過程中，我們根據應聘者在筆試及面試中的表現、教育背景、行業背景、經驗以及彼等與相關崗位的匹配度選取合適人選，堅決禁止因種族、性別、膚色、年齡、家庭背景、民族傳統、宗教、身體狀況及原國籍等個人特徵而歧視任何應聘者。此外，我們對招聘和錄用工作實施風險控制措施。例如，招聘計劃經本集團總裁和董事會審核批准後方可確定，做好應聘登記表和錄用審批表的存檔記錄工作，以便後期相應管理部門管控和監測僱傭過程。



In accordance with the Trade Union Law of the People's Republic of China, the Labour Law of the People's Republic of China, and the Constitution of the All-China Federation of Trade Unions among other documents, the Group has established the Regulations of Labour Union Work Management. The Group has organised a trade union to protect the legitimate rights and interests of employees, assisting them in signing labour contracts with the Group. This union facilitates equal negotiation between employees and the Group on matters such as labour remuneration, working hours, and labour quotas, and mediates labour disputes.

### Selection of talent

The Group matches the unique attributes of talents with the needs of various positions to ensure a rational human-resource structure. Utilising both internal and external channels such as campus recruitment drives, online platforms, newspapers and magazines, internal referrals, job fairs, and headhunting agencies, the Group attracts potential candidates from diverse cultural backgrounds and with varying skills. The Group is committed to strengthening our talent pool with multidimensional reserves, incorporating versatile talents to establish a well-calibrated talent allocation mechanism, ensuring that every individual's capabilities are fully utilised and valued. The Group maintains a talent reserve database. This database records versatile talents, outstanding interviewees who were not hired due to objective reasons, and exceptional resumes sourced externally, all managed within the Group's talent pool.

本集團已依照《中華人民共和國工會法》、《中華人民共和國勞動法》及《中國工會章程》等文件制定《工會工作管理規定》。本集團已組建工會，維護僱員的合法權益，幫助僱員與本集團簽訂勞動合同。工會可促進僱員與本集團就勞動報酬、工作時間及勞動定額等事項進行平等協商，調解勞動爭議。

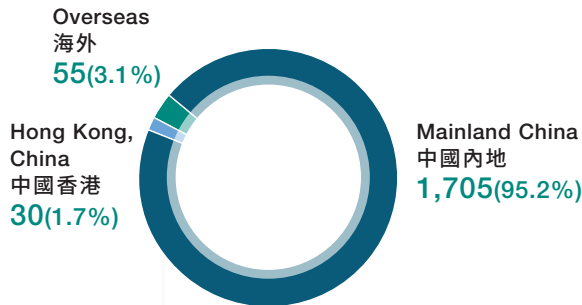
### 甄選人才

本集團將人才的獨物品質與不同崗位的需求相匹配，確保人力資源結構合理，並通過校園招聘活動、網絡平台、報刊雜誌、內部推薦、招聘會及獵頭機構等內部和外部渠道，吸引具有不同文化背景及具備不同技能的潛在候選人。本集團致力於加強建設多維度的人才儲備庫，吸納複合型人才，以建立人才合理配置機制，確保人盡其才，才盡其用。本集團擁有人才儲備數據庫，該數據庫記錄了複合型人才、因客觀原因未被錄用的優秀面試者以及自外部渠道獲得的優秀簡歷，以上所有均於本集團的人才儲備庫內進行管理。

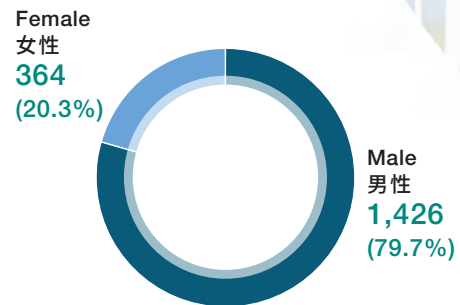
Social Indicators (2023)  
社會指標 (二零二三年)

Total workforce  
僱員總數  
1,790

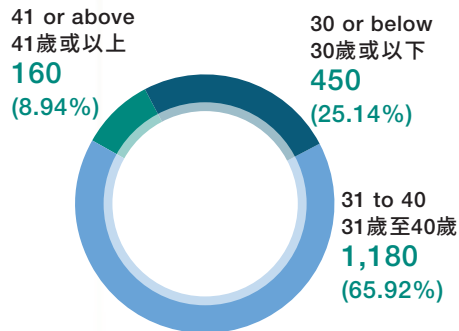
By Region  
按地區



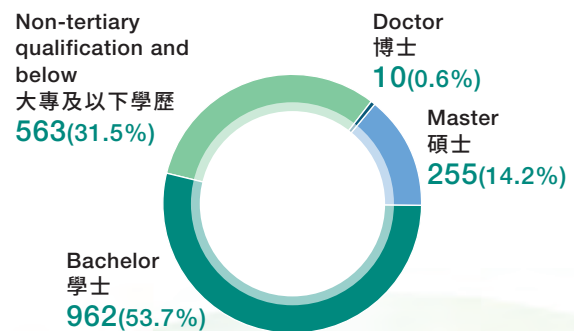
By Gender  
按性別



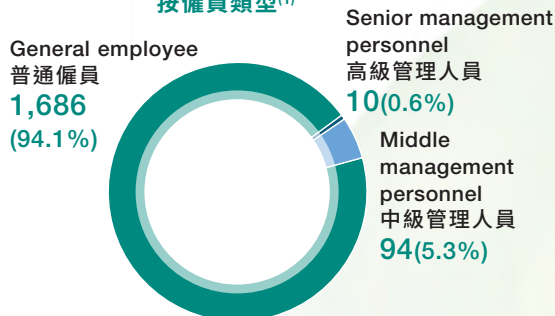
By Age Group  
按年齡組別



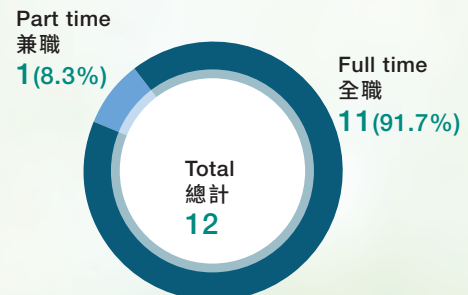
By Education Background  
按教育背景



By Employee Category<sup>(1)</sup>  
按僱員類型<sup>(1)</sup>



Disabled employees<sup>(2)</sup>  
殘障僱員<sup>(2)</sup>



Notes:

- <sup>1</sup> Employee types are identified according to the actual situation of the Group.
- <sup>2</sup> All the disabled employees counted in this report are from Baoshan Energy Development Co., Ltd.

附註：

- <sup>1</sup> 僱員類型乃根據本集團實際情況而定。
- <sup>2</sup> 本報告所計入的全部殘障僱員均來自保山能源發展股份有限公司。

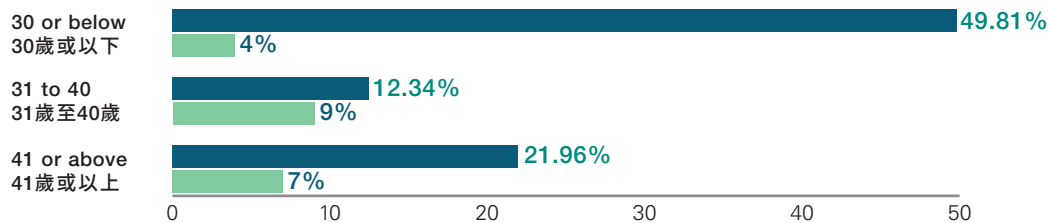
### Total number of new hire employees and ratio (2023) 新入職僱員總數及比例 (二零二三年)

By Gender  
按性別

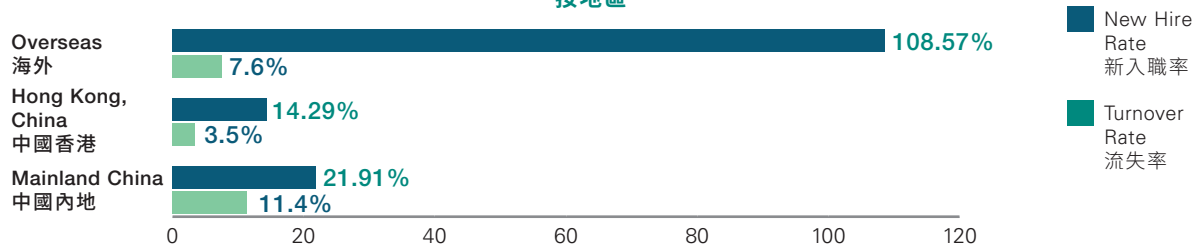


### Turnover Rate<sup>(1)</sup> and New Hire Rate<sup>(2)</sup> (2023) 流失率<sup>(1)</sup>及新入職率<sup>(2)</sup> (二零二三年)

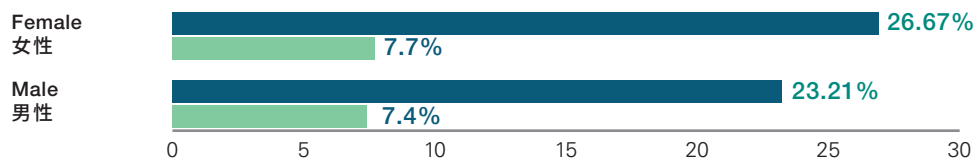
By Age  
按年齡



By Region  
按地區



By Gender  
按性別



Notes:

<sup>1</sup> The formula for employee turnover rate is employees who left this year/ (Employees at the beginning + Employees at the end)/2 \*100, separate statistical analyses were conducted for different classification groups including age, region and gender.

<sup>2</sup> The formula for new hire rate is employees who started to be employed during the year/ (Employees at the beginning + Employees at the end)/2 \*100, separate statistical analyses were conducted for different classification groups including age, region and gender.

附註：

<sup>1</sup> 僱員流失率的計算公式為：本年度離職僱員／(年初僱員人數+年末僱員人數)／2\*100，本集團已就不同分類組別(包括年齡、地區及性別)分別進行統計數據分析。

<sup>2</sup> 新入職率的計算公式為：本年度開始受僱的僱員／(年初僱員人數+年末僱員人數)／2\*100，本集團已就不同分類組別(包括年齡、地區及性別)分別進行統計數據分析。



## Eliminate Child Labour and Forced Labour

The Group legally enters into labour contracts with new employees, specifying salary, position, duration of the labour contract, and terms for renewal. Contracts are signed based on mutual agreement and the principle of equality and voluntariness, and the Group strictly prohibits any form of forced labour. Should such an incident occur, the Group is committed to enacting disciplinary measures. The Group also rigorously prevents the illegal employment of child labour. During the recruitment process, candidates' ages are carefully verified in compliance with the Labour Law of the People's Republic of China, ensuring that child labour is not mistakenly employed. If any such cases are identified, the Group will immediately terminate the labour relationship with the individual. During the Year, there have been no incidents of forced labour or the employment of child labour within the Group.

During the Year, the Group was not aware of any violation of relevant laws and regulations that have a significant impact on the Group relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunities, diversity, anti-discrimination, other benefits and welfare, as well as preventing child labour or forced labour.

## Promote Talent Development

### Training system

The development of talent drives the sustainable growth of the Group. To ensure the enhancement of employees' professional capabilities, the Group has established a training management system aligned with business development needs, based on the Measures for Training Management. This system is designed to improve employees' personal qualities and job skills, thereby standardising and accelerating the perfection of the BJEI standard system to meet national and international advanced standards.

The Group formulates training plans annually based on its development strategy and annual key work plan, talent inventory and talent pipeline construction needs, and employee performance achievement and development needs.

## 杜絕童工與強制勞工

本集團依法與新入職僱員簽訂勞動合同，明確薪酬、職位、勞動合同期限及續簽條款。本集團基於雙方協商一致、平等自願的原則完成合同的簽訂，禁止發生強制勞工的情況。如發生此類情況，本集團將執行紀律措施。本集團亦嚴格杜絕僱傭童工的非法用工現象。在招聘過程中，我們依照《中華人民共和國勞動法》對應聘者的年齡進行嚴格審驗，確保不會誤用童工。如發現誤用童工的情況，本集團將立即終止與其的勞動關係。於本年度，本集團並無發生任何強制勞工或僱傭童工的情況。

於本年度，本集團並不知悉任何違反有關薪酬及解僱、招聘及晉升、工作時數、假期、平等機會、多元化、反歧視、其他待遇及福利以及防止童工或強制勞工且對本集團有重大影響的相關法律及規例的情況。

## 促進人才發展

### 培訓體系

人才的發展驅動本集團的可持續發展。為確保僱員職業能力的提升，本集團根據《培訓管理辦法》，建立符合業務發展需求的培訓管理體系。該體系旨在提升僱員的個人質素及工作技能，從而規範及加快完善京能國際標準體系，使其達致國內乃至國際先進水平。

本集團每年根據其發展策略及年度重要工作計劃、人才盤點及人才梯隊建設需求以及僱員績效成果及發展需求制定培訓計劃。



## Training Classification

## 培訓類別



### General category 普通類

Including corporate culture, company's development history, company's rules and regulations, business management fundamentals, official document writing requirements, office software use, structured thinking, business manners, professionalism and so on.

包含企業文化、公司發展史、公司規則及規例、企業管理基礎、公文寫作要求、辦公軟件使用、結構思維、商業禮儀及職業素養等。



### Professional and technical category 專業技術類

Relevant professional knowledge and skills training aimed at improving individual job competence, such as investment and development, product development, customer research, finance and capital, engineering and technology, strategic operations, human resources, legal and risk control, safety and environmental protection.

有關專業知識及技能培訓旨在提升個人工作能力，如投資與開發、產品開發、客戶研究、金融與資本、工程與技術、戰略營運、人力資源、法律及風險管控、安全與環保等。



### Leadership management category 領導力管理類

Training on leadership, professional managers, management thinking, management methods and tools for different management levels.

關於領導力、專業經理、管理思維、管理方法及不同層級管理手段的培訓。

## Training Approach

## 培訓途徑

The Group employs various training approaches, including external, internal, and corporate training officer-led sessions for its employees. The Group also conducts flexible classes both online and offline.

本集團為其僱員提供外部、內部及公司培訓官主講課程等多種培訓途徑。本集團亦開展線上線下靈活課程。

## Corporate Training Officer System

## 公司培訓官制度

The Group implements the corporate training officer selection and recruitment system, employees can become the corporate training officer through self-recommendation or departmental recommendation, after obtaining the qualification. 本集團實行公司培訓官選聘制度，僱員可於獲得資格後通過自薦或部門推薦成為公司培訓官。

The corporate training officer is responsible for developing and designing the training courses and teaching the courses, as well as tracking the assessment and training effect of the trainees. 公司培訓官負責制定及設計培訓課程、教授課程以及追蹤參訓人員的評估及培訓成效。

The Group manages the corporate training officer points according to the number of hours of instruction, the coefficient of instruction mode, the coefficient of course difficulty, the coefficient of satisfaction and other indicators. 本集團根據授課時數、授課模式係數、課程難度係數、滿意度係數等指標對公司培訓官實行積分管理。

The Company evaluates and rewards the corporate training officers in accordance with the annual training effectiveness and management needs at an appropriate time. 本公司根據年度培訓成效及管理需求於適當時候對公司培訓官進行評優獎勵。

## “Learning Cloud” Platform

## 「學習雲」平台



## Talent Recommendation and Retention

The Group’s Measures for Talent Evaluation and Recommendation Appointment Management regulate the internal processes for talent evaluation and recommendation for appointments, refining the talent development pathway, and providing a systematic framework to ensure that everyone can utilise their abilities to the fullest. Additionally, the Group adopts a method of internal direct recommendations for appointing market-oriented leadership positions. After identifying the individuals for development, the Group sets forth requirements for the prospective positions, acknowledges the achievements of the candidates, highlights areas for improvement, and clarifies the direction of their efforts.

### Employee career paths

According to the industry and the Group’s business characteristics, the Group has coordinated the establishment of grade management structure at all levels in domestic and overseas organisations, introduced four different grade sequences, namely, management sequence, functional support sequence, professional and technical sequence, and project power plant sequence, and formed a number of career development paths according to the different levels to broaden the employees’ career development paths, so as to provide a basic mechanism for the Group to introduce, cultivate and retain various types of outstanding talents.

