



哈尔滨电气股份有限公司

HARBIN ELECTRIC COMPANY LIMITED

Stock code: 1133

# 2024 Environmental Social and Governance Report



Harmonious Coexistence, Beautiful Home

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# About this report

## Reporting scope

This report covers the environmental, social, and governance performance of Harbin Electric Company Limited and its subsidiaries, which is consistent with the scope of the Company’s annual report.

## Reporting period

This is an annual report and the reporting period is from January 1, 2024 to December 31, 2024. To enhance the comparability and completeness of this report, some content may trace back to previous years or include forward-looking descriptions.

## Interpretation

Abbreviation		Full name
Company/we	Refers to	Harbin Electric Company Limited
Harbin Electric	Refers to	Harbin Electric Corporation
Boiler Company	Refers to	Harbin Boiler Company Limited
Turbine Company	Refers to	Harbin Turbine Company Limited
Electric Machinery Company	Refers to	Harbin Electric Machinery Company Limited
Harbin Electric International	Refers to	Harbin Electric International Company Limited
Heavy Equipment Company	Refers to	Harbin Electric Corporation (QHD) Heavy Equipment Company Limited
Valve Company	Refers to	HE Harbin Power Plant Valve Company Limited
SASAC	Refers to	State-owned Assets Supervision and Administration Commission of the State Council
HKEX	Refers to	The Stock Exchange of Hong Kong Limited

## Contents

This report discloses the policies, practice, and performance of the Company in fulfilling environmental, social, and governance responsibilities in 2024, with relevant materials sourced from the Company’s documents and reports. The historical data cited in this report are final statistics. In case of discrepancies with the annual report, the annual report shall prevail; unless otherwise specified, financial data is in RMB.

## References

This report is prepared in accordance with Appendix C2 Environmental, Social, and Governance Reporting Guide to the Rules Governing the Listing of Securities of the Stock Exchange of Hong Kong Limited and Reference Index System for ESG Special Reports of Listed Companies Controlled by Central Enterprises of the State-owned Assets Supervision and Administration Commission of the State Council, combined with the actual situation of the Company, following the principles of materiality, quantification, balance, and consistency.

## Approval

This report was approved and released by the Board of Directors of the Company in April 2025.

## Language version and request

This report is available in both Chinese and English versions, which is provided in electronic format. In case of discrepancies between the English and Chinese versions, the Chinese version shall prevail. You can visit the Company’s official website (<https://www.hpec.com/>) for more information.



## ESG Statement of the Board of Directors ▶▶

The Board of Directors of the Company oversees, leads, and supervises environmental, social, and governance (ESG) work. The Board of Directors annually monitors the overall progress and performance of the Company's ESG-related goals, reviews the effectiveness of the Company's ESG policies, practice, and goals, and ensures that the Company's ESG receives adequate resource support. Under the leadership of the Board of Directors, the management organizes and implements relevant work, establishes necessary working bodies, and mobilizes various professionals to continuously provide the necessary human and financial resources for ESG.

The Company practices the social responsibility concept of "friendly environment, warm home", and promotes the new development philosophy of "innovation, coordination, greening, openness, and sharing" into the corporate governance. Based on a deep understanding of the ESG-related risks and opportunities that the Company's business may face, the Board of Directors of the Company formulates and continuously improves ESG strategies. We implement ESG strategies through resource coordination, capacity building, process monitoring, etc., to ensure the sustainable development of the Company's business and create greater value for shareholders, customers, employees, and the public.

The Company's ESG process includes issue identification, goal setting, experience summarization, and a series of steps. We effectively communicate with stakeholders such as suppliers, customers, investors, and employees, and identify and assess the importance of various ESG-related matters with both quantitative and qualitative methods. We implement relevant laws and regulations from the state, industry, and supervisory authorities, and set ESG goals and plans based on the identified key ESG issues, and promote their execution. We summarize and refine the Company's excellent ESG management cases and typical experience, and encourage the management and employees to actively participate in ESG-related training and discussions, to enhance their ESG capabilities and awareness. At the same time, we build a comprehensive value creation assessment system, promoting linking remuneration distribution to ESG performance.