## 人才推薦及挽留

本集團的《人才評價及推薦任用管理辦法》規範了人才評估與推薦任用的內部流程，細化了人才發展通道，並為確保人盡其才提供系統框架。此外，本集團以內部直薦方式任命市場導向的領導職位。於確定發展人選後，本集團制定未來崗位的要求、肯定候選人的成績、強調改進空間，明確其努力方向。

### 僱員職業通道

根據行業及本集團業務的特點，本集團為國內外機構統籌建立了各級職級管理架構，推出了四種不同的職級序列（即管理序列、職能支持序列、專業技術序列及項目電站序列），並根據不同層級設置了多個職業發展通道，以拓寬僱員的職業發展通道，從而為本集團提供引進、培育及挽留各類傑出人才的基礎機制。





### Management sequence 管理序列

Including executive directors, presidents, vice presidents, director level, department general managers (directors) and department deputy general managers (deputy directors); including subsidiary general managers, assistant general managers, general manager assistant, department manager and department deputy manager, regional station manager.

包括執行董事、總裁、副總裁、總監級、部門總經理（主任）及部門副總經理（副主任）；包括子公司總經理、副總經理、總經理助理、部門經理及部門副經理、區域站長。



### Professional and technical sequence 專業技術序列

Including special technical engineers, senior technical engineers, intermediate technical engineers, and junior technical engineers.

包括特級技術工程師、高級技術工程師、中級技術工程師及初級技術工程師。



### Functional support sequence 職能支持序列

Including experts, professional managers, professional supervisors, and specialists.

包括專家、專業經理、職業主管及專員。



### Project power plant sequence 項目電站序列

Including operation and construction series, of which the operation series includes station manager, assistant station manager/safety and technical supervisor, watch commander, duty officer and inspector, and the construction series includes project manager, professional engineer or supervisor level, technical specialist or commissioner level.

包括經營及建設序列，其中經營系列包括站長、副站長／安全技術主管、值勤負責人、值班員及巡檢員；建設系列包括項目經理、專業工程師或主管級、技術專家或技術專員。

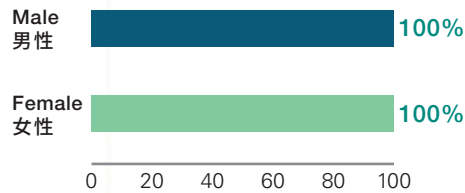
Training Situation (2023)  
培訓狀況 (二零二三年)

Number of employees trained  
受訓僱員人次  
1,790

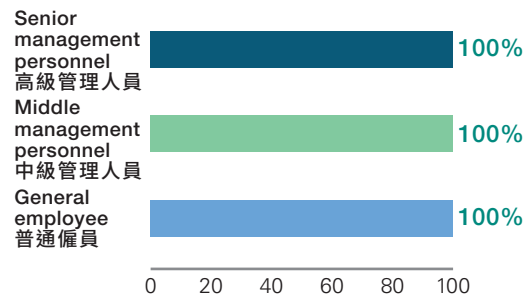
Training cost per person  
人均培訓開支  
RMB 人民幣 2,931元

Percentage of employees trained (2023)  
受訓僱員比例 (二零二三年)

By Gender  
按性別

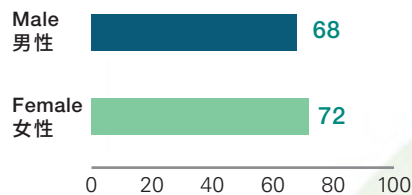


By Employee Category  
按僱員類型

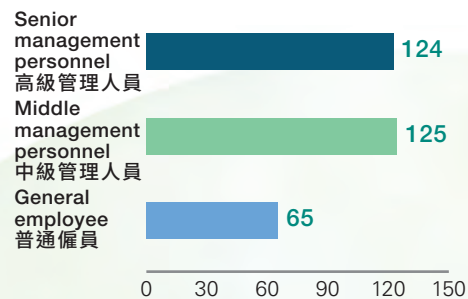


Average training hours of employees (hours)  
僱員受訓平均時數 (小時)

By Gender  
按性別



By Employee Category  
按僱員類型



Remuneration and Welfare

The Group has continuously improved the construction of its internal remuneration and welfare system with institutional documents such as the Measures for Salary and Job Array Management and Measures for the Special Rewards Management. Based on the principles of value matching and distribution according to work, we match employee salaries and position values, reasonably manage salaries, and fully mobilise the enthusiasm of employees.

薪酬與福利

本集團通過《薪酬及職位序列管理辦法》和《專項獎勵管理辦法》等制度性文件，不斷完善內部薪酬與福利體系建設。我們基於價值匹配、按勞分配的原則，匹配僱員薪酬和職位價值，合理配置薪酬，充分調動僱員的積極性。

Regarding welfare, the Group provides a comprehensive range of benefits to employees according to the Measures for Employee Welfare Management. The welfare offerings encompass both statutory benefits and supplemental benefits to protect employees' legal rights and interests, strengthen corporate cohesion, enhance employees' sense of belonging in the organisation, and enrich their cultural lives. We have established ten types of leave, including birthday leave and exam leave, to cater to the diverse and special arrangements for our employees' needs.

在福利方面，本集團根據《員工福利管理辦法》，為僱員提供全面的福利項目。福利項目包含法定福利和補充福利，以保障僱員的合法權益，加強企業凝聚力，提高僱員對企業的歸屬感，豐富僱員的文化生活。我們設置生日假、考試假等十種假期類型，以滿足僱員的多元化及特殊安排的需求。



- Setting up in compliance with laws and regulations  
遵循法律法規必須設置
- Social insurance (including endowment insurance, medical insurance, unemployment insurance, work-related injury insurance and maternity insurance, etc.)  
社會保險 (包括養老保險、醫療保險、失業保險、工傷保險和生育保險等)
- Housing provident fund  
住房公積金
- Statutory holidays (including statutory holidays, sabbatical leave, annual leave, marital leave, maternity leave, etc.)  
法定假期 (包括法定節假日、公休假、年休假、婚假、產假等)



- Resolving common needs of employees  
為僱員解決共同需要
- Tea break, working meal  
茶歇、工作餐
- Health check  
健康體檢
- Allowance for employee activities (including allowance for education, sports, publicity and other activities and employee collective benefits)  
僱員活動類福利 (包括教育、文體、宣傳等活動福利及僱員集體福利)



## Employee Culture Cultivation

In order to enhance team cohesion and improve employees' working experience in the Group, the Group builds a corporate culture in four areas, including ideological development, self-efficiency development, care for women and warm care, so as to create a warm and upward working atmosphere for employees. In the area of ideological development, we continuously improve the ideological level of our employees, and build a solid ideological foundation for their unity and struggle. In terms of self-efficiency construction, we set up an employee honour system to enhance the atmosphere of striving to be advanced. We use appraisal and evaluation of excellence as a means to motivate employees to make continuous progress, and at the same time, we write stories about the role models of BJEI, so as to spread the power of role models throughout the Group.

In terms of caring for women, we carry out special art activities to provide female employees with opportunities for relaxation. In terms of warmth and care, we provide employees with warm services and carry out on-site support and condolence work during hot weather, hospitalisation, festivals and other scenarios.

In addition, in order to enrich the amateur cultural life of employees and strengthen their physical fitness, the Group has formulated Measures for the Labour Union Cultural and Sports Association Management and established a cultural and sports association. There are eight sub-associations under the association, including the Badminton Association and the Basketball Association, with a total of 400 members. During the year, we carried out a total of 107 cultural and sports activities, and successfully promoted membership enrolment and activity planning in accordance with the timetable.

## 僱員文化建設

為增強團隊凝聚力及提升僱員在本集團的工作體驗，本集團從思想建設、自我效能建設、關愛女性、溫暖關懷等四方面建設企業文化，為僱員打造溫暖向上的工作氛圍。在思想建設方面，我們不斷提高僱員的思想水平，築牢僱員團結奮鬥的思想基礎。在自我效能建設方面，我們搭建僱員榮譽體系，增強爭當先進的氛圍，以評先評優為抓手激勵僱員不斷進取，同時書寫京能國際榜樣故事，在本集團範圍內傳播榜樣力量。

關愛女性方面，我們開展特色的藝術類活動，為女僱員提供休閒放鬆的機會。在溫暖關懷方面，我們在高溫天氣、住院、節日等場景，為僱員送上溫暖服務，實地開展幫扶慰問工作。

此外，為豐富僱員的業餘文化生活，加強僱員的身體素質，本集團制定《工會文體協會管理辦法》，成立文體協會。協會下設羽毛球協會、籃球協會等八個協會，會員共有400人。於本年度，我們共開展107次文藝活動和體育活動，順利按照時間節點推進會員入會、活動計劃等工作。



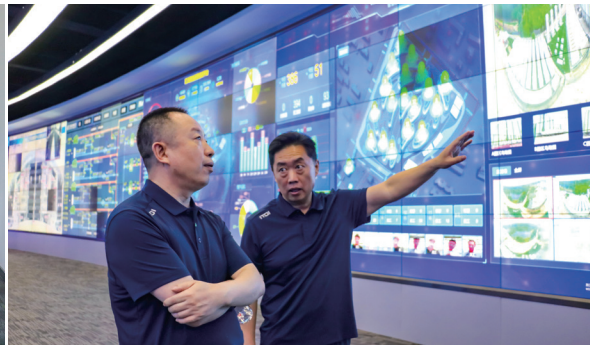
## Key Employee Activities

## 重點僱員活動

Case:  
案例：**“Marching Forward Together, Heading into the Future” Team Building and Staff Walking Activity**  
**「攜手奮進 共赴未來」團建暨職工健步走活動**

On June 1, 2023, BJEI organised a walking activity for the staff called “Marching Forward Together, Heading into the Future”. Participants included employees from all departments of the Company’s headquarters as well as all staff from the subsidiary companies in Beijing, with a total of over 150 individuals. The event not only enhanced the employees’ awareness of corporate culture and boosted their perception of the company’s vitality but also highlighted the importance of responsibility, communication, and collaboration.

於二零二三年六月一日，京能國際組織名為「攜手奮進 共赴未來」的職工健步走活動。參與者包括來自公司總部所有部門的僱員以及北京各個子公司的全體職工，合共逾150人次。該活動不僅增強了僱員的企業文化意識，提升了彼等對公司活力的感知，也強調了責任、溝通及協作的重要性。

Fun Sports Competition  
趣味運動競賽Visit Huitian Network Data Centre  
參觀匯天網絡數據中心Group Photo of the Event  
活動集體照

Case:  
案例：

“Casting Excellent Team and Creating Enterprise Brilliance” Walking and Expansion Activity  
「鑄優秀團隊 創企業輝煌」健步走及拓展活動

On September 22, 2023, the labour union of North China Branch held a walking and development activity with the theme of “casting excellent team and creating enterprise brilliance”, and a total of more than 40 employees in Beijing opened the activity under the leadership of the general manager and the company’s leadership team. This activity is divided into three parts, namely, 5 kilometres of walking and rubbish picking, rubbish classification and the theme of publicity activities, team development activities. This activity is not only beneficial to the staff to strengthen the body, enjoy the body and mind, but also helps to promote team feelings, enhance the cohesion and centripetal force, and provide a solid foundation for the company’s corporate culture construction and sustainable development.

於二零二三年九月二十二日，華北分公司工會舉辦主題為「鑄優秀團隊 創企業輝煌」的健步走及拓展活動，總計逾40名北京僱員在總經理及公司領導團隊的帶領下開展該活動。該活動分為三個部分，即五公里健步走及垃圾撿拾、垃圾分類及主題公共活動、團隊拓展活動。該活動不僅有助於員工強健身體、愉悅身心，亦有助於增進團隊感情、增強凝聚力及向心力，並為公司的企業文化建設及可持續發展打下堅實基礎。



Litter picking and classification  
垃圾撿拾和分類



Team building game  
團建遊戲





Case:  
案例：Team Building Activities with the theme of "Cohesion and Keep 'Burning'"  
「凝心聚力 當「燃」不讓」主題團建活動

On December 8, 2023, a team-building event themed "Cohesion and Keep 'Burning'" was held at Beijing Jingneng International Integrated Intelligent Energy Co., Ltd. to celebrate the hard work and determination of the employees throughout the Year. The event took place at the Central Opera House Cultural and Sports Centre and was attended by over 40 employees, including the Company's senior leaders. The Company's management acknowledged and praised the success of the event, commending the employees' spirit and teamwork. The event not only strengthened the employees' sense of belonging and identification with the company but also injected new vitality and momentum into the organisation.



Speech by Wang Qi, Executive Director of Beijing Jingneng International Integrated Intelligent Energy Co., Ltd.  
北京京能國際綜合智慧能源有限公司執行董事王琪發表講話

於二零二三年十二月八日，北京京能國際綜合智慧能源有限公司舉辦主題為「凝心聚力 當「燃」不讓」的團建活動，以表彰僱員一年來的辛勤工作和恪盡職守。該活動於中央歌劇院文體中心開展，參與僱員逾40人次，包括公司高層領導。公司領導對該活動成功舉辦表示肯定和讚揚，並對員工的精神面貌和團隊精神表示讚賞。該活動不僅增強了僱員對公司的歸屬感和認同感，亦為公司注入了新的活力和動力。



Fun Sports Competition  
趣味運動競賽



Group Photo of the Event  
活動集體照

## Employee Complaint

In order to cultivate employees' good working habits and strengthen employees' self-correction ability, the Group, according to the Measures for Staff Workplace Discipline Management, follows the principle of reason-first and combining human affairs with reason in the management process, and respects and understands employees' feelings in the process of dealing with problems. Employees have the right to state and defend regarding the solutions on problems. Afterwards, the leading group for special work of workplace discipline management may hold a special meeting for reconsideration, and the audit and supervision department is responsible for dealing with employee's complaints and reports, to safeguard employees' appeal rights.

## 僱員申訴

為培養僱員的良好工作習慣，加強僱員的自我修正能力，本集團根據《員工職場紀律管理辦法》，管理過程遵循以理為重、情理相融的原則，處理問題過程中尊重和理解僱員的感受。僱員對問題的處理擁有陳述和申辯的權利，此後，職場紀律管理專項工作領導小組會召開專題會議進行複議，並有審計監督部門負責僱員投訴與檢舉的受理，維護僱員的申訴權益。

## ENSURE OCCUPATIONAL HEALTH AND SAFETY

### Safety and Health

The Group strictly complies with the Work Safety Law of the People's Republic of China, Prevention and Control of Occupational Diseases Law of the People's Republic of China and other relevant regulations, and did not violate laws and regulations that have a significant impact on the Group regarding the provision of a safe working environment and the protection of employees from occupational hazards. The Group has always regarded production safety and employee health as a key part of achieving sustainable and steady development. Focusing on the general principle of "Prevention First, Standardised Management, and Each Performs Its Own Duties," the Group strives to embed safety production in all aspects of operation and protect the physical and mental health of employees from multiple perspectives, continuously reinforcing work safety management.

### Safety Management System

Adhering to the policy of "safety first with precaution and comprehensive management," the Group established and improved the safety production management system, clarified the composition and responsibilities of the safety production guarantee and supervision system, and guided branches and subsidiaries to carry out the construction of a safety production system and a three-level safety supervision network.

In order to strengthen the construction of the safety system, the Group compiled 24 safety and environmental protection management policies, 15 production management policies and 7 technical standards in accordance with the new version of the Production Safety Law of the People's Republic of China and the Group's management system to standardise the production process. The Group has also issued the Measures for Production Safety Reward and Punishment Management to encourage branches and subsidiaries to establish a sound safety management system.

## 確保職業健康與安全

### 安全與健康

本集團嚴格遵守《中華人民共和國安全生產法》、《中華人民共和國職業病防治法》等有關法規，且並無違反有關提供安全工作環境及保障員工免受職業危害並對本集團有重大影響的法律法規。本集團始終將生產安全及僱員健康視作實現持續穩定發展的重要組成部分。本著「預防為主，規範管理，各司其職」的一般原則，本集團努力將安全生產滲透進營運的各個方面，從多個角度保護僱員的身心健康，持續加強生產安全管理。

### 安全管理體系

本集團堅持「安全第一、預防為主及綜合管理」方針，建立健全安全生產管理體系，明確安全生產保證和監督體系的構成和職責，指導各分、子公司開展安全生產體系和三級安全監督網絡建設。

為加強安全制度建設，本集團對照新版《中華人民共和國安全生產法》和本集團的管理制度，編修24項安全環保類管理制度、15項生產管理制度及7項技術標準，以規範生產過程。本集團亦已下發《生產安全獎懲管理辦法》，鼓勵各分、子公司建立健全安全管理體系。



## Safety Production Responsibility System of the Group

In the production and operation activities, in accordance with the requirements of production safety laws and regulations and relevant standards, as well as the nature, characteristics and specific work content of the enterprise's positions, the production safety responsibilities of employees at all levels and in all types of positions are clearly defined in accordance with the principle of "three controls, three musts"<sup>1</sup>. Through strengthening education and training, reinforcing management assessment and strict rewards and punishments, to establish a sound safety production responsibility system. The Group also signs the safety production responsibility statement level by level and clarifies the safety production responsibility and targets.

## Safety Production Risk Prevention and Control Process of the Group

The Group is committed to realising self-identification and self-control of corporate risks, self-inspection and self-governance of safety hazards, practical enforcement of national safety regulations, and establishment of a long-term mechanism for risk identification and assessment, risk management and control, and investigation and management of potential dangers and safety supervision.

## 本集團的安全生產責任制

在生產經營活動中，根據生產安全法律法規及有關標準的要求以及企業各崗位的性質、特徵及具體工作內容，按照「三控三必須」<sup>1</sup>原則明確界定各級各類崗位僱員的生產安全責任。通過加強教育培訓，強化管理考核及嚴格獎懲，建立健全安全生產責任制。本集團亦逐級簽署安全生產責任書，明確安全生產責任及目標。

## 本集團的安全生產風險防控流程

本集團致力於實現企業風險的自辨自控，隱患自查自治，切實執行國家安全法規，建立風險識別與評估、風險管控、隱患排查治理和安全監管長效機制。



### 1. Risk identification and assessment 風險識別與評估

Carry out comprehensive hazard identification and risk assessment on a regular basis every year, establish a list of major risks by levels, and update the list on a quarterly basis.  
每年定期開展全面的危害識別與風險評估，按級建立重大風險清單，並按季度更新該清單。



### 2. Risk management and control 風險管控

Formulate management standards and control measures from the aspects of organisation, system, technology, investment, and emergency according to risk characteristics and control responsibilities.

根據風險特徵及控制責任，從組織、體系、技術、投資及應急等方面制定管理標準及控制措施。

<sup>1</sup> Three controls and three musts: In the implementation of safety production, regardless of the industry, business and production operations, must manage safety.

<sup>1</sup> 三控三必須：在實施安全生產過程中，不論行業、企業及生產經營，都必須管好安全。





### 3. Investigation and management of potential dangers 隱患排查治理

The Group continually improved the system of potential dangers investigation and governance, built a system of potential dangers investigation that combines investigation and special investigation, equally emphasises key investigation of platform companies and self-investigations of power plants, and deeply carried out special investigations such as routine investigations, seasonal investigations and general safety inspections, and implemented the work system of “Bilateral Record (雙掛賬)” for safety hazards. The Group had made investigations on more than 3,000 issues in total, all of which had been rectified as required, with a rectification completion rate of 100%. During the safety and fire hazard (including the gas sector) inspection of the Group, a total of 1,306 hidden problems were found, all of which had been rectified as required and the rectification completion rate was 100%.

本集團持續完善隱患排查治理體系，構建排查與專項排查相結合、平台公司重點巡查與電站自主排查並重的隱患排查體系，深入開展常規性排查、季節性排查及安全大檢查等專項排查工作，實施安全隱患「雙掛賬」工作制度。本集團共排查3,000多項問題，均已按要求整改，整改完成率為100%。本集團安全與火災隱患（包括燃氣區）巡查中，排查隱患問題共計1,306項，均已按要求整改，整改完成率為100%。



### 4. Safety supervision 安全監管

Carry out hierarchical supervision, classified supervision, and accurate supervision according to functional orientation, risk degree and special work every year.

每年根據職能定位、風險程度及專項工作開展分級監管、分類監管及精準監管。

## Strengthening Safety Production

The Group implements laws and regulations such as Work Safety Law of the People’s Republic of China, complies with corporate management systems such as the Safety Production Responsibility System, continuously implements safety production objectives, standardised safety risk management and potential danger investigation and management, and strengthens safety culture publicity and education, which effectively prevents and reduces the occurrence of safety production accidents.

## 加強安全生產

本集團貫徹執行《中華人民共和國安全生產法》等法律法規，遵循安全生產責任制等企業管理制度，持續落實安全生產目標，規範安全風險管理和隱患排查治理，加強安全文化宣傳教育，有效預防和減少了安全生產事故的發生。



## Safety Production Objectives of the Group for 2023

## 本集團二零二三年的安全生產目標

Objectives  
目標

To eliminate major or above safety production accidents, and effectively curb general accidents to strive for achieving “zero death”.

杜絕重大或以上安全生產事故，有效遏制一般事故，努力實現「零死亡」。

The regular detection rate of occupational hazard factors in the workplace to be 100%, the occupational health examination rate of personnel exposed to hazards to be 100%.

工作場所職業性危害因素定期檢測率達到100%，接觸危害因素人員的職業健康檢查率達到100%。

Completion  
Status  
完成情況

No major or above safety production accidents occurred and achieved “zero death” during the Year. The Group has achieved zero occupational incidents for nine consecutive years.

本年度未發生重大或以上安全生產事故，實現「零死亡」。本集團連續九年實現零職業事故。

These two 100% targets were completed and conducted a test for occupational hazards.

本集團已完成該兩項100%目標，並已進行職業性危害檢測。

## Laying a Solid Foundation for Safety

The Group has always been committed to standardising safety production behaviours within the scope of operation by reasonable means. The Group has comprehensively implemented standard operating procedures covering all posts, promoted the application of smart technologies to prevent violations, maintained and upgraded production facilities and equipment, and built safety management information systems to continuously improve safety production factors.

## 夯實安全基礎

本集團始終致力通過合理手段規範經營範圍內的安全生產行為。本集團全面實施覆蓋各崗位的標準作業程序，推廣應用智能技術以防止違規，維護升級生產設施設備，建立安全管理信息系統，不斷提升安全生產要素。

## Prevention of Safety Risks

The Group strictly implements the requirements of the Decision on the Continuous Strengthening of Work Safety and other regulations. It strengthens source control, focuses on targeted policies, and actively carries out hierarchical control of safety production risks and potential danger investigation and management to resolutely build a strict defence line for safety production. In 2023, the Group carried out investigations of key hazard sources and special potential dangers in different business segments from the dimensions of photovoltaic modules, fire hazards, high-risk work processes such as wind turbine lifting and so on, the found potential dangers reached 4,309.

## Strengthening Process Monitoring

The Company has decided to continuously strengthen safety as a priority and continuously improve the mechanism for managing production safety. The Group enhances the safety production awareness of employees by strictly implementing the construction operation plan, conducting surprise checks and spot checks of worksite safety, establishing an experts' pool of safety production, carrying out emergency drills based on seasonal characteristics to improve our ability to respond to seasonal safety accidents, carrying out safety supervision on the construction site, and other means. During the Year, the Group conducted 5 training sessions on work safety to raise the safety awareness of employees.

## Safety Culture Publicity

Based on the business features, the Group implements the Measures for Emergency Management in Safety Production and continues to carry out reasonable and effective safety culture publicity and emergency drill activities, so that the awareness of safety production can become a mindset of the employees. By the end of 2023, the Group and its affiliated enterprises conducted 875 emergency rescue drills for safety incidents throughout the year, and a total of 1,502 person received the training of occupational safety and health from the Group, with a total of 12,016 training hours, and 84% of our employees received safety training during the Year. Taking advantage of the convenience and immediacy of the internet, the Group has built an online Training Management System that covers the training contents in all security business segments, and continually updated the training courseware and teaching materials. Through this system, a total of 198 person-times participated in the online safety production examination.

## 防範安全風險

本集團嚴格執行《關於繼續加強安全生產工作的決定》等規定的要求，強化源頭管控，聚焦針對性政策，並積極開展安全生產風險分級管控和隱患排查治理，堅決築牢安全生產防線。二零二三年，本集團從光伏元件、火災隱患、風機吊裝等高風險工作流程等多個維度於不同業務板塊開展重點危險源和特殊隱患排查，發現隱患達4,309項。

## 加強流程監控

本公司決定將繼續加強安全工作放在首位，不斷完善生產安全管理機制。本集團通過嚴格執行施工作業計劃，開展工作現場安全突擊檢查及抽查，建立安全生產專家庫，根據季節特點開展應急演練以提高季節性安全事故的應對能力，開展施工現場安全監督等方式增強僱員的安全生產意識。於本年度，本集團進行了5場生產安全學習培訓，以提升僱員的安全意識。

## 安全文化宣傳

本集團根據業務特點實施《安全生產應急管理辦法》，持續開展合理有效的安全文化宣傳和應急演練活動，使安全生產意識成為僱員的一種思維模式。於二零二三年底前，本集團及其聯屬企業全年共開展安全故事應急救援演練875次，且於本年度，本集團共有1,502人進行職業安全與健康教育培訓，僱員安全培訓覆蓋率達84%，總培訓時數達12,016小時。本集團利用網絡的便捷性與即時性的特點，搭建線上「培訓管理系統」，覆蓋齊各安全業務板塊的培訓內容，持續迭代生產培訓課件和教材。本系統中，共計198人次參加線上安全生產考試。



### Case: Production Safety Training Course 案例：生產安全培訓課程

During the Year, a total of five production safety training courses were organised at the Datong Panda Training Centre. The Company hired internal and external experts to train the key personnel of safety production. The training course was mainly divided into two parts: theory and practice, closely combining the theoretical knowledge of safety management with the actual daily operation and maintenance work of power plant to effectively support the building of production safety talent teams.

於本年度，大同熊貓培訓中心共組織五場生產安全培訓課程。本公司聘請內外部專家對安全生產骨幹人員進行培訓。培訓課程主要分為理論和實踐兩部分，將安全管理的理論知識與電站的日常實際運維工作緊密結合，有效支持生產安全人才隊伍建設。



### Case: Theoretical Part of the Production Safety Training Course 案例：生產安全培訓課程的理論部分

As for the theoretical courses, the focus is on the usage and daily management of safety equipment, photovoltaic power plant and wind power plant operation principle and daily maintenance, secondary equipment drawing and typical fault analysis and treatment, as well as the popularisation of policies related to energy storage and the basic knowledge of energy storage systems.

理論課程重點講授安全設備的使用和日常管理、光伏電站和風力發電站的運行原理及日常維護、二次設備製圖和典型故障分析處理，以及儲能相關政策和儲能系統基礎知識普及。



Case:  
案例：

**Practical Part of the Production Safety Training Course**  
生產安全培訓課程的實踐部分

Practical courses, focusing on commonly used fire-fighting equipment and safety equipment for practical exercises, to ensure that all trainees operate and learn personally. Occasional stage tests are conducted during the training period to understand the learning effect of the trainees.

實踐課程重點對常用消防設備、安全設備進行實踐練習，保證所有學員親自操作和學習，培訓期間不定期進行階段測試，以了解學員的學習效果。



Demonstration of commonly used fire-fighting equipment and safety equipment  
常用消防設備與安全設備示範

Case:  
案例：

**Fire Fighting Training and Emergency Drill**  
消防培訓與應急演練

In order to improve the emergency response capabilities of employees as well as to continuously improve employees' awareness of production safety and safe operation skills, the Company joined hands with Chaoyang District Fire Brigade to carry out fire-fighting knowledge training and emergency drills.

為提高僱員的緊急應對能力，不斷提高僱員的生產安全意識和安全操作技能，本公司聯合朝陽區消防救援支隊開展消防知識培訓與應急演練。



## Safeguarding Occupational Health

The Group fully implements the “prevention in the first place and integrating prevention with control” strategy and is committed to providing great working conditions and comprehensive health protection for employees. In accordance with the Law of the People’s Republic of China on Prevention and Control of Occupational Diseases, the Labour Law of the People’s Republic of China, and other laws and regulations, and in accordance with the Regulations on Prevention and Control of Occupational Diseases and other management systems, the Group have steadily carried out assessment and prevention and control of occupational disease risks, continuously improved the working environment, paid attention to the mental health of employees, and improved the happiness level of employees.

## Prevention and Control of Occupational Disease

In accordance with the policy of “prevention in the first place and integrating prevention with control”, the Group has identified and recorded the types, degree of hazard, and causes of occupational diseases that may occur in the production and operation process. The Group carried out hierarchical management of occupational hazard factors, focused on the management of places with serious occupational hazards such as “dust, poison and noise” to prevent and reduce the occurrence of new occupational diseases. The Group has also equipped outdoor workers with self-heating cotton clothes, dust masks, goggles, earplugs, and other protective products to continuously improve the labour protection effect.

## 保障職業健康

本集團全面貫徹「預防為主、防治結合」戰略，致力為僱員提供良好的工作條件和完善的健康保障。本集團根據《中華人民共和國職業病防治法》、《中華人民共和國勞動法》等法律法規及按照《職業病防治管理規定》等管理制度穩步開展職業病風險評估和防治工作，不斷改善工作環境，關注僱員心理健康，提升僱員幸福感。

## 職業病防治

本集團已根據「預防為主、防治結合」方針對生產經營過程中可能產生的職業病危害類型、危害程度及成因進行識別與記錄。本集團對職業性危害因素進行分級治理，重點治理具有「粉塵、毒物及噪聲」等嚴重職業性危害的場所，以預防和減少新型職業病的發生。本集團亦已為戶外作業人員配備自熱棉衣、防塵口罩、護目鏡、耳塞等防護用品，不斷提高勞動保護效果。



## Key Work of Occupational Disease Prevention and Control for 2023

## 二零二三年職業病防治重點工作

### General management

To improve the occupational disease prevention and control management system and assessment index system to promote the full implementation of occupational disease prevention and control work.  
完善職業病防治管理體系和評估指標體系，促進職業病防治工作的全面落實。

To carry out activities such as the publicity week of the Law of the People's Republic of China on Prevention and Control of Occupational Diseases in 2023 to improve the popularising rate of occupational health knowledge among employees.  
於二零二三年開展《中華人民共和國職業病防治法》宣傳週等活動，提高僱員職業衛生知識普及率。

### 一般管理

To strictly implement the simultaneous design, simultaneous construction and simultaneous operation of occupational disease prevention facilities and main works in new construction, reconstruction, and expansion projects.  
在新建、改建及擴建項目中，嚴格執行職業病防護設施和主體工程同時設計、同時施工及同時運行制度。

To continuously carry out the establishment of "Healthy Enterprise" and invite experts to give talks on psychological counselling.  
持續開展「健康企業」創建活動，邀請專家進行心理諮詢講座。



### Site management

To improve the existing dust suppression and noise prevention technologies to improve the effect of protective facilities.  
改進現有的抑塵防噪技術，提高防護設施的效果。

To carry out occupational hazard factor detection at least once a year and occupational hazard status assessment at least once every three years.  
每年至少進行一次職業性危害因素檢測，每三年至少進行一次職業性危害狀況評估。

### 現場管理

To implement the measures of "replacement by mechanisation and reduction by automation", and upgrade and transform the production system to improve the production intelligence.  
落實「機械化換人、自動化減人」措施，對生產系統進行升級改造，提高生產智能化水平。

To distribute personal protective equipment regularly and sufficiently, and improve the comfort, effectiveness, and safety of protective equipment.  
定期、充分發放個人防護用品，提高防護用品的舒適性、有效性及安全性。



**Monitoring and filing**

To organise the health and safety inspection for new employees before they start working and for old employees before they leave.  
組織進行新僱員入職前和老僱員離職前的健康與安全檢查。

**監察與備案**

To fully consider the physical condition of employees and arrange the work reasonably.  
充分考慮僱員身體狀況，合理安排工作。

To improve the management ledger of "one file for one person" for personnel with occupational disease and strengthen the protection and treatment.

完善職業病人員「一人一檔」的管理台賬，加強防護和治療。



To pay workers' compensation insurance in full and on time.  
按時足額繳納工傷保險。

To carry out occupational health examinations for all employees exposed to occupational hazards.  
對所有接觸職業性危害的僱員進行職業健康檢查。

Pursue Operational  
Excellence and  
**Strive for International  
Excellence**

追求卓越營運  
力爭國際一流





The Group is committed to releasing a comprehensive quality and confidentiality management system to continuously improve the existing power supply services and enhance the quality of supporting services.