The Company has set detailed ESG work goals at different levels and established a continuous and effective working mechanism. ESG is widely implemented across various professional fields, management levels, and job posts, achieving comprehensive coverage of management system. This report provides a detailed disclosure of the Company's practice, progress, and achievements in ESG, all of which have been reviewed and approved by the Board of Directors.





## Address by chairman

Dear friends:

On behalf of the Board of Directors, I sincerely thank you for your continued care and support for the Company! In 2024, the Company remains steadfastly guided by Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, unwaveringly following the path of prioritizing ecological conservation and green development to accelerate the transition of high-quality development into a fast-track phase. We consistently uphold the “Two Upholds” (maintaining the Party’s leadership and strengthening Party building), rigorously implement the national “Dual Carbon” goals (carbon peaking and carbon neutrality), and continuously refine the construction of our green operations system. Committed to pioneering a new chapter in green, responsible, and sustainable development, we advance the high-end, intelligent, and green transformation of the manufacturing sector, contributing to the advancement of Chinese modernization.

### Party leadership guides steady progress with clear direction.

We steadfastly uphold and strengthen the Party’s comprehensive leadership, embedding the “Two Upholds” into both our principles and practices. The Party Committee of the state-owned enterprise fully exercises its role in “steering direction, overseeing the broader landscape, and ensuring implementation”, charting a clear course for the enterprise’s sustained and stable growth. We have established a robust risk management system to achieve precise identification and effective prevention of diverse risks, providing a solid safeguard for the enterprise’s stable development. Furthermore, we deepen the strict governance of the Party by maintaining rigorous discipline enforcement, combating misconduct and corruption, and continuously refining the supervisory framework. This fosters a clean and healthy political ecosystem, creating an optimal environment for the enterprise’s high-quality development.

### Green development: building a new ecological framework.

We resolutely strengthen environmental management, committed to establishing a more robust green operations system that emphasizes efficient and circular resource utilization. Continuously optimizing and upgrading our environmental management systems, we achieve precise identification and effective prevention of environmental risks. Proactively replying to global climate challenges, we leverage technological innovation and energy-saving measures to contribute corporate efforts toward climate action. We rigorously manage pollutant emissions, ensuring compliance with all standards while actively implementing measures to minimize environmental impact. Furthermore, we vigorously advance biodiversity conservation initiatives, striving to build a harmonious ecological community.



### Technological innovation: igniting new drivers of development.

We uphold technological innovation as the primary force driving progress, deepening the talent-driven enterprise strategy to continuously energize the vitality of scientific advancement. By integrating technological innovation with industrial transformation, we intensify R&D investment, target industry-leading breakthroughs, and accelerate the commercialization of R&D achievements. We are rapidly advancing digital transformation, holistically upgrading production digitization, equipment intelligence, and management informatization. Through intelligent and digital solutions, we enhance efficiency, efficacy, and profitability, forging new competitive advantages. Firmly adhering to the principle that “quality is the corporate lifeline”, we rigorously uphold product standards to deliver high-quality, reliable, efficient, and low-carbon solution to clients. Committed to customer-centricity, we prioritize the protection of client rights, establish a robust customer service system, and respond promptly to needs, striving to build a win-win ecosystem with our clients.

### People-centricity: forging a shared path to a brighter future.

We steadfastly uphold the core philosophy of “people as the foundation of growth, strength as the driver of success”, recognizing employees as the cornerstone of corporate development. We are committed to creating enhanced working environments and living conditions for our workforce. By refining democratic management mechanisms, we optimize compensation incentives and employee benefits systems. Prioritizing occupational health and safety, we have established a robust occupational safety management framework, strengthened through comprehensive safety training programs. Furthermore, we implement systematic skill development mechanisms, offering employees diverse learning and career advancement opportunities to foster professional growth.