本集團致力推出全面的質量及保密管理體系，不斷完善現有供電服務，提升配套服務質量。

**KPI:**  
關鍵績效指標：



Invention patents and utility model patents:  
發明專利及實用新型專利：

**47** sessions  
項

Software copyrights :  
軟件著作權：

**19** sessions  
項



## IMPROVE LONG-TERM MECHANISM

### Comprehensive Quality Management System

A sound quality management system is an important cornerstone to ensure the product service and quality safety of the enterprise. Under the guidance of the Measures for Engineering Design Management, the Measures for Project Construction Safety Management, the Regulations of Equipment Overhaul and Maintenance Management and the Regulations of Technical Innovation Management and other documents, the Group set up a systematic and all-round efficient management mechanism, established a comprehensive power operation plants project design management mechanism, standardised the relevant requirements at the stages of power plants project design, development and operation, thereby forming an internal quality control system covering the entire production cycle from the design to the construction and operation of power plants, and continuously strengthening the forward-looking maintenance management of the power grid.

### Quality Assurance Procedure

The Group believes that quality assurance is the top priority of product service management. In order to ensure project quality and safety performance at the construction site and the effectiveness of the quality management process, the Group held regular safety production meetings to make arrangements for standardising and strengthening safety management, “Two Tickets and Three Systems” management, equipment management, production management, power marketing, engineering, procurement, and merger and acquisition project management. The Group improved the professional technical supervision and management, summarised and sorted out the technical supervision of new energy power plants, and added one technical guideline which is Measures for Technical Supervision Management. In addition, the Group regularly organised quarterly professional meetings for technical supervision, integrated technical supervision into the daily work of production, established an early warning mechanism for technical supervision, and orderly carried out relevant technical verification and supervision work.

## 健全長效機制

### 全面的質量管理體系

完善的質量管理體系是保障企業產品服務與質量安全的重要基石。在《工程設計管理辦法》、《工程安全施工管理辦法》、《設備檢修維護管理規定》及《技術改造管理規定》等參考文件的指導下，本集團已搭建了系統化、全方位的高效管理機制，建立全面的營運電站項目設計管理機制，規範電站項目設計、開發、運營等階段的相關要求，從而形成了涵蓋從電站設計至施工運用全生產週期的內部質量監控體系，持續加強電網前瞻性維護管理。

### 質量檢定流程

本集團深明質量檢定為產品服務管理的重中之重。為確保項目質量和施工現場的安全表現，保證質量管制流程高效，本集團定期召開安全生產例會，就規範和加強安全管理、「兩票三制」管理、設備管理、生產管理、電力營銷、工程、採購及併購項目管理等各方面工作進行安排部署。本集團完善專業技術監督管理，對新能源電站的技術監督工作進行總結梳理，以及新增一項技術導則，即《技術監督管理辦法》。此外，本集團定期組織召開季度技術監督專業會，將技術監督融入生產日常工作中，建立技術監督預警機制，有序開展相關技術核查監督工作。



## “Two Tickets and Three Systems”

## 「兩票三制」

Two Tickets  
兩票

## “Work Ticket” Management

## 「工作票」管理

“Work Ticket” shall be used in inspection and rectification, elimination, maintenance, testing and installation, listing name and serial number of the equipment, work content and safety measures

「工作票」需於檢修、消缺、維護、試驗及安裝等工作中使用，列明設備名稱及編號、工作內容及安全措施等內容

## “Operation Ticket” Management

## 「操作票」管理

The operator of photovoltaic power plants shall fill in the “Operation Ticket” to record the contents such as operation tasks and steps

光伏電站操作員需填寫「操作票」，記錄操作任務、操作步驟等內容

## “Shift-over System”

## 「交接班制」

The on-shift personnel is required to pay attention to patrol inspection, review the records of the shift-over personnel, and know in detail the causes, processes and solutions of various events during the off-shift period

要求接班人員重視巡檢、查閱交班人員記錄，並詳細了解休班期間發生各類事情的原因、過程及解決措施

Three Systems  
三制

## “Equipment Patrol Inspection System”

## 「設備巡迴檢查制」

It defines that all production, safety, technical and management personnel have the responsibility to inspect the equipment; the operation personnel on duty are required to conduct a comprehensive and careful patrol inspection of all equipment and systems under their duties

明確所有生產、安全、技術及管理人員都有對設備運行巡檢的責任；要求運行值班人員對所轄的所有設備及系統進行全面且仔細的巡檢

## “Equipment Periodic Test Rotation System”

## 「設備定期試驗輪換制」

The standby equipment are regarded as operating equipment, and defects should be actively dealt with to make them in good condition

視備用設備為運行設備，積極處理缺陷，使其處於良好狀態



## PROTECT DATA PRIVACY AND SECURITY

### Comprehensive Confidentiality Management System

The Group understands the importance of data privacy and information security. By formulating internal confidentiality management regulations, improving the confidentiality management system, and clarifying the list of the Group's trade secrets, the Group effectively prevented the leakage of confidential information and other behaviours that threaten the Group's trade secrets. The Group regulated the management of confidential data according to the sensitivity of the data, and regularly inspected the implementation of confidentiality in every department and area. At the same time, each department should formulate a list of departmental trade secrets for the Group to support its supervision work.

In addition to the management regulations, the Group also bound its employees to safeguard the privacy and security of customer information. The Group's employees were required to sign the confidentiality agreement to fulfill their responsibility to protect the sensitive data of the Group. The Group also organised employee training on laws and regulations relating to confidentiality and regularly required relevant personnel who had accessed to sensitive data to sign confidentiality declarations to avoid any intentional and unintentional disclosure of information.

## 保障資料私隱及安全

### 全面的保密管理體系

本集團了解數據私隱及資料安全的重要性。本集團通過制定內部保密管理條例，完善保密管理體系，並釐清本集團商業秘密事項清單，有效防止機密資料外洩等對本集團商業秘密造成威脅的行為。本集團根據資料的敏感程度規範機密資料管理，定期監察各部門及區域的保密情況。同時，各部門需制定部門商業秘密事項列表，支持本集團的監察工作。

除管理規定外，本集團對僱員也作出一定約束，以保障客戶的資料隱私和安全。本集團的僱員須簽署保密協議，履行保護本集團的敏感性資料的責任，並組織僱員接受保密相關法律及規例的培訓，定期要求接觸敏感資料的相關人員簽署保密聲明等，避免任何有意及無意的資訊披露。



## Strengthen Cyber Security Management

The Group has formulated the Measures for Network and Information Security Management to continuously improve the enterprise standard system. As for the Group's equipment, all data in the power plant cloud system is encrypted and disconnected with the external network. The Group also focused on strengthening the management and control of on-site personnel in key areas such as relay protection rooms and information server rooms, and standardised the use of USB flash drives. The Group implemented various management and preventive measures, including the installation of online monitoring equipment for cyber security, and regular evaluation of the safety precautions and the protection rating of the power plants.

During the Year, the Group transformed and upgraded the original equipment of the three server rooms in Beijing headquarters, Datong Panda and Shenzhen, deployed the necessary equipment to protect network security and support the development of the company's business, and expanded the servers, which greatly enhanced the business carrying capacity of the server rooms and ensured data security.

## 強化網絡安全管理

本集團制定《網絡與信息安全管理辦法》，不斷健全企業標準體系。於本集團設備層面，發電站雲系統中的全部資料都經過加密並且與外部網絡隔離。本集團亦著重加強繼電保護間、信息機房等重點區域現場人員管控，規範USB閃存盤使用等。本集團實施多項管理和預防措施，包括安裝網絡安全線上監測裝置，定期對發電站進行安全防護及保護評級。

於本年度，本集團對北京總部、大同熊貓及深圳三個機房的原有設備進行了升級改造，配置了保障網絡安全及支持公司業務發展的必要設備，擴充了服務器，大大提升了機房的業務承載能力，確保了數據安全。

## Actions in 2023 二零二三年行動

On the basis of the original equipment, the server room was upgraded and transformed, the necessary equipment to protect network security and support the company's business development was deployed, and the servers were expanded, which greatly improved the business carrying capacity of the server room and ensured data security.

在原有設備的基礎上，對機房進行了升級改造，配置了保障網絡安全及支持公司業務發展的必要設備，擴充了服務器，大大提升了機房的業務承載能力，確保了數據安全。

Conducted a survey of the current network status and analysed the transformation requirements for the "Cloud Networking" project.

對網絡現狀進行調查及分析了「雲網絡」項目的改造要求。

Completed the establishment and online operation of basic information management system, file management system, performance appraisal system of the power plants, verified important data and system backups, and verified the integrity of data backups.

完成電站基礎信息管理系統、檔案管理系統、績效考核系統建設及上線運行，核查重要數據及系統備份情況，並驗證數據備份的完整性。

Promoted the work of localization substitution, domestic metal servers, operating systems and databases have been deployed in the server room in Datong Panda, laying the environmental foundation for the work of localization substitution.

推動國產化替代工作，在大同熊貓機房配備了國產金屬服務器、操作系統及數據庫，為國產化替代工作奠定了環境基礎。

Assisted in the implementation of various business information management system projects: OA system development, enterprise WeChat, mailbox, portal, VPN, backup system, "Digital Energy Window" Exhibition System, server and IT equipment routine maintenance and upgrade.

協助實施各業務信息化管理系統項目：OA系統建設、企業微信、郵箱、門戶網站、VPN、備份系統、「數字能源之窗」展示系統、服務器及IT設備的日常維護及升級。





In addition, the Group actively promoted network publicity activities, held a series of activities for “National Cyber Security Promotion Week”; organised training on cyber security laws and regulations, technology system and strategy configuration of cyber security protection for all branches and subsidiaries, and conducted comprehensive cyber security publicity in various forms such as posters, promotional films and popular science articles to enhance the risk awareness, responsibility awareness and security awareness of all departments and branches and subsidiaries and improve the overall cyber security prevention and protection capability.

此外，本集團積極推進網絡宣傳活動，舉辦「國家網絡安全宣傳周」系列活動，組織各分、子公司開展網絡安全法律法規、網絡安全防護技術體系和策略配置培訓，並通過海報、宣傳片、科普文章等多種形式進行全方位網絡安全宣傳，切實增強各部門和各分、子公司的風險意識、責任意識和安全意識，提升整體網絡安全防範與保障能力。

**Case:**  
**案例：**

**“2023 Cyber Security Information Security” Special Training**  
**「二零二三年網絡和信息安全」專題培訓**

In September 2023, the Group’s Digital Information Centre organised a network and information security training at Datong Panda Power Plant. The training was held both online and offline, with more than 100 participants from the headquarters, branches and subsidiaries of the Group.

The training invited a number of senior experts in network and information security-related fields to analyse the current network security situation in the context of the Internet around network security and protection knowledge. The importance of network security prevention was emphasised through typical cases.

The training enhanced employees’ awareness of the importance of cyber security, reinforced relevant security precautions, and passed on the general knowledge of personal information security to them.

於二零二三年九月，本集團數字信息中心於大同熊貓電站舉辦了網絡和信息安全培訓。此次培訓線上線下同步進行，超過來自本集團總部、分、子公司的100人參加。

此次培訓邀請了多位網絡和信息安全相關領域的資深專家，圍繞網絡安全和防範知識分析了當前互聯網背景下的網絡安全形勢。通過典型案例強調了網絡安全防範的重要性。

培訓提高了僱員對網絡安全重要性的認識，增強相關安全防範，並掌握個人信息安全保障常識。



The Group's business is neither involved in advertising nor product labelling. During the Year, we were not aware of any violation of the laws and regulations that have a significant impact on the Group relating to product responsibilities such as health, safety and privacy of products and services provided.

## PROMOTE EXCELLENCE AND INNOVATION

The Group has published the Measures for Science and Technology Programmes Project Management, the Measures for Science and Technology Projects Cost Management, the Regulations of Science and Technology Innovation Management and the Measures for Science and Technology Innovation Incentives Management to steadily promote the construction of relevant management system and the sustainable development of the Group. Innovation and evolution reflect development philosophy and operation strategy. The Group emphasises the importance of innovative thinking and original innovation, and focuses on the long-term development of the enterprise. The Group proactively promotes the institutional and organisational development of technology innovation, based on "Deepening reform, innovation-driven, management upgrading and high-quality development" as the principle, and takes the Technology Innovation Committee as the core of the innovation management system, which is composed of the Technology Innovation Office and the Expert Committee.

### PV module automatic cleaning system

The safety production department of the Group applied an automatic cleaning system for photovoltaic modules actively according to the Company's scientific and technological innovation development plan and the actual situation of the working environment of power plants. PV module automatic cleaning systems can greatly improve the power generation efficiency. For some dusty industrial and commercial rooftop PV, it can effectively maintain the surface cleanliness of PV modules and save the cost of manual cleaning of these modules.

### Automatic fire alarm device based on image recognition technology

The promotion of hot spot detection by unmanned aerial vehicles to the whole Group can effectively prevent the occurrence of fire accidents in photovoltaic power plants.

本集團的業務不涉及廣告及產品標籤。於本年度，我們並不知悉任何違反有關所提供產品和服務的健康與安全及私隱事宜等產品責任且對本集團有重大影響的法律及規例的情況。

## 推動卓越創新

本集團先後發佈《科技計劃項目管理辦法》、《科技項目費用管理辦法》、《科技創新管理規定》及《科技創新獎勵管理辦法》，穩步推進相關管理體系建設，推動本集團可持續發展。創新衍變彰顯發展理念及營運策略。本集團強調創新思維與原創性革新的重要性，並著眼於企業長遠發展。本集團積極推進科技創新制度建設及組織建設，以「深化改革、創新驅動、管理升級和高質量發展」為原則，並以科技創新委員會為創新管理體系核心，下設科技創新辦公室和專家委員會。

### 光伏組件自動清潔系統

本集團安全生產部圍繞本公司科技創新發展規劃，結合電站工作實際情況，積極應用光伏組件自動清潔系統。光伏組件自動清潔系統可大大提高發電效率。對於一些灰塵較多的工商業屋頂光伏，可以有效保持光伏組件表面的清潔度，節省該等組件的人工清潔成本。

### 基於圖像識別技術的火災自動報警裝置

將熱斑檢測無人機推廣到全集團，可有效預防光伏電站火災事故的發生。

## Remote data acquisition solution

The Group carried out the pilot scheme for the construction of a centralised control centre and the investigation and research of remote data sampling scheme to prepare for the digital transformation of the Group and improved the overall information management level of safety production.

## 遠程數據採集方案

本集團開展集控中心建設試點方案，遠程數據採樣方案調研等工作，為本集團開展數字化轉型做準備，提升整體安全生產信息化管理水平。

### Case: 案例：

### PV Module automatic cleaning system 光伏組件自動清潔系統

The Group promoted the PV module automatic cleaning system to Heyuan Power Plants in Guangdong Province. As this power plant is located in the village and traffic hub, the road dust and the exhaust gas deposition from the villagers' straw burning is serious, which leads to the PV module dust, causing the loss of PV module power generation. After installing the PV module automatic cleaning system, the power generation increased by 110,000 kWh in 2023. The system can also realise the functions of remote start and stop, remote condition monitoring, automatic shower rotation, mobile modification of logic, pipeline pressure protection, etc.

本集團向廣東河源電站推廣光伏組件自動清潔系統。由於該電站地處村莊及交通樞紐，道路揚塵和村民焚燒秸稈產生的廢氣沉積嚴重，導致光伏組件積塵，造成光伏組件發電損失。安裝光伏組件自動清潔系統後，二零二三年發電量增加110,000千瓦時。該系統亦可實現遠程啟停、遠程狀態檢測、自動噴淋旋轉、邏輯移動修改、管道壓力保護等功能。





## INTELLECTUAL PROPERTY PROTECTION

Intellectual property is an important competitiveness for the Group. Focusing on the protection of intellectual property rights, i.e. strengthening the management of intangible assets, reflects an enterprise's fulfilment to its social responsibility and constitutes an integral part of the sustainable and innovative development of an enterprise. In order to reduce the risk of intangible asset management, safeguard the interests of the Group, ensure the safety and integrity of intangible assets and take advantage of economic and social benefits, the Group has formulated an internal policy entitled the Measures for Intangible Assets Management, as well as a normative reference entitled the Specifications for Intellectual Property Rights Management of Enterprises. According to the Measures for Intangible Assets Management, the patents and intellectual property rights owned by the Group, such as non-patented technologies and software, shall be managed as intangible assets and protected by the Group.

During the Year, the Group applied for 1 invention patent and 46 utility model patents. At present, 47 utility model patents have been authorised. During the Year, the Group also applied for 19 software copyrights, 19 of which have been authorised, and had 1 paper published in core journals. During the Year, the Group did not receive any report on infringement of intellectual property rights.