### Philanthropic commitment: embracing social responsibility.

We rigorously implement the national rural revitalization strategy, leveraging our strengths in technological expertise, capital resources, and management acumen to actively engage in rural development. Our efforts focus on supporting local industry growth, infrastructure development, and talent cultivation, driving the economic transformation of rural communities. We proactively participate in public welfare initiatives, translating compassion into tangible actions that spread warmth and foster social positivity. Globally, we extend our philanthropic reach through overseas community programs, demonstrating the responsible global citizenship of Chinese enterprises.

Looking ahead: a vision anchored in purpose and progress. Guided by Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, we remain steadfast in our corporate mission to “advance the aspirations of national industry and showcase the vigor of Chinese innovation”. By deepening institutional reforms, strengthening technological innovation, and optimizing our ESG governance framework, we aim to propel green development to new heights. We are committed to contributing our expertise and resources to building a modern socialist powerhouse, advancing common prosperity, and supporting the vision of a beautiful China - translating national strategies into tangible actions that drive sustainable value for society.

## About the Company

Harbin Electric Company Limited, established in October 1994, is a key enterprise of the Harbin Electric Corporation, an enterprise under the administration of central government, and one of China's largest manufacturing, packaged equipment supply, and export bases for power generation equipment.

The Company has been committed to the revitalization and development of China's equipment manufacturing industry, and actively driven new leaps in the manufacturing level and independent innovation capability of China's power generation equipment. Some technologies have been at the international advanced level. The Company adheres to the philosophy of sustainable development, and continuously increases efforts in the development of efficient clean energy and new energy power generation equipment, achieving coordinated development between the enterprise and environmental protection.

The Company gathers top domestic talents in scientific research, technology, and management, possesses advanced production and research test equipment, and has a comprehensive quality assurance and control system. Its research and development capabilities, manufacturing capabilities, and power plant construction capabilities rank among the top in China's power generation equipment manufacturers.

The Company is rooted in the domestic market and actively implements the strategy of "going global", practicing the "Belt and Road" initiative. Its main and auxiliary equipment products for thermal power, hydropower, and nuclear power have been exported to more than 50 countries and regions in Asia, Africa, Europe, and the Americas. It also undertakes EPC business and complete equipment business for thermal power plants, wind farms, hydropower stations, combined cycle power stations, power transmission and transformation projects, as well as BOT and BOO businesses both domestically and internationally.