## 保護知識產權

知識產權是本集團的重要競爭力。注重知識產權保護，即強化無形資產管理，是企業承擔社會責任的體現，是企業實現可持續創新型發展的重要環節。為了降低無形資產管理風險，維護本集團權益，保證無形資產安全、完整，發揮經濟效益和社會效益，本集團已制定內部政策《無形資產管理辦法》以及規範性引用《企業知識產權管理規範》。《無形資產管理辦法》規定本集團擁有的專利權，非專利技術、軟件等知識產權屬於無形資產管理，受到本集團的保護。

於本年度，本集團共申報發明專利1項，實用新型專利46項。目前已經獲得實用新型專利授權47項。於本年度，本集團申報軟件著作權19項，目前已經獲得19項授權，並在核心期刊發表論文1篇。於本年度，本集團侵犯知識產權的個案報告數量為零。



Promote Green  
Supply and  
**Promote Mutual  
Benefits**

推動綠色供應  
促進互利共贏





The Group has always believed that the stable and healthy development of suppliers has close impacts on its commitment to providing customers with environmentally friendly products of better quality. We strive to establish a transparent, high-quality, and sustainable supply chain, and maintain positive and efficient communication with our suppliers for better management results in a partnership of equality, mutual benefit, and win-win cooperation.

本集團始終認為，供應商的穩定及健康發展對其為客戶提供更優質的環保產品的承諾有著密切的關係。我們致力於建立透明、優質及可持續的供應鏈，與供應商保持積極有效的溝通，以在平等互利、合作共贏的夥伴關係中取得更好的管理成果。

推動綠色供應 促進互利共贏  
Promote Green Supply and Promote Mutual Benefits

**KPI:**  
關鍵績效指標：

Numbers of Suppliers of 2023: **1,200**  
二零二三年的供應商數目：



## SUPPLY CHAIN MANAGEMENT

The Group is committed to integrating the concept of sustainable development into supply chain management, creating an integrated, standardised, and informatized vendor management system that enhances suppliers' performance in ESG aspects. To establish a sustainable supply chain and procurement management system, as well as to better manage ESG risks within the supply chain, the Group has formulated a series of policies. These policies include the Measures for Performance of Procurement Practitioners Management, Measures for Sunshine Procurement Commitment and Integrity Management, Measures for Bidding Management and Measures for Procurement Management. These policies provide detailed guidelines for selecting and evaluating suppliers, aiming to minimise supply chain risks for the group. The business planning department is responsible for the centralised management and implementation of the procurement management system.

## 供應鏈管理

本集團致力於將可持續發展理念融入到供應鏈管理中，創建一體化、標準化、信息化的供應商管理體系，以加強ESG方面的供應商表現。為了建立可持續供應鏈和採購管理體系，以及更好地管理供應鏈的ESG風險，本集團已制定一系列政策。有關政策包括《採購從業人員履職行為管理辦法》、《陽光採購承諾誠信管理辦法》、《招標管理辦法》和《採購管理辦法》等。該等政策為挑選及評估供應商提供詳細的指導方法，旨在將本集團供應鏈的風險降到最低。經營計劃部負責採購管理體系的歸口管理與實施。





During the Year, the Group had a total of 1,200 suppliers, categorised into three main types i.e. materials, engineering and services, encompassing a market mix of state-owned enterprises, private enterprises, and individual merchants. Of these suppliers, 1,061 were located in Mainland China, 110 were located in Australia, 13 were located in Vietnam, while 16 were based in Hong Kong, China. In 2023, the Group's procurement was valued at approximately RMB11,754 million.

## ADMISSION CRITERIA FOR SUPPLIERS

The Group's procurement adheres to the principles of legality, compliance, fairness, justice, and transparency. We follow strict regulations and provisions, including the Measures for Performance of Procurement Practitioners Management, Measures for Sunshine Procurement Commitment and Integrity Management, Measures for Bidding Management and Measures for Procurement Management. We rigorously review supplier qualifications and are committed to establishing long-term, mutually beneficial relationships with suppliers, nurturing high-quality suppliers, and continuously improving procurement quality. All suppliers must provide relevant information according to the "Supplier Scorecard". In Addition, the Group's selection of potential suppliers primarily considers factors like industry reputation, performance, partnership relations, and market research. All of the Group's suppliers are required to comply with the Group's adopted supplier admission standards and selection processes.

於本年度，本集團共有1,200個供應商，分為材料、工程和服務三大類，涵蓋國有企業、民營企業及個體商戶等各種市場企業。其中，1,061個供應商位於中國大陸，110個供應商位於澳洲，13個供應商位於越南，16個供應商位於中國香港。二零二三年，本集團的採購估值約為人民幣11,754百萬元。

## 供應商准入標準

本集團的採購堅持依法、合規、公平、公正及透明的原則。我們嚴格遵守法規及規定，包括《採購從業人員履職行為管理辦法》、《陽光採購承諾誠信管理辦法》、《招標管理辦法》和《採購管理辦法》等。我們嚴格審查供應商的資格，並致力於與供應商建立長期、互惠共贏的關係，培育優質供應商，並不斷提升採購質量。所有供應商均需根據「供應商評分卡」提供相關信息。此外，本集團於挑選潛在供應商時主要考慮的因素包括行業口碑、業績、合作關係及市場調研等。本集團的所有供應商均須遵守本集團採納的供應商准入標準及甄選流程。

The Group has implemented a qualification examination system for suppliers, and our business planning department has established an assessment and evaluation system. In accordance with the principle of “who uses, who evaluates”, branches and subsidiaries conduct assessment and evaluation for the suppliers. In selecting suppliers, the Group gives priority to suppliers with good reputation in the industry, who are committed to social responsibility and have passed the environmental system certification. The Group has incorporated system certification initiatives into contracts by incorporating the “Agreement on Compliance with Social Responsibility and Ethical Standards” into the procurement contracts, and will also give priority to suppliers whose production is more green and environmentally friendly and able to improve the production efficiency of its products. In addition, in order to help form a long-term and reliable supply chain, through market research, the Group invites suppliers who are committed to providing technical and service support for the development of new energy and who are deeply engaged in the development of the new energy field to join every year.

本集團已對供應商實施資格審核制度，且經營計劃部已建立考核評價體系。按照「誰使用誰評價」原則，分、子公司對供應商進行考核評估。於挑選供應商時，本集團優先考慮行業內口碑較好、致力於承擔社會責任及通過環境體系認證的供應商。本集團已在合同中加入體系認證的倡導，將「遵守社會責任及道德標準協議書」納入採購合同，同時也將優先考慮產品更加綠色環保、能提高產品生產效率的供應商。此外，為了助力形成長期、可靠的供應鏈，本集團通過市場調研，每年邀請致力於為新能源發展提供技術、服務支持、且在新能源領域深耕發展的供應商加入。

### Supplier Selection Process of the Group

### 本集團的供應商甄選流程



## SUPPLIER ASSESSMENT AND MONITORING

In order to strengthen supply chain management and to ensure that the products and services of the suppliers comply with laws and regulations and the Group requirements, the Group conducts annual supplier performance evaluation covering quality, commercial, service and management aspects. Following the principle of “quantitative evaluation” in supplier management and internal policies, the Group has established a supplier evaluation system shared by all regions of the Group, and set quantifiable evaluation indicators for different types of suppliers in terms of corporate management level, technical level, cooperation in the procurement process, quality in the contract fulfilment process, progress of delivery and level of service, etc. In order to continuously optimise the Group’s supply chain management system, at the end of each year, based on the evaluation of the suppliers, the Group will give priority to inviting suppliers with an overall rating of A/B/C/D/E in terms of quality, commercial and service when making purchases, and will suspend or terminate the cooperation with those suppliers with low ratings.

## SUSTAINABLE PROCUREMENT

The Group actively responds to the national “dual carbon” goals, vigorously promoting sustainable procurement practices. When selecting suppliers for the Group’s new energy projects, the Group places significant emphasis on scrutinising environmental protection and pollution prevention measures. Additionally, to protect water and soil resources in project areas and to mitigate and manage new erosion caused by construction and operation activities, the Group carefully examines suppliers’ comprehensive erosion prevention systems, which include engineering, vegetation, temporary, and management measures. Moving forward, the Group will continue to uphold sustainable principles, rigorously selecting suppliers, standardising procurement processes and supplier management to reduce environmental, social, and governance risks associated with the supply chain.

## 供應商評估與監察

為加強供應鏈管理，確保供應商的產品和服務符合法律法規及本集團的要求，本集團每年開展供應商表現評估工作，涵蓋質量、商務、服務和管理等方面。本集團遵循供應商管理「量化評價」的原則和內部政策，已建立本集團各區域共享的供應商評價體系，針對不同類型供應商制定在企業管理水平、技術水平、採購過程中的配合度、履約過程中的質量、交付進度和服務水平等多方面的可量化評價指標。為了持續優化本集團的供應鏈管理體系，本集團於每年年終將根據供應商的評估情況，在採購時優先邀請質量、商務、服務綜合評分為A/B/C/D/E級別的供應商，且與低評級的供應商暫停或終止合作。

## 可持續採購

本集團積極響應國家「雙碳」目標，積極推動可持續採購實踐。在選擇本集團的新能源項目供應商時，本集團十分重視對環境保護及污染防護措施的審查。此外，為保護項目區水土資源，減輕和治理建設及營運活動導致的新增流失，本集團認真審查供應商涵蓋工程、植物、臨時及管理措施的綜合流失防治體系。未來，本集團將繼續秉持可持續原則，嚴格篩選供應商，規範採購流程和供應商管理，以降低供應鏈相關的環境、社會及管治風險。



Commit to  
Social Welfare,  
and Serve Society and  
People's Livelihood

投身社會公益  
服務社會民生



The Group does not forget to contribute to the society while realizing its corporate value, and actively participates in a variety of social activities, giving positive social feedback.

本集團在實現企業價值的同時，不忘向社會作出貢獻，積極參與各種社會活動，積極回饋社會。

**KPI:**  
關鍵績效指標：

The Group is committed to promoting shared achievements in clean energy technology in the residential areas under its jurisdiction of the operation through the use of the Company's platform resources and industry advantages, thus promoting the long-term sustainable economic and social development of the residential areas. During the Year, we practised philanthropy in the society through programs such as rural poverty alleviation, sport event, disaster relief and community service, and the total expenditure amounted to RMB8 million.



本集團致力透過利用本公司平台資源及行業領域優勢，推動營運所轄社區共享清潔能源技術發展成果，進而推動社區在經濟及社會方面的長期可持續發展。於本年度，我們通過鄉村扶貧、體育活動、賑災和社區服務等項目踐行社會慈善，並累計支出總額人民幣8百萬元。





**Case:** **Volunteer Action: Warm Visits, Deep Love**  
**案例：** **志願者行動：溫馨的探訪，深深的愛**

The “Neng Xiaoqing” volunteer team of the Northwestern Branch of BJEI launched a warm-hearted visit in the evening of August 31, 2023 to support and care for families with disabilities facing difficulties in life. During the event, the volunteers visited disabled families in the community, engaged in cordial conversations to understand their living conditions, and provided practical gifts and supplies. The efforts highlighted the case of a 14-year-old child with cerebral palsy, who, despite her learning difficulties, displayed a hopeful and resilient spirit. The activity not only brought warmth and support to the families with disabilities but also brought satisfaction and joy to the volunteers.

京能國際西北分公司「能小青」志願者團隊於二零二三年八月三十一日晚上開展溫馨探訪活動，以支持及關愛面臨生活困難的殘障家庭。活動中，志願者們探訪了社區內的殘障家庭，與他們親切交談，了解他們的生活狀況，並提供實用禮物及用品。活動中特別關注了14歲的腦癱兒童，她雖然學習困難，但表現出充滿希望的頑強精神。此次活動不僅為殘障家庭帶去溫暖和支持，也為志願者們帶來了滿足和快樂。



**Case:** **Communist Party Members Show Love**  
**案例：** **共產黨員獻愛心**

The Group carried out a “Communist Party Members Show Love” fundraising campaign, which raised a total of RMB49,700 in donations.

本集團開展「共產黨員獻愛心」籌款活動，合共募集捐款人民幣49,700元。





**Case:**  
**案例：****Special Flood Control and Disaster Relief Fund**  
**防汛救災專項基金**

The Group has raised a total of RMB34,741 in donations for its special flood control and disaster relief fund.

本集團為其防汛救災專項基金募集捐款合共人民幣34,741元。

**Case:**  
**案例：****Donation to Yanbian Half Marathon event**  
**向鹽邊半程馬拉松賽事捐款**

The Group sponsored the Yanbian Half Marathon event with a donation of RMB50,000.

本集團贊助鹽邊半程馬拉松賽事，捐款人民幣50,000元。

**Case:**  
**案例：****Donation to Beijing Red Cross Foundation**  
**向北京市紅十字基金會捐款**

The Group donated RMB2.2 million to the Beijing Red Cross Foundation, specifically for supporting the Baoshan Education Development Fund Pool, to aid in the high-quality development of education in Baoshan City.

本集團向北京市紅十字基金會捐款人民幣2.2百萬元，專項用於保山市教育發展基金池，助力保山市教育事業高質量發展。



SWCS Corporate Services Group (Hong Kong) Limited  
方圓企業服務集團(香港)有限公司

# Independent Assurance Statement 獨立審驗聲明

To the Board of Directors of Beijing Energy International Holding Co., Ltd.:

致北京能源國際控股有限公司董事會：

SWCS Corporate Services Group (Hong Kong) Limited (“SWCS”, “we”) has been engaged by Beijing Energy International Holding Co., Ltd. (“BJEI”) to conduct an independent limited assurance (“Assurance Engagement”) on the information and data disclosed in the 2023 Environmental, Social and Governance Report (the “Report”) of BJEI. SWCS conducted the Assurance Engagement on the Report of BJEI in accordance with the AA1000 AccountAbility Assurance Standard v3 (“AA1000AS v3”). Moreover, SWCS has also been engaged to conduct the Assurance Engagement on the reliability and accuracy of selected performance indicators disclosed in the Report.

方圓企業服務集團(香港)有限公司(「方圓」、「我們」)接受北京能源國際控股有限公司(「京能國際」)董事會的委託，對京能國際《環境、社會管治報告2023》(「報告」)中披露的資料及數據執行獨立且有限的審驗工作(「審驗工作」)。方圓根據AA1000審驗標準v3(「AA1000AS v3」)對京能國際的報告進行審驗。同時，方圓亦按京能國際選定指標的可靠性及準確性開展有限度審驗工作。

## I. INDEPENDENCE AND COMPETENCE

## 一、獨立性與能力

SWCS was not involved in collecting and calculating data involved in the Report, or in the development of the Report. SWCS’s activities are independent of BJEI. There is no relationship between BJEI and SWCS beyond the contractual agreement for providing this Assurance Engagement. SWCS has been recognized by AccountAbility. The assurance team of SWCS has extensive experience in the industry and has received professional training of standards related to sustainable development, including the Global Reporting Initiative Standards (GRI Standards), the AA1000AS v3, the Environmental, Social and Governance Reporting Guide (“ESG Guide”) issued by The Stock Exchange of Hong Kong Limited (“the Stock Exchange”), etc. The assurance team has sufficient understanding and capabilities of implementation of the AA1000AS v3, and the Assurance Engagement related to sustainable development issues is carried out in line with SWCS’s internal assurance protocol.

方圓沒有參與收集和計算報告內的數據或編撰報告。方圓進行的審驗工作獨立於京能國際。除審驗合約訂明的合適服務外，方圓與京能國際並沒有其他聯繫。方圓已獲得AccountAbility的認可，其審驗團隊在行業內擁有豐富經驗，並曾接受與可持續發展相關標準的專業培訓，如：報告倡議組織標準(GRI Standards)、AA1000AS v3，香港聯合交易所有限公司(「香港聯交所」)的《環境、社會及管治報告指引》(「《ESG指引》」)等。方圓的審驗團隊對AA1000AS v3具有充分的理解和實踐能力，同時依據方圓的內部審驗程序開展可持續發展事宜的審驗工作。



## II. BJEI'S RESPONSIBILITIES

BJEI is responsible for the preparation and presentation of The Report in accordance with the ESG Guide published by the Stock Exchange. BJEI is also responsible for implementing relevant internal control procedures to ensure that the contents of the Report are free from material misstatement, whether due to fraud or error.