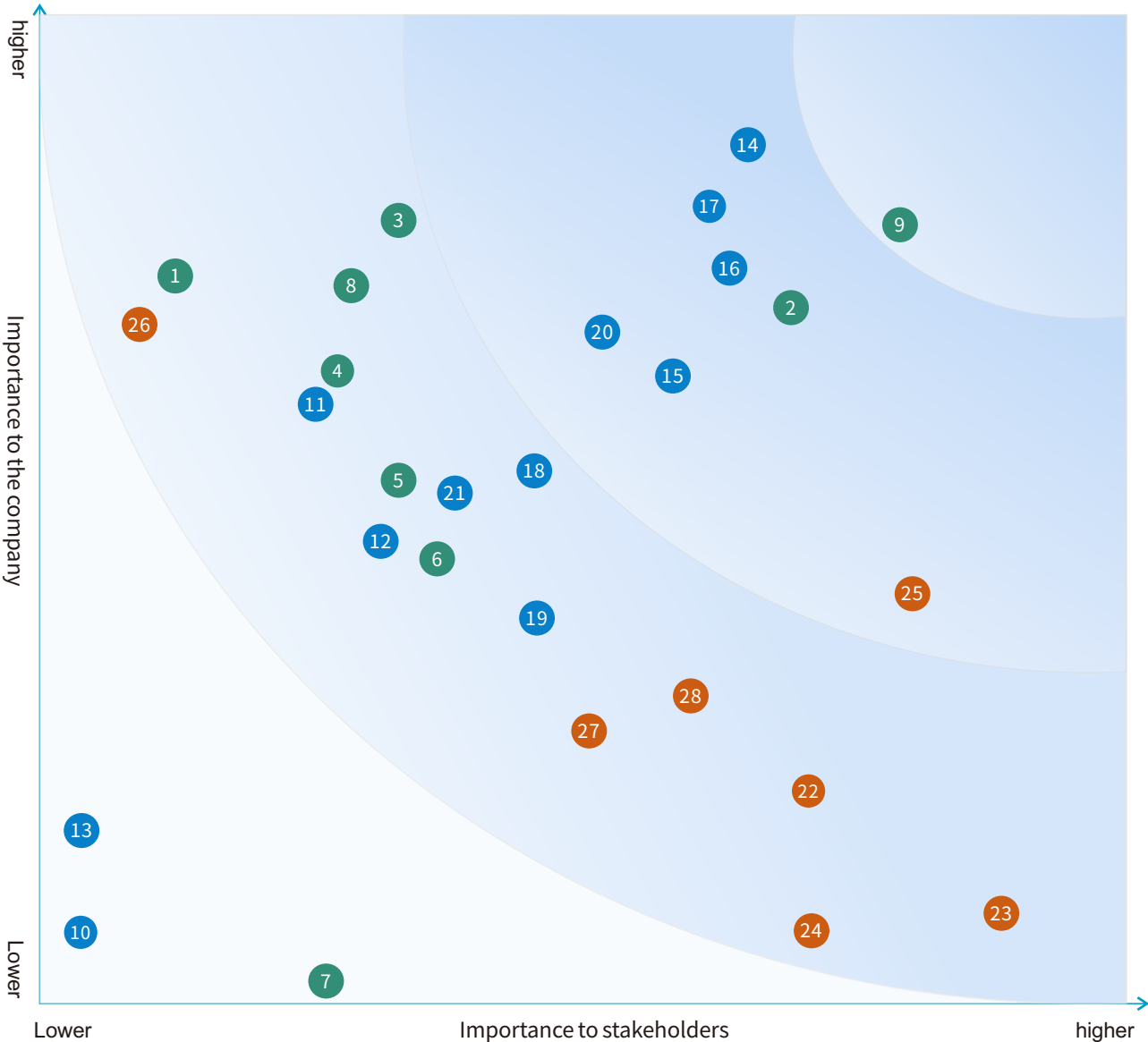
In 2024, the Company's operating revenue was RMB 38,297.85 million, a year-on-year increase of 32.8%, and employees total 11,415.



# Management of substantive issues

The Company attaches great importance to the identification and analysis of ESG material issues, standardizes the process of identifying material issues, understands and actively responds to the suggestions and expectations of stakeholders, and refers to macro policies, ESG evaluation system indicators, and industry trends, to ultimately determine 28 material issues that require focused attention. The Company prioritizes these material issues and focuses on them in ESG management through surveys of internal employees and external stakeholders such as the government, shareholders, and the public.

Analysis of macro policies	The Company grasps the national policy direction by reviewing the national “14th Five-Year Plan” ,the “carbon peaking and carbon neutrality” policy system, and interpreting industry policies such as the Equipment Manufacturing Standardization and Quality Improvement Plan and Made in China 2025” ,providing a reference for the identification of material issues.
Requirements of State-owned Assets Supervision and Administration Commission and Stock Exchange of Hong Kong Limited for social responsibility information disclosure	Documents such as Research on Preparation of ESG Special Report for Listed Companies Controlled by Central Enterprises, Climate Information Disclosure Guide and Report of the Listing Committee in 2022 provide basic references for listed companies in ESG issue identification and information disclosure.
GRI standards	The GRI Standards issued by the Global Sustainability Standards Board (GSSB) are widely referenced by mainstream ESG information disclosure guidelines and ESG ratings, serving as an important reference for companies in preparing ESG reports.
MSCI ESG rating	The MSCI ESG rating is one of the most widely used ESG rating systems globally. The MSCI ESG rating focuses on 35 key ESG issues, including pollution and emissions, human capital, data security, business ethics, etc., reflecting the priorities of the international capital market regarding corporate ESG. It assists companies to better identify material issues that need attention.
ESG issues identified by peers	Based on the Company’ s main business, ESG issues identified by benchmarking against domestic and international peers are verified and reviewed to validate the ESG issues identified by the Company.