## III. ASSURANCE PROVIDER'S RESPONSIBILITIES

SWCS is responsible for issuing an independent assurance statement to the Board of Directors of BJEI in accordance with the AA1000AAS v3. This independent assurance statement applies solely to express a conclusion on the assurance work in the specified scope of BJEI's Report, and does not serve any other intents or purposes. All results of assurance are internally reviewed by professionals to ensure that methodologies used in the process are sufficiently stringent and transparent.

## IV. ASSURANCE SCOPE

The scope of the Assurance Engagement does not include BJEI's suppliers, contractors, and information or data provided by other third parties. A Type 2 Moderate Level of Assurance of the AA1000AS v3 was adopted by SWCS to evaluate the nature and extent of BJEI's adherence to the four principles (Inclusivity, Materiality, Responsiveness and Impact) in accordance with the AA1000AS v3. The following specific performance indicators disclosed in the Report were selected for assurance:

Scope 範疇	Indicators 指標	Type of Information 資料的類別
Environmental 環境	Hazardous waste management 有害廢棄物處理方法	Qualitative 定性
	Electricity consumption 用電量	Quantitative 定量
Social 社會	Average training hours of employees who completed training 僱員完成受訓的平均時數	Quantitative 定量

## 二、京能國際責任

京能國際的責任是依照香港聯交所發布的《ESG指引》編製其報告。京能國際亦負責實施相關內部控制的程序，以使報告不存在由於欺詐或錯誤導致的重大錯誤陳述。

## 三、審驗機構責任

方圓的責任是根據AA1000AS v3向京能國際董事會出具獨立審驗聲明。此獨立審驗聲明僅作為對下列京能國際報告中所界定範圍內的相關事項進行審驗之結論，而不作為其他之用途。所有核實和認證審核的結果均由專業人員進行內部評審，以確保我們所使用的方法是嚴謹和透明的。

## 四、審驗範圍

審驗的組織範圍不包括京能國際報告的供應商、承包商以及其他第三方的數據和信息。我們採用AA1000AS v3類型2中度審驗等級，以評估京能國際遵循AA1000AS v3四項原則（包容性、實質性、回應性、及影響性）的性質和程度。這次審驗選定了報告中以下的特定績效指標作出審驗：



SWCS's assurance work was with respect to the information from 1 January 2023 to 31 December 2023. We do not express any conclusions on any information that falls outside this period or any other data disclosed in the Report not included within the assurance scope. The scope of the Assurance Engagement is based on and confined to the information provided by BJEI. Any queries regarding the content or related matters within this assurance statement should be addressed to BJEI only.

## V. METHODOLOGY

SWCS conducted Assurance Engagement only within BJEI's office in Beijing, and the assurance works conducted include:

- Conducting interviews with management and relevant departments that are responsible for collecting data on selected indicators, and documentation reviews;
- Understanding the processes and methods of BJEI in identifying and collecting feedbacks from stakeholders;
- Assessing whether the reporting approach of the Report has been conducted in line with the principles of Inclusivity, Materiality, Responsiveness and Impact as defined in the AA1000AS v3;
- Reviewing BJEI's sustainable development management and conducting sampling of selected indicators to understand its management system;
- Conducting sampling of selected indicator information, assess the reliability of data collection, and understand the management system used to ensure data quality;
- Assessing whether the statement in the Report is consistent with the conclusion;
- Performing other procedures deemed considered necessary.

Assurance work was performed and the conclusions within were based upon the information and data provided by BJEI to SWCS, and on assumptions that the information provided was complete and accurate.

方圓審驗的時間範圍僅限於2023年1月1日至2023年12月31日的資料。對於此時間範圍以外的任何資料或在報告中披露的任何其他不在審驗工作範圍內的資料，我們不發表任何結論。審驗範圍乃基於並局限於京能國際提供的信息內容。對於本獨立審驗聲明所載的內容或相關事項之任何疑問，將由京能國際一併回覆。

## 五、審驗方法

方圓僅對京能國際的北京辦公室開展審驗工作，工作內容包括：

- 與管理人員，以及負責選定指標數據收集工作的相關部門進行訪談及文件抽查；
- 了解京能國際在識別和收集利益相關方反饋的過程及方法；
- 評估報告的匯報是否符合AA1000AS v3中包容性、實質性、回應性及影響性的原則；
- 通過對京能國際的可持續發展管理及選定指標進行抽樣來理解其管理體系；
- 通過對選定的指標信息進行抽樣，評估數據收集的可靠性，以及理解用於確保數據質量的管理系統；
- 核查報告中的陳述與結論是否一致；
- 執行我們認為必要的其他程序。

審驗工作基於京能國際提供予方圓之相關信息所作出之結論，京能國際確保其所提供的信息是完整及準確的。

## VI. LIMITATIONS

The absence of a significant body of established practice on which to draw to evaluate and measure non-financial information allows for different, but acceptable, measures and measurement techniques and can affect comparability between entities.

## VII. CONCLUSIONS

Based on the Report of BJEI and information provided, nothing has come to our attention that causes us to believe that the Report is not prepared, in all material respects, in accordance with the four principles of AA1000AS v3.

Based on the procedures implemented and the evidences obtained, we have not found anything that put us in doubt of the reliability and accuracy of the selected performance indicators for the Assurance Engagement in the Report.

## VIII. KEY OBSERVATIONS

SWCS summarizes key observations of the Report against the principles of Inclusivity, Materiality, Responsiveness and Impact of AA1000AS v3 as follows:

### Inclusivity

BJEI has identified key stakeholders, understood and identified the topics concerned by the stakeholders, as well as collected stakeholders' expectations and key concerns on material issues through meetings, investigations and inspections, organization of site visits, and publication of reports, and negotiated with parties that may be affected by BJEI's operations. To assist BJEI in reviewing the applicability of identified material issues, BJEI has collected views from key stakeholders and covered the environmental, social and governance aspects that BJEI and its stakeholders are concerned about in this Report. In our professional opinion, BJEI adheres to the Principle of Inclusivity.

## 六、局限性

由於非財務資料未有國際公認和通用於評估和計量的標準，故此不同但均為可接受的信息和計量技術應用或會影響與其他機構的可比性。

## 七、結論

基於京能國際的報告和提供的資料，我們沒有注意到任何事項使我們相信，在任何重大方面，報告沒有按照AA1000AS v3的四大原則的基礎下編製。

基於方圓執行的程序及取得的證據，對於報告中所選定審驗的特定績效指標，我們沒有發現任何事項使我們懷疑其可靠性及準確性。

## 八、關鍵觀察

針對AA1000AS v3的包容性、實質性、回應性及影響性的原則，方圓對於報告的關鍵觀察總結如下：

### 包容性

京能國際識別了主要利益相關方，透過組織會議、調研、實地考察、發布報告等多元渠道與利益相關方保持定期溝通，以了解並識別不同利益相關方關注的議題，以及收集他們對實質性議題的關注重點及期望，並與可能受京能國際運營影響的各方進行磋商。為協助京能國際審視已識別實質性議題的適用性，京能國際已收集主要利益相關方的意見，並於此報告涵蓋京能國際及其利益相關方所關注的環境、社會及管治領域。根據我們的專業意見，京能國際遵循包容性原則。

## Materiality

BJEI has continuously collected, considered and analyzed comprehensive and balanced information, and continuously monitored the changes in the market and business environment, which helps BJEI understand the needs, benefits and priorities of their own business and their stakeholders, and determine the applicability and timeliness of material issues. BJEI has also identified issues that are material to the Company and stakeholders based on the materiality assessment, and incorporated the results into sustainable development strategic planning, ensures that the necessary capacity and resources are provided for the application of the results of the materiality assessment process, and that the Board of Directors is responsible for overseeing and determining the Company's overall approach to sustainability, and determining the focus and direction of its efforts in line with the material issues that are valued by its stakeholders. In our professional opinion, BJEI adheres to the Principle of Materiality.

## Responsiveness

BJEI has actively formulated strategic policies or measures to respond to stakeholders' expectations. Based on the prioritization of material issues identified in the materiality assessment, BJEI allocates sufficient resources to respond to material topics and their associated impacts and stakeholders in a comprehensive, accurate, timely, objective and well-considered manner. In our professional opinion, BJEI adheres to the Principle of Responsiveness.

## 實質性

京能國際持續收集、考量及分析全面且均衡的信息，透過制定穩定的風險管理架構和工作體系，持續監察市場和業務環境變化，有助了解京能國際及其利益相關方的需求、利益和優先事項，並審視實質性議題的適用性及時效性。基於實質性議題評估，京能國際識別對公司及利益相關方重要的議題，並融入其可持續發展戰略規劃當中，確保提供必要的能力和資源以應用實質性評估過程的結果，由董事會負責監督、釐定公司整體的可持續發展方針，確定工作重點和方向，以符合利益相關方重視的實質性議題。根據我們的專業意見，京能國際遵循實質性原則。

## 回應性

京能國際積極制定戰略性政策或措施，以回應利益相關方的期望。根據實質性議題評估所識別的實質性議題優先次序，京能國際分配足夠的資源以全面、準確、及時、客觀和考慮周全的方式對實質性可持續性議題及其相關影響和利益相關方作出回應。根據我們的專業意見，京能國際遵循回應性原則。



## Impact

BJEI has identified its material impact on operations, and formulated relevant policies to improve its operational impacts on society and the environment through effective communication with stakeholders. For instance, before the implementation of any construction project, BJEI will assess the impact of the project on the environment, including the impact on the ecosystem, to comprehensively evaluate and manage the impacts of its business. BJEI also carries out soil and water restoration projects to reduce the impact on the environment and adopts a new operating model that combines PV with agriculture and animal husbandry to maximize the use of land resources and improve the impact of business development on local industries. In our professional opinion, BJEI adheres to the Principle of Impact.



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For and on behalf of  
SWCS Corporate Services Group (Hong Kong) Limited

Mr. Roy Fan  
Vice President – Sustainability & ESG Services

28 March 2024  
Hong Kong

## 影響性

京能國際識別在業務中的重大影響，透過與利益相關方聯繫溝通，以制定相關政策改善業務對社會及環境的影響。例如，京能國際進行建設項目前，會評估工程對環境帶來的影響，包括對生態系統帶來的影響等，以全面去衡量、評價和管理京能國際業務上帶來的影響，並會進行水土修復工程以降低對環境的影響，亦以光伏與農業、畜牧業結合的新運營模式，最大限度地利用土地資源，改善業務發展對當地產業的影響。根據我們的專業意見，京能國際遵循影響性原則。

代表  
方圓企業服務集團(香港)有限公司

范坤明先生  
總監-可持續發展及ESG服務

2024年3月28日  
香港

# Appendix I: Overview of ESG Key Performance Indicators 附錄一：ESG關鍵績效指標概覽

## ENVIRONMENTAL MANAGEMENT

## 環境管理

		2023 二零二三年	2022 二零二二年	2021 二零二一年
<b>Use of Resources – Energy</b>		<b>資源使用 – 能源</b>		
<b>Offices</b>		<b>辦公室</b>		
Electricity (MWh)	電力 (兆瓦時)	1,099.5	553.23	331.22
Heating (MWh)	暖氣 (兆瓦時)	2,445.75	–	–
Gasoline (MWh)	汽油 (兆瓦時)	1,823.18	0	0.25
Diesel (MWh)	柴油 (兆瓦時)	122.67	–	–
<b>Power Plants</b>		<b>電站</b>		
Electricity (MWh)	電力 (兆瓦時)	63,888.72	59,880.0	37,914.71
Natural gas (MWh)	天然氣 (兆瓦時)	0	0	20.55
Gasoline (MWh)	汽油 (兆瓦時)	844.97	2,907.11	5,730.11
Diesel (MWh)	柴油 (兆瓦時)	524.12	71.04	533.39
<b>Offices and Power Plants</b>		<b>辦公室及電站</b>		
Total consumption (MWh)	消耗總量 (兆瓦時)	70,748.91	63,411.38	44,530.23
Consumption intensity (MWh per GWh electricity generated)	消耗強度 (兆瓦時 / 吉瓦時 發電量)	5.13	8.88	11.48
<b>Use of Resources – Water</b>		<b>資源使用 – 水</b>		
<b>Office</b>		<b>辦公室</b>		
Water (Tons)	水 (噸)	5,610.06	1,522	756
<b>Power Plants</b>		<b>電站</b>		
Water (Tons)	水 (噸)	90,726.75	66,610	46,851
<b>Offices and Power Plants</b>		<b>辦公室及電站</b>		
Total water consumption (Tons)	耗水總量 (噸)	96,336.81	68,132	47,607
Water consumption intensity (Tons per GWh electricity generated)	耗水強度 (噸 / 吉瓦時發電量)	6.99	9.54	12.27

		2023 二零二三年	2022 二零二二年	2021 二零二一年
<b>Emissions</b>	<b>排放</b>			
<b>Greenhouse Gas Emissions</b>	<b>溫室氣體排放</b>			
Total greenhouse gas emissions (tCO <sub>2</sub> e)	溫室氣體排放總量 (噸二氧化碳當量)	38,318	35,197	25,316
Scope 1: Direct emissions (tCO <sub>2</sub> e) <sup>(1)</sup>	範圍1：直接排放 (噸二氧化碳當量) <sup>(1)</sup>	790	729	1,980
Scope 2: Indirect emissions (tCO <sub>2</sub> e) <sup>(2)</sup>	範圍2：間接排放 (噸二氧化碳當量) <sup>(2)</sup>	37,159	34,468	23,336
Scope 3: Indirect emissions (tCO <sub>2</sub> e) <sup>(3)</sup>	範圍3：間接排放 (噸二氧化碳當量) <sup>(3)</sup>	369	-	-
Emissions intensity (tCO <sub>2</sub> e per GWh electricity generated)	排放強度 (噸二氧化碳當量 / 吉瓦時發電量)	2.78	4.93	6.53
<b>Air Emissions<sup>(4)</sup></b>	<b>廢氣排放<sup>(4)</sup></b>			
Sulphur oxide (kg)	硫氧化物 (公斤)	5.1	12.7	10.4
Nitrogen oxide (kg)	氮氧化物 (公斤)	2,856.8	425.4	2,818.3
Particulate matter (kg)	顆粒物 (公斤)	265.6	54.8	254.2
<b>Wastewater</b>	<b>廢水</b>			
Wastewater discharge (Tons)	廢水排放量 (噸)	77,069.5	57,044.6	31,587.0
Emission intensity (Tons per GWh electricity generated)	排放強度 (噸 / 吉瓦時發電量)	5.59	7.99	8.14
<b>Solar Panels</b>	<b>太陽能電池板</b>			
Solar panels (recycled) (Tons)	已回收太陽能電池板 (噸)	75.28	53.27	42.49
<b>Hazardous Waste</b>	<b>有害廢棄物</b>			
Waste cartridges (Tons)	廢墨盒 (噸)	0.07	-	-
Waste solar panels (Tons)	廢太陽能電池板 (噸)	75.28	-	-
Waste lamps (Tons)	廢燈具 (噸)	0.01	-	-
Total waste generated (Tons)	產生廢棄物總量 (噸)	75.36	0.03	1.60
Waste intensity (kg per GWh electricity generated)	產生廢棄物強度 (公斤 / 吉瓦時發電量)	5.47	0	0.41
<b>Non-hazardous Waste</b>	<b>無害廢棄物</b>			
Recyclable waste (Tons)	可回收廢棄物 (噸)	0.04	3.2	19.7
Non-recyclable waste (Tons)	不可回收廢棄物 (噸)	15.47	14.01	1.53
Total waste generated (Tons)	產生廢棄物總量 (噸)	15.51	17.21	21.23
Waste intensity (kg per GWh electricity generated)	產生廢棄物強度 (公斤 / 吉瓦時發電量)	1.13	2.41	5.47



Notes:

- 1 The calculation scope of greenhouse gas emissions (Scope 1) includes the tree planting in Mainland China and fuel use of automobiles in Mainland China and Australia. The calculation method and related emissions of greenhouse for planted tree in 2023 refer to "Reporting Guidance on Environmental KPIs (Appendix II)" provided by the Stock Exchange, and for fuel use of automobiles in Mainland China and Australia in 2023 respectively refer to the "Guidelines on Greenhouse Gas Emission Accounting and Reporting" provided by the National Development and Reform Commission ("NDRC") of the People's Republic of China and 2006 IPCC Guidelines for National Greenhouse Gas Inventories issued by the Intergovernmental Panel on Climate Change (IPCC).
- 2 The calculation scope of greenhouse gas emissions (Scope 2) includes the indirect emission caused in the production process through purchased electricity in Mainland China, Australia and Vietnam and the purchased heating in Mainland China. The calculation methods and related emission coefficients of greenhouse gas emissions from electricity use in Mainland China, Australia and Vietnam in 2023 respectively refer to the Carbon dioxide emission factors for electricity in 2021 issued by the Ministry of Ecology and Environment of the People's Republic of China and National Bureau of Statistics of China in 2024, Australian National Greenhouse Accounts Factors for individuals and organisations estimating greenhouse gas emissions issued by Department of Climate Change, Energy, the Environment and Water of the Australian Government in 2023 and On The Study And Development Of Emission Factor (Ef) For Vietnamese Electrical Grid issued by Ozone Layer Protection and Low Carbon Economy Development Centre In 2018. The calculation method and related emission coefficients of greenhouse gas emissions from heating use in Mainland China in 2023 refer to the Guidelines on Greenhouse Gas Emission Accounting Methodologies and Reporting for Enterprises Operating Public Buildings (Trial) issued by the NDRC of the People's Republic of China in 2023.
- 3 The calculation scope of greenhouse gas emissions (Scope 3) includes the business travel by employees, Methane gas generation at landfill due to disposal of paper waste and Electricity used for fresh water and sewage processing which are other indirect emissions that occur outside the company. The calculation method of greenhouse gas emissions from business travel by employees refers to the Carbon Emissions Calculator issued by the International Civil Aviation Organization (ICAO). The calculation methods and related emission coefficients of greenhouse gas emissions from methane gas generation at landfill due to disposal of paper waste refers to "Reporting Guidance on Environmental KPIs (Appendix II)" provided by the Stock Exchange, and the calculation method and related emission coefficients of greenhouse gas emissions from Electricity used for fresh water and sewage processing refers to "Study on Energy Consumption of Urban Water Supply System in China" published by Tsinghua University and "Statistical analysis and quantitative identification of the law of energy consumption in urban sewage treatment plants in China" published by Tsinghua University and National Urban Water and Drainage Engineering Technology Research Centre.
- 4 The calculation scope of air pollutant emissions includes fuel use of automobiles.