## Environment

- 1.Environment management system

2.Waste management

3.Pollutant management
- 4.Resource use and management

5.Energy consumption and transition

6.Combat with climate change
- 7.Carbon emissions

8.Ecological and environmental protection

9.Green operation

## Society

- 10.Employment

11.Occupational health and safety of employees

12.Career development and training of employees

13.Protection of rights and interests of employees
- 14.Product quality and safety

15.Product R&D and innovation

16.Intellectual property protection

17.Customer service
- 18.Supply chain management

19.Responsible procurement

20.Promotion of industry development

21.Supporting community development

## Governance

- 22.Company governance

23.Protection of rights and interests of shareholders

24.Protection of rights and interests of investors

25.Compliance and risk control management
- 26.Anti-corruption and anti-bribery

27.Economic performance

28.ESG management



# Stakeholder communication

The Company has deeply recognized the importance of maintaining efficient communication with stakeholders during development. The Company has established diversified communication channels, to ensure the timeliness and accuracy of stakeholder communication, thereby better responding to stakeholder suggestions and expectations, supporting the achievement of the Company's strategic goals, and enabling the Company to better fulfill its corporate social responsibilities.



Stakeholder	 Government	 Shareholders/investors	 Employee	 Customer	 Public	 Supplier	 Community and non-governmental organizations
Communication methods	High-level meeting Communication meeting Information submission Conference Company announcement Information disclosure	Information disclosure Board of Shareholders Official website and WeChat official account Site visit Research meeting	Openness in government affairs Information disclosure Symposium Congress of workers and employees Training activities	Power plant service platform Hotline Business visit Business communication meeting	Information disclosure Petition Report energy conservation and emission reduction information	Supplier meeting Bidding information disclosure Strategic cooperation and agreement	Community promotion Symposium Public welfare activities
Material issues	Environment management system Pollutant management Resource use and management Combat with climate change Carbon emissions Ecological and environmental protection	Economic performance Protection of rights and interests of shareholders Protection of rights and interests of investors ESG management Compliance and risk control management Anti-corruption and anti-bribery	Occupational health and safety of employees Career development and training of employees Protection of rights and interests of employees Employment	Product quality and safety Customer service Intellectual property protection Product R&D and innovation	Energy consumption and transition Waste management Supporting community development	Supply chain management Responsible procurement Promotion of industry development	Green operation Company governance



## Establishing norms and laying the foundation

setting sailing for outstanding governance



The Company adheres to Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, thoroughly learn and implement General Secretary Xi Jinping' s important speeches and indications, deeply implements the concept that “upholding the Party’ s leadership over state-owned enterprises is a major political principle and must be upheld consistently, and establishing a modern corporate system is the direction of state-owned enterprise reform and must be upheld consistently” , and insists on integrating the strengthening of Party leadership with the improvement of corporate governance. We always firmly establish the concept of the rule of law and continuously promote the integrated construction of law compliance, risk, and internal control, to ensure lawful and compliant operation and management.





Investor relations management

The Company strictly complies with laws and regulations such as the Securities Law of the People’s Republic of China, Guidelines for Investor Relations Management of Listed Companies by the China Securities Regulatory Commission, and Securities Listing Rules of the Stock Exchange of Hong Kong Limited, and formulates the Investor Relations Management Regulations to strengthen the Company’s investor relations management, establish a positive relationship with investors, promote the realization of the Company’s market value, and provide basic institutional guarantees.