附註：

- 1 溫室氣體排放(範圍1)的計算範圍包括中國內地的植樹以及中國內地及澳洲汽車的燃料使用。二零二三年所種樹木的計算方法及相關溫室氣體排放乃參照聯交所發佈的《環境關鍵績效指標匯報指引(附錄二)》，而二零二三年中國內地及澳洲汽車的燃料使用的計算方法及相關溫室氣體排放乃分別參照中華人民共和國國家發展和改革委員會(「國家發改委」)發佈的《溫室氣體排放核算方法與報告指南》以及聯合國政府間氣候變化專門委員會(IPCC)發佈的《二零零六年IPCC國家溫室氣體清單指南》。
- 2 溫室氣體排放(範圍2)的計算範圍包括中國內地、澳洲及越南外購電力以及中國內地外購熱力在生產過程中造成的間接排放。二零二三年中國內地、澳洲及越南的電力使用產生的溫室氣體排放的計算方法及相關排放係數乃分別參考中華人民共和國生態環境部及中國國家統計局於二零二四年發佈的《關於發佈二零二一年電力二氧化碳排放因子的公告》、澳洲政府氣候變化、能源、環境及水部(Department of Climate Change, Energy, the Environment and Water of the Australian Government)於二零二三年就個體及組織估算溫室氣體排放所發佈的《澳洲國家溫室氣體核算因子》以及臭氧層保護與低碳經濟發展中心(Ozone Layer Protection and Low Carbon Economy Development Centre)於二零一八年發佈的《越南電網排放係數研究及開發的報告》。二零二三年中國內地的熱力使用產生的溫室氣體排放的計算方法及相關排放係數乃參考中華人民共和國國家發改委於二零二三年發佈的《公共建築運營企業溫室氣體排放核算方法與報告指南(試行)》。
- 3 溫室氣體排放(範圍3)的計算範圍包括僱員差旅、因處理廢紙而在垃圾填埋場產生的甲烷氣體以及用於淡水及污水處理的電力，該等均產生於公司外部的其他間接排放。僱員差旅產生的溫室氣體排放的計算方法乃參照國際民用航空組織(ICAO)頒佈的碳排放計算器。因處理廢紙而在垃圾填埋場產生的甲烷氣體產生的溫室氣體排放的計算方法及相關排放係數乃參照聯交所提供的《環境關鍵績效指標匯報指引(附錄二)》，及用於淡水及污水處理的電力產生的溫室氣體排放的計算方法及相關排放係數乃參照清華大學發佈的「中國城市供水系統能耗研究」及清華大學與國家給水排水工程技術研究中心發佈的「我國城市污水處理廠能耗規律的統計分析與定量識別」。
- 4 大氣污染物排放的計算範圍包括汽車的燃料使用。

## SOCIAL MANAGEMENT

## 社會管理

		2023 二零二三年	2022 二零二二年	2021 二零二一年
<b>Labour Profile</b>	<b>勞工分佈</b>			
<b>Total workforce</b>	<b>僱員總數</b>	1,790	1,011	752
<b>By Gender</b>	<b>按性別</b>			
Male	男性	1,426 (79.7%)	806 (79.7%)	611 (81.2%)
Female	女性	364 (20.3%)	205 (20.3%)	141 (18.8%)
<b>By Region</b>	<b>按地區</b>			
Mainland China	中國內地	1,705 (95.2%)	970 (95.9%)	715 (95.1%)
Hong Kong, China	中國香港	30 (1.7%)	26 (2.6%)	24 (3.2%)
Overseas	海外	55 (3.1%)	15 (1.5%)	13 (1.7%)
<b>By Employee Type</b>	<b>按僱傭類型</b>			
Full-time	全職	1,790	1,011	752
Part-time	兼職	0	0	0
<b>By Employee Contract</b>	<b>按僱傭合同</b>			
Fixed	固定	1,790	1,011	752
Temporary	臨時	0	0	0
<b>By Employee Category</b>	<b>按僱員類型</b>			
Senior management personnel	高級管理人員	10 (0.6%)	10 (1.0%)	8 (1.1%)
Middle management personnel	中級管理人員	94 (5.3%)	84 (8.3%)	56 (7.4%)
General employee	普通僱員	1,686 (94.1%)	917 (90.7%)	688 (91.5%)
<b>By Age Group</b>	<b>按年齡組別</b>			
30 or below	30歲或以下	450 (25.2%)	329 (32.5%)	225 (29.9%)
31 to 40	31歲至40歲	1,180 (65.9%)	505 (50.0%)	392 (52.1%)
41 or above	41歲或以上	160 (8.9%)	177 (17.5%)	135 (18.0%)
<b>By Education Background</b>	<b>按教育背景</b>			
Doctor	博士	10 (0.6%)	3 (0.3%)	3 (0.4%)
Master	碩士	255 (14.2%)	169 (16.7%)	119 (15.8%)
Bachelor	學士	962 (53.7%)	613 (60.6%)	316 (42.0%)
Non-tertiary qualification and below	大專及以下學歷	563 (31.5%)	226 (22.4%)	314 (41.8%)

		2023 二零二三年	2022 二零二二年	2021 二零二一年
<b>Employee turnover and turnover rate<sup>(1)</sup></b>		<b>流失僱員總數及僱員流失比率<sup>(1)</sup></b>		
<b>By Gender</b>		<b>按性別</b>		
Male	男性	86 (7.7%)	76 (9.4%)	52 (8.5%)
Female	女性	21 (7.4%)	10 (4.9%)	5 (3.5%)
<b>By Region</b>		<b>按地區</b>		
Mainland China	中國內地	102 (7.6%)	82 (8.5%)	53 (7.4%)
Hong Kong, China	中國香港	1 (3.6%)	1 (3.8%)	4 (16.7%)
Overseas	海外	4 (11.4%)	3 (20.0%)	—
<b>By Age</b>		<b>按年齡</b>		
30 or below	30歲或以下	16 (4.1%)	20 (6.1%)	18 (8.0%)
31 to 40	31歲至40歲	80 (9.5%)	51 (10.1%)	30 (7.7%)
41 or above	41歲或以上	11 (6.5%)	15 (8.5%)	9 (6.7%)
<b>Total number of new hire employees and ratio<sup>(2)</sup></b>		<b>新入職僱員總數及比例<sup>(2)</sup></b>		
<b>By Gender</b>		<b>按性別</b>		
Male	男性	259 (77.3%)	272 (78.8%)	296 (79.4%)
Female	女性	76 (22.7%)	73 (21.2%)	77 (20.6%)
<b>By Region</b>		<b>按地區</b>		
Mainland China	中國內地	293 (87.5%)	335 (97.1%)	358 (96.0%)
Hong Kong, China	中國香港	4 (1.2%)	5 (1.4%)	2 (0.5%)
Overseas	海外	38 (11.3%)	5 (1.4%)	13 (3.5%)
<b>By Age</b>		<b>按年齡</b>		
30 or below	30歲或以下	194 (57.9%)	160 (46.4%)	139 (37.3%)
31 to 40	31歲至40歲	104 (31.1%)	137 (39.7%)	185 (49.6%)
41 or above	41歲或以上	37 (11.0%)	48 (13.9%)	49 (13.1%)
<b>Return and retention rate after parental leave</b>		<b>育嬰假後的返崗及留任</b>		
<b>By Gender</b>		<b>按性別</b>		
Male	男性	100%	100%	100%
Female	女性	100%	100%	100%
<b>Total number of ethnic minority employees and ratio</b>		<b>少數民族僱員總數及比例</b>		
<b>By Gender</b>		<b>按性別</b>		
Male	男性	167 (83.5%)	79 (79.8%)	59 (77.6%)
Female	女性	33 (16.5%)	20 (20.2%)	17 (22.4%)



		2023 二零二三年	2022 二零二二年	2021 二零二一年
<b>Health and Safety</b>	<b>健康與安全</b>			
<b>Occupational Health and Safety Performance</b>	<b>職業健康與安全表現</b>			
<b>By Accident Category</b>	<b>按事故類型</b>			
Number of safety accidents	安全事故數量	0	0	0
Number of first level accidents	一類事故數量	0	0	0
Number of mis-operation accidents	誤操作事故數量	0	0	0
Number of near-miss accidents	未遂事故數量	0	0	0
Number of fire accidents	火災事故數量	0	0	0
Number of traffic accidents	交通事故數量	0	0	0
<b>Work-related injury and fatalities</b>	<b>工傷及因工亡故情況</b>			
Work-related injuries per 1,000 workers	每千名僱員的工傷數	0	0	0
Lost days due to work-related injury	因工傷損失工作日數	0	0	0
Number of work-related fatalities in each of the past three years (including the reporting year)	過去三年(包括匯報年度)每年因工亡故人數	0	0	0
Rate of work-related fatalities in each of the past three years (including the reporting year)	過去三年(包括匯報年度)每年因工亡故比率	0	0	0
<b>Health examination</b>	<b>健康檢查情況</b>			
Proportion of employees undergoing health examination	接受健康檢查的僱員比例	100%	100%	100%
<b>Education on Occupational Health and Safety<sup>(3)</sup></b>	<b>職業健康與安全教育<sup>(3)</sup></b>			
<b>Health and safety training</b>	<b>健康與安全培訓情況</b>			
Total person-times training	培訓總人次	1,502	1,011	752
Total training hours	培訓總時數	12,016	9,243	3,012
Percentage of employees trained	受訓僱員比例	83.9%	100%	100%

		2023 二零二三年	2022 二零二二年	2021 二零二一年
<b>Development and Training</b>		<b>發展及培訓</b>		
<b>Percentage of employees trained</b>		<b>受訓僱員比例</b>		
<b>By Gender<sup>(4)</sup></b>		<b>按性別<sup>(4)</sup></b>		
Male	男性	100%	100%	96%
Female	女性	100%	100%	80%
<b>By Employee Category<sup>(5)</sup></b>		<b>按僱員類型<sup>(5)</sup></b>		
Senior management personnel	高級管理人員	100%	100%	100%
Middle management personnel	中級管理人員	100%	100%	92%
General employee	普通僱員	100%	100%	96%
<b>Average training hours of employees (hours)</b>		<b>僱員受訓平均時數 (小時)</b>		
<b>By Gender</b>		<b>按性別</b>		
Male	男性	68	18	1
Female	女性	72	21	5
<b>By Employee Category</b>		<b>按僱員類型</b>		
Senior management personnel	高級管理人員	124	20	7
Middle management personnel	中級管理人員	125	14	3
General employee	普通僱員	65	19	2
<b>Total number of employees trained</b>		<b>受訓僱員總數</b>		
<b>By Gender</b>		<b>按性別</b>		
Male	男性	1,426	806	611
Female	女性	364	205	141

		2023 二零二三年	2022 二零二二年	2021 二零二一年
<b>By Employee Category</b>	<b>按僱員類型</b>			
Senior management personnel	高級管理人員	10	10	8
Middle management personnel	中級管理人員	94	84	56
General employee	普通僱員	1,686	917	688
<b>Training expenses per employee (RMB)</b>	<b>僱員人均培訓開支 (人民幣元)</b>	2,931	1,718	2,121
<b>Supply Chain Management</b>				
<b>供應鏈管理</b>				
<b>Number of suppliers</b>	<b>供應商數目</b>			
<b>By Region</b>	<b>按地區</b>			
Mainland China	中國內地	1,039	666	480
Regions other than Mainland China	中國內地以外的其他地區	5	4	7
<b>Community Investment</b>				
<b>社區投資</b>				
<b>Total social investment (RMB)</b>	<b>社會投資總額 (人民幣元)</b>	8,000,000	11,430,000	14,000,000

## Notes:

- The formula for employee turnover rate is employees who left this year / (Employees at the beginning + Employees at the end) / 2 \* 100, separate statistical analyses were conducted for different classification groups including age, region and gender.
- The formula for new hire rate is employees who started to be employed during the year / (Employees at the beginning + Employees at the end / 2 \* 100, separate statistical analyses were conducted for different classification groups including age, region and gender.
- The data of Education on Occupational Health and Safety and Total number of employees trained in 2023, 2022 and 2021 is updated based on headcounts.
- The proportion of trained employees by gender is calculated by dividing the headcounts of trained employees of each gender by the total number of employees in corresponding gender.
- The proportion of trained employees by employee type is calculated by dividing the number of trained employees of each employee type by the total number of employees in corresponding gender.

## 附註：

- 僱員流失率的計算公式為：本年度離職僱員 / (年初僱員人數 + 年末僱員人數) / 2 \* 100，本集團已就不同分類組別 (包括年齡、地區及性別) 分別進行統計數據分析。
- 新入職率的計算公式為：本年度開始受僱的僱員 / (年初僱員人數 + 年末僱員人數) / 2 \* 100，本集團已就不同分類組別 (包括年齡、地區及性別) 分別進行統計數據分析。
- 職業健康與安全教育以及二零二三年、二零二二年及二零二一年的受訓僱員總人次的數據根據人數進行更新。
- 按性別劃分的受訓僱員比例乃以各性別的受訓僱員人數除以相應性別的僱員總數計算。
- 按僱員類型劃分的受訓僱員比例乃以各僱員類型的受訓僱員人數除以相應性別的僱員總數計算。



# Appendix II: GRI and the Stock Exchange ESG Content Index

## 附錄二：GRI及聯交所ESG內容索引

**Statement of use** Beijing Energy International Holding Co., Ltd. has reported the information cited in this content index for the period from 1 January 2023 to 31 December 2023 with reference to the Global Reporting Initiative (GRI) Standards.