Information disclosure

Transparent information disclosure is an important measure for listed companies to respect and protect investors’ right to know. The Company continues to strengthen information disclosure to enhance investor trust and confidence. We fulfill our information disclosure obligations in accordance with laws and regulations, strictly follow relevant laws and regulations, strictly implement enterprise accounting standards, and promptly release performance reports. In 2024, the Company released a total of 48 announcements.

The Company focuses on improving the professional capabilities of the work team to strengthen information disclosure and better protect investors’ rights. The Company provides professional skills training for the Secretary of the Board of Directors and other investor relations management personnel in terms of industry information, listing regulations, corporate governance, etc. effectively enhancing the team’s professional level. In 2024, the Company actively participated in and conducted training for investor relations management personnel 3 times.

Communication with investors

The Company actively strengthens communication with investors, builds multi-channel and multi-level interaction mechanisms, and conducts investor exchange activities. In 2024, the Company held 2 performance conferences, 14 analyst and institutional research meetings, and responded to over 200 inquiries.

Holding Board of Shareholders	Shareholders are invited to attend the Board of Shareholders on site, via video, or through communication, increasing opportunities for face-to-face communication between shareholders and the Company’s management, treating all shareholders equally, and safeguarding their rights to know and make decisions on major matters of the Company.
Utilizing media promotion	The Company makes full use of media channels such as its official website to conduct promotion work, enabling investors to stay updated on the Company’s daily operations in real time. Additionally, investors can also contact the Company through various channels such as phone, fax and email.
Inviting for site visit	The Company actively invites circulating shareholding shareholders with a relatively large shareholding in a company, or shareholders who frequently call the listed company and show a high degree of concern for the listed company to visit the listed company at appropriate times. Under the premise of complying with information disclosure regulations, the Company makes detailed communication about the Company’s production and operation, and lead shareholders to visit the Company when conditions permit.
Holding research meeting	Actively invites industry professional analysts to issue analyst reports and cooperates with institutions and investors to conduct research, recording the entire research process.

Compliance management

The Company continuously promotes and improves the work related to compliance governance, continuously enhancing the compliance management level by taking the compliance system construction as the basis, the compliance review mechanism as the guarantee, and compliance training and legal education as the focus. In 2024, the Company had no unfavorable credit records; involved no debt financing fulfillment; and had no debt default event.

Compliance system construction

The Company has established and improved a hierarchical and classified “three horizontal and three vertical” system framework led by the Articles of Association. It is clearly specified that the classification is carried out horizontally according to business categories, and the layering is performed vertically according to the effectiveness of the systems. This aims to standardize the system review, focus on enhancing the normativeness and effectiveness of the systems. A compliance management system composed of the Company’s Party committee, the Board of Directors, the management, and the Risk Control and Compliance Management Committee has been established. The Company and all its subsidiaries have appointed the Chief Compliance Officer to ensure that compliance management receives due attention.

In order to ensure that the compliance system is in line with the actual situation and the system operates smoothly, the Company adheres to carrying out the evaluation work on the sorting out of systems and the effectiveness of compliance management every year. In 2024, the Company and its subsidiaries comprehensively sorted out the systems. In accordance with the requirements of internalization of external regulations and the development needs of the enterprise, 213 new systems were added, 45 systems were revised, and 77 systems were abolished. There are currently 2,611 effective systems. A total of 44 evaluation indicators for the effectiveness of the annual compliance management system were determined. Self-inspections and self-evaluations were carried out within the entire system, and subsidiaries were guided to rectify within a specified time limit.

Compliance review process

The Company continues to promote the construction of an information system for compliance management, and all compliance reviews have been fully carried out online.

Review content	The content of compliance review covers authorization approval, contract approval, legal review of major decisions made at the President’s Office Meeting, system review, etc. For significant and complex legal issues, the Company will organize relevant experts to conduct legal compliance demonstration as needed. All important matters shall be reviewed and approved by the General Counsel (Chief Compliance Officer) in accordance with institutional procedures.
Operational mechanism	Establish a “3+X” compliance management mechanism, integrate legal compliance review into business approval processes, and improve the legal compliance review mechanism for major decisions. By implementing the “3+X” joint review for major decision-making matters related to the Company’s reform and development, the Company effectively ensures that all business activities are conducted in compliance with the law. During the reporting period, the Company ensures a 100% review rate for regulations, economic contracts, and legal compliance of major decisions.

Compliance training and legal education

In 2024, the Company actively conducted various compliance training sessions, law popularization, and educational activities, to strengthen the legal and compliance awareness of leaders, cadres and employees.

Training of leaders	Enterprise leaders at all levels take the lead in respecting and studying the law, focusing on newly revised laws such as the Company Law, Anti-Monopoly Law, and Accounting Law, translating learning outcomes into practical work, and enhancing the Company's legal awareness.  Further intensify the learning and promotion of the List of Party Regulations and National Laws that Leaders Should Know, effectively improving leaders' legal awareness and concepts.
Law popularization of the Company	Organize special law popularization such as "April 15 National Security Education Day", "Civil Code Promotion Day", "Constitution Promotion Week", and "Work Safety Day". Conduct training sessions on the Company Law, Work Safety Law, and Environmental Protection Law, hold 63 legal and compliance training sessions, involving over 7,300 participants, fostering a culture of respecting, learning, abiding by, and using the law.



Company's Annual Legal Work Conference



New Company Law Training

### Case: The Electric Machinery Company was recognized as a national outstanding organization in the mid-term evaluation of the "8th five-year plan" for law popularization.

The Electric Machinery Company has achieved excellent results in cultivating a legal culture. Its diverse law popularization activities have attracted active participation from employees, creating a strong and positive legal culture within the Company, making it a unique identifier. It was awarded the title of national outstanding organization in the mid-term evaluation of the "8th five-year plan" for law popularization by the Ministry of Justice and the National Office for Law Popularization.

## Risk management

The Company continuously improves its risk prevention and control system, implements risk identification and investigation, risk control, risk reporting and early warning, etc., and strictly adheres to the requirements of the Risk Management Regulations and the Detailed Rules for Reporting Major Operational Risk Events. It rigorously implements the mechanism of "pre-event review, in-process tracking control, and post-event supervision and evaluation", integrating risk management awareness into every aspect of production and operation to ensure full coverage of the risk prevention management process.

### Risk identification and investigation

The Company continuously improves its risk management "toolbox", issued the Annual Guidelines for Assessment and Response of Major Operation Risks, established the Report on Assessment of Major Operation Risks of Enterprise and the Plan for Response of Major Operation Risks of Enterprise, comprehensively established the Three-Level Risk Database, identified 919 risks, explored the establishment of a foreign exchange loss and other overseas risk monitoring index systems, and systematically built the Company's risk management "toolbox".

The Company promotes the "listing" of annual management of major operation risks, continuously improves risk identification work, strengthens the identification and assessment of major risks in advance, and organizes the completion of annual assessment and identification work of major risks. In 2024, the Company conducted a risk scan of the entire operation process of the Company, completely identified potential major operational risks, consolidate risk response responsibilities in accordance with the principle of hierarchical management and control, and focused on the daily tracking and monitoring of the top major risks. It established the "three lists" of risk response responsibilities, risk response action items, and risk response landmark achievements, monitored risk changes quarterly, and achieved closed-loop management of annual assessment and response of major risks.

### Risk control

Fully implements the relevant requirements of the Internal Control Manual, improves the internal control system, and actively carries out self-evaluation and improvement of internal control. At the same time, the awareness of risk management is deeply integrated into daily work of employees through various incentive measures and company culture guidance, ensuring the soundness and effective execution of the Company's internal control system. In 2024, the Company had no significant or material weaknesses in internal control.



## Risk reporting and early warning

To effectively prevent and mitigate major operation risks, the Company has established a comprehensive responsibility system for reporting major operation risk events that ensures vertical connection and horizontal coordination, covering the entire process of judgment, reporting, response, tracking, monitoring, warning, notification, accountability rectification, etc. The Legal Affairs Department is responsible for collecting, organizing, and analyzing major risk event information reported by various departments and enterprises, serving as the centralized management department for reporting of major operation risk events. Business departments and affiliated enterprises are responsible for reporting and resolving major operational risk events within their organizations. Heads of various departments and principal leaders of affiliated enterprises are responsible for the authenticity and timeliness of major operation risk events reported by their organizations.

## Anti-corruption

The Company advocates the integrity philosophy of “being clean and honest, upright and fair”, strictly complies with laws and regulations such as the Supervision Law of the People’s Republic of China, CPC’s Regulations on Disciplinary Punishments, and Working Rules for Handling Reports and Accusations by Discipline Inspection and Supervision Organ, solidly advances anti-corruption work, continuously strengthens anti-corruption management, improves reporting and supervision mechanisms, deepens the construction of integrity culture, and upholds the bottom line of integrity.

## Strengthening supervision mechanism

The Company establishes a power operation restriction supervision mechanism led by intra-party supervision, with various types of supervision coordinated and integrated. The Company effectively prevents corruption among leaders, cadres, employees, and business partners by conducting supervision on matters of “decision-making on major matters, appointment and removal of important cadres, investment decisions on major projects and use of large amounts of funds”, and “implementing the spirit of eight-point decision of the CPC Central Committee on improving Party conduct”. The Company has legally established the Office of Ombudsman of the National Supervisory Commission within the Company, and taken supervisory measures such as detention, inquiry, freezing, search, and retrieval, effectively preventing bribery, extortion, and other criminal acts. In addition, the Company provides safe, fair, and confidential reporting channels, ensuring smooth access to reporting through letters, visits, calls, and online platforms, strictly handling reports according to procedures, and strengthening the protection of the informer.

## Supervision on “decision-making on major matters, appointment and removal of important cadres, investment decisions on major projects and use of large amounts of funds”

Strengthen political supervision, promote Party member leaders and cadres to strictly adhere to the decision-making procedures of “decision-making on major matters, appointment and removal of important cadres, investment decisions on major projects and use of large amounts of funds”, that is, ensure that major decisions, important personnel appointments, significant project arrangements, and the use of large funds must be collectively discussed and decided.

## Supervision on “implementing the spirit of eight-point decision of the CPC Central Committee on improving Party conduct”

Supervise the implementation of the spirit of eight-point decision of the CPC Central Committee on improving Party conduct and its enforcement regulations, enforce Party discipline supervision, strictly prohibit inappropriate behaviors such as using public funds for gifts and seeking personal gains through official duties, and vigorously investigate and punish disciplinary violations.

## Supervision on key production and operation links

Supervise key links in production and operation such as bidding and material procurement, strengthen integrity supervision over employees and business partners, seriously investigate and deal with illegal and disciplinary violations such as “taking advantage of one’s position in an enterprise to seek personal gains from the enterprise” and benefit transfer, and preventing integrity risks in production and operation.

## Deepening integrity education

In accordance with the requirements of the Company’s Work Measures on Strengthening Integrity Culture Construction in the New Era, the Company actively conducts anti-corruption and anti-bribery training and warning education activities, deepening integrity culture construction. In 2024, the Company organized the leadership team and relevant colleagues from the headquarters to visit and study at the Heilongjiang Provincial Integrity Education Base, carrying out integrity warning education, and promoting the effectiveness of the Company’s Party discipline education.



## Strict discipline enforcement and accountability

The Company deeply studies and implements General Secretary Xi Jinping’s important thoughts on the Party’s self-revolution, thoroughly implements the deployment of the conference of heads of central enterprises and the work conference on Party conduct and upholding integrity construction and anti-corruption work of the State-owned Assets Supervision and Administration Commission of the State Council, strengthens the Party’s discipline construction within the Company, maintains