**使用說明** 北京能源國際控股有限公司在二零二三年一月一日至二零二三年十二月三十一日參照全球報告倡議組織(GRI)標準報告了在此份內容索引中引用的信息。

**GRI used** GRI 1: Foundation 2021  
**使用的GRI** GRI 1：基礎2021

### GRI 2: GENERAL DISCLOSURES 2021 GRI 2：一般披露2021

GRI Indicator	ESG Reporting Guide Description	Description	Page/Remarks
GRI指標	ESG報告指引說明	描述	頁碼／備註
<b>The organisation and its reporting practices</b> <b>組織及其報告做法</b>			
2-1	–	Organisational details 組織詳細情況	P. 7
2-2	–	Entities included in the organisation's sustainability reporting 納入組織可持續發展報告的實體	P. 5 2023 Annual Report 二零二三年年報
2-3	–	Reporting period, frequency and contact point 報告期、報告頻率及聯繫人	P. 5, P. 147
2-4	–	Restatements of information 信息重述	No restatements of information 無信息重述
2-5	–	External assurance 外部鑒證	P. 121-126

ESG Reporting Guide			
GRI Indicator	Description	Description	Page/Remarks
GRI指標	ESG報告指引說明	描述	頁碼/備註
<b>Activities and workers</b>			
<b>活動和工作</b>			
2-6	B5.1	Activities, value chain and other business relationships 活動、價值鏈和其他業務關係	P. 5, P. 7
2-7	B1.1	Employees 僱員	P. 79-80
2-8	-	Workers who are not employees 僱員之外的工作者	No workers other than employees 沒有僱員之外的工作者
<b>Governance</b>			
<b>管治</b>			
2-9	-	Governance structure and composition 管治架構和組成	2023 Annual Report – Report of Corporate Governance 二零二三年年報－企業管治報告
2-10	-	Nomination and selection of the highest governance body 最高管治機構的提名與遴選	2023 Annual Report – Report of Corporate Governance 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	2023 Annual Report – Report of Corporate Governance 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	P. 19-21 2023 Annual Report – Report of Corporate Governance 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	P. 19-21
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	P. 19-21
2-15	-	Conflicts of interest 利益衝突	2023 Annual Report – Report of Corporate Governance 二零二三年年報－企業管治報告

GRI Indicator	ESG Reporting Guide Description	Description	Page/Remarks
GRI指標	ESG報告指引說明	描述	頁碼／備註
2-16	–	Communication of critical concerns 重要關切問題的溝通	P. 90, P. 33-36
2-17	–	Collective knowledge of the highest governance body 最高管治機構的共同知識	2023 Annual Report – Report of Corporate Governance 二零二三年年報－企業管治報告
2-18	–	Evaluation of the performance of the highest governance body 對最高管治機構的績效評估	2023 Annual Report – Report of Corporate Governance 二零二三年年報－企業管治報告
2-19	–	Remuneration policies 薪酬政策	2023 Annual Report – Report of Corporate Governance 二零二三年年報－企業管治報告
2-20	–	Process to determine remuneration 確定薪酬的程序	2023 Annual Report – Report of Corporate Governance 二零二三年年報－企業管治報告
2-21	–	Annual total compensation ratio <sup>1</sup> 年度總薪酬比率 <sup>1</sup>	a. the ratio of the annual total compensation for the organisation's highest-paid individual to the median annual total compensation for all employees (excluding the highest-paid individual) was 15; b. the ratio of the percentage increase in annual total compensation for the organisation's highest-paid individual to the median percentage increase in annual total compensation for all employees (excluding the highest-paid individual) was 0.39 a. 組織收入最高個人的年度總薪酬與所有僱員 (不包括收入最高的個人) 年度總薪酬中位數的比率為15 ; b. 組織中收入最高個人的年度總薪酬增長百分比與所有僱員 (不包括收入最高的個人) 年度總薪酬增長百分比中位數的比率為0.39

<sup>1</sup> Data compilation method: a = the annual total compensation for the organisation's highest paid individual/the median annual total compensation for all employees (excluding the highest-paid individual); b = the percentage increase in annual total compensation for the organisation's highest-paid individual/the median percentage increase in annual total compensation for all employees (excluding the highest-paid individual).  
數據編製方法：a=組織收入最高個人的年度總薪酬／所有僱員 (不包括收入最高的個人) 年度總薪酬中位數；b=組織中收入最高個人的年度總薪酬增長百分比／所有僱員 (不包括收入最高的個人) 年度總薪酬增長百分比中位數。



GRI Indicator	ESG Reporting Guide Description	Description	Page/Remarks
GRI指標	ESG報告指引說明	描述	頁碼／備註
<b>Strategy, policies and practices</b>			
<b>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	P. 13-17, P. 19-21, P. 29-32, P. 39-44
2-23	–	Policy commitments 政策承諾	P. 37, P. 47, P. 50-53, P. 62, P. 73, P. 77-78, P. 91, P. 113-114
2-24	–	Embedding policy commitments 融合政策承諾	P. 37, P. 47, P. 50-53, P. 62, P. 73, P. 77-78, P. 91, P. 113-114
2-25	–	Processes to remediate negative impacts 補救負面影響的程序	P. 90
2-26	–	Mechanisms for seeking advice and raising concerns 尋求建議和提出關切的機制	P. 33-36
2-27	–	Compliance with laws and regulations 遵守法律法規	P. 36, P. 50-53, P. 81, P. 91, P. 109
2-28	–	Membership of associations 協會的成員資格	A member of the Green Energy Ecosystem Organization 為綠色能源生態合作組織的成員

GRI Indicator	ESG Reporting Guide Description	Description	Page/Remarks
GRI指標	ESG報告指引說明	描述	頁碼／備註

**Stakeholder engagement**  
**持份者參與**

2-29	-	Approach to stakeholder engagement 持份者參與的方法	P. 22-28
2-30	-	Collective bargaining agreements 集體談判協議	The Group did not sign any collective bargaining agreements with employees 本集團沒有和僱員簽署集體談判協定

**GRI 3: Material Topics**  
**GRI 3：實質性議題**

3-1	-	Process to determine material topics 確認實質性議題的過程	P. 24-28
3-2	-	List of material topics 實質性議題清單	P. 27-28

**Material Topics**  
**實質性議題**

**GRI 205: Anti-corruption 2016**  
**GRI 205：反腐敗2016**

3-3	B7、B7.2	Management approach and its components 管理方針及其要素	P. 33-36
205-2	B7.3	Communication and training on anti-corruption policies and procedures 反腐敗政策和程序的傳達及培訓	P. 33-36
205-3	B7.1	Confirmed incidents of corruption and actions taken 經確認的貪污事件和採取的行動	P. 34-36

GRI Indicator	ESG Reporting Guide Description	Description	Page/Remarks
GRI指標	ESG報告指引說明	描述	頁碼／備註
<b>GRI 308: Supplier environmental assessment 2016</b>			
<b>GRI 308 : 供應商環境評估2016</b>			
3-3	B5、B5.4	Management approach and its components 管理方針及其要素	P. 113-116
308-1	B5.2、B5.3	New suppliers that were screened using environmental criteria 使用環境準則篩選的新供應商	P. 113-116
<b>GRI 403: Occupational health and safety 2018</b>			
<b>GRI 403 : 職業健康與安全2018</b>			
3-3	B2	Management approach and its components 管理方針及其要素	P. 91-100
403-5	B2.3	Worker training on occupational health and safety 工作者的職業健康安全培訓	P. 95-97
403-9	B2.1	Work-related injuries 工傷	P. 132
-	B2.2	Lost days due to work injury 因工傷損失工作日數	P. 132
<b>GRI 404: Training and education 2016</b>			
<b>GRI 404 : 培訓與教育2016</b>			
3-3	B3	Management approach and its components 管理方針及其要素	P. 81-85
404-1	B3.2	Average hours of training per year per employee 每名僱員每年接受訓練的平均時數	P. 133-134
-	B3.1	Percentage of employees trained by gender and employee category 按性別及僱員類別劃分的受訓僱員百分比	P. 133-134



GRI Indicator	ESG Reporting Guide Description	Description	Page/Remarks
GRI指標	ESG報告指引說明	描述	頁碼／備註
<b>GRI 414: Supplier social assessment 2016</b>			
<b>GRI 414 : 供應商社會評估2016</b>			
3-3	B5	Management approach and its components 管理方針及其要素	P. 113-116
414-1	B5.2、B5.3	New suppliers that were screened using social criteria 使用社會標準篩選的新供應商	P. 113-116
<b>GRI 418: Customer privacy 2016</b>			
<b>GRI 418 : 客戶隱私2016</b>			
3-3	B6	Management approach and its components 管理方針及其要素	P. 105-109
418-1	B6.2、B6.5	Substantiated complaints concerning breaches of customer privacy and loss of customer data 涉及侵犯客戶隱私和丟失客戶資料的經證實的投訴	During the Year, the Group did not receive relevant complaints 於本年度，本集團並無接獲相關投訴
<b>Clean Energy Opportunities</b>			
<b>清潔能源機遇</b>			
3-3	-	Management approach and its components 管理方針及其要素	P. 39-44
N/A 不適用	-	Key initiatives and progress 主要措施及進展	P. 39-44
<b>Employee Communication</b>			
<b>員工溝通</b>			
3-3	-	Management approach and its components 管理方針及其要素	P. 90
N/A 不適用	-	Key initiatives and progress 主要措施及進展	P. 90

GRI Indicator	ESG Reporting Guide Description	Description	Page/Remarks
GRI指標	ESG報告指引說明	描述	頁碼／備註
<b>Other Topics</b>			
<b>其他議題</b>			
<b>GRI 201: Economic performance 2016</b>			
<b>GRI 201：經濟績效2016</b>			
3-3	A4	Management approach and its components 管理方針及其要素	P. 56-60
201-1	B8.2	Direct economic value generated and distributed 直接產生和分配的經濟價值	P. 37, P. 118-120
201-2	A4.1	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他風險和機遇	P. 56-60
<b>GRI 203: Indirect economic impacts 2016</b>			
<b>GRI 203：間接經濟影響2016</b>			
3-3	B8	Management approach and its components 管理方針及其要素	P. 37, P. 118-120
203-2	B8.1	Significant indirect economic impacts 重大間接經濟影響	P. 37, P. 118-120
<b>GRI 301: Materials 2016</b>			
<b>GRI 301：物料2016</b>			
3-3	A2	Management approach and its components 管理方針及其要素	P. 53-56
301-1	A2.5	Materials used by weight or volume 所用物料的重量或體積	The Group's operations do not involve the consumption of packaging materials 本集團的營運並不涉及包裝材料的耗用

GRI Indicator	ESG Reporting Guide Description	Description	Page/Remarks
GRI指標	ESG報告指引說明	描述	頁碼／備註
<b>GRI 302: Energy 2016</b> <b>GRI 302：能源2016</b>			
3-3	A2	Management approach and its components 管理方針及其要素	P. 67-68
302-1	A2.1	Energy consumption within the organization 組織內部的能源消耗量	P. 69-70
302-3	A2.1	Energy intensity 能源強度	P. 69-70
302-4	A2.3	Reduction of energy consumption 降低能源消耗量	P. 67-69
<b>GRI 303: Water and effluents 2018</b> <b>水資源和污水2018</b>			
3-3	A2	Management approach and its components 管理方針及其要素	P. 52-53, P. 70-72
303-1	A2.4	Interactions with water as a shared resource 組織與水作為共有資源的相互影響	P. 52-53, P. 70-72
303-2	–	Management of water discharge-related impacts 管理與排水相關的影響	P. 52-53
303-4	–	Water discharge 排水	P. 52-53
303-5	A2.2	Water consumption 耗水	P. 70-72
<b>GRI 304: Biodiversity 2016</b> <b>GRI 304：生物多樣性2016</b>			
3-3	A3	Management approach and its components 管理方針及其要素	P. 73-74
304-2	A3.1	Significant impacts of activities, products and services on biodiversity 活動、產品和服務對生物多樣性的重大影響	P. 62-66, P. 73-74



GRI Indicator	ESG Reporting Guide Description	Description	Page/Remarks
GRI指標	ESG報告指引說明	描述	頁碼/備註
<b>GRI 305: Emissions 2016</b>			
<b>GRI 305 : 排放2016</b>			
3-3	A1、A1.5	Management approach and its components 管理方針及其要素	P. 47-51, P. 61
305-1	A1.2	Direct (Scope 1) GHG emissions 直接(範圍1)溫室氣體排放	P. 61
305-2	A1.2	Energy indirect (Scope 2) GHG emissions 能源間接(範圍2)溫室氣體排放	P. 61
305-4	A1.2	GHG emissions intensity 溫室氣體排放密度	P. 61
305-7	A1.1	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions 氮氧化物、硫氧化物和其他重大氣體排放	P. 61
<b>GRI 306: Waste 2020</b>			
<b>GRI 306 : 廢棄物2020</b>			
3-3	A1	Management approach and its components 管理方針及其要素	P. 53-56
306-3	A1.3、1.4	Waste generated 產生的廢棄物	P. 53-56
306-5	A1.6	Waste directed to disposal 進入處置的廢棄物	P. 53-56
<b>GRI 401: Employment 2016</b>			
<b>GRI 401 : 僱傭2016</b>			
3-3	B1	Management approach and its components 管理方針及其要素	P. 77-81
401-1	B1.2	New employee hires and employee turnover 新進僱員僱傭率和僱員流失率	P. 80



GRI Indicator	ESG Reporting Guide Description	Description	Page/Remarks
GRI指標	ESG報告指引說明	描述	頁碼／備註
<b>GRI 405: Diversity and equal opportunity 2016</b>			
<b>GRI 405 : 多元化與平等機會2016</b>			
3-3	B1	Management approach and its components 管理方針及其要素	P. 77-81
405-1	B1.1	Diversity of governance bodies and employees 管治架構與僱員的多元化	P. 77-81
<b>GRI 408: Child labour 2016</b>			
<b>GRI 408 : 童工2016</b>			
3-3	B4	Management approach and its components 管理方針及其要素	P. 81
408-1	B4.1、B4.2	Operations and suppliers at significant risk for incidents of child labour 具有重大童工事件風險的營運點和供應商	The Group has not identified any significant risk of using child labour in its operations 本集團在營運中沒有發現使用童工的重大風險
<b>GRI 409: Forced or compulsory labour 2016</b>			
<b>GRI 409 : 強迫或強制勞動2016</b>			
3-3	B4	Management approach and its components 管理方針及其要素	P. 81
409-1	B4.1、B4.2	Operations and suppliers at significant risk for incidents of forced or compulsory labour 具有強迫或強制勞動事件重大風險的營運點和供應商	The Group has not identified any significant risks of using forced labour in its operations 本集團在營運中沒有發現使用強制勞工的重大風險

ESG Reporting Guide			
GRI Indicator	Description	Description	Page/Remarks
GRI指標	ESG報告指引說明	描述	頁碼／備註

#### GRI 416: Customer health and safety 2016 GRI 416：客戶健康與安全2016

3-3	B6	Management approach and its components 管理方針及其要素	P. 103-104
416-2	B6	Incidents of non-compliance concerning the health and safety impacts of products and services 涉及產品和服務的健康與安全影響的違規事件	The Group is not involved in incidents of non-compliance concerning the health and safety impacts of products and services 本集團不涉及產品和服務的健康與安全影響的違規事件

#### Product Responsibility 產品責任

3-3	B6	Management approach and its components 管理方針及其要素	P. 103-104, P. 111
–	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的百分比	The Group is engaged in the electricity supply services and does not have physical products and therefore does not involve in product recalls 本集團從事供電服務，沒有實體產品，故不涉及產品回收等問題
–	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	P. 111
–	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	The Group is engaged in the electricity supply services and does not have physical products and therefore does not involve in product recalls 本集團從事供電服務，沒有實體產品，故不涉及產品回收等問題

# Feedback 意見反饋

Dear reader,

Thank you for taking the time to read the 2023 Environmental, Social and Governance Report of Beijing Energy International Holding Co., Ltd. In order to further enhance our ESG management and improve the quality of this report, your comments and suggestions are highly appreciated. We will take your comments and suggestions into full consideration and promise that all information provided will be kept confidential.

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Report Team  
April 2024

Please rate your level of agreement with the following statements from 1 to 5 (1 being strongly disagree and 5 being strongly agree):

1. I am satisfied with this report. 我對此報告感到滿意。	
2. This report reflects the Company's impacts on the environment and the society. 這份報告反映 貴公司對環境及社會之影響。	
3. I am satisfied with the ESG performance of the Company. 我對 貴公司的ESG實踐成效感到滿意。	
4. I am satisfied with the disclosure level of this report. 我對此報告的信息披露程度感到滿意。	
5. I am satisfied with the format and design of this report. 我對此報告的版式及設計感到滿意。	

尊敬的讀者：

非常感謝您在百忙之中閱覽北京能源國際控股有限公司二零二三年環境、社會及管治報告。為進一步提升ESG管理工作和報告的質量，我們誠摯邀請您對本報告提出寶貴的意見與建議。我們將充分考慮您的意見與建議，並承諾妥善保護您的信息不被第三方獲取。

您可通過以下方式聯繫我們：

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報告編寫組  
二零二四年四月

請以1至5表示您是否同意下列陳述（1為完全不同意，5為完全同意）：









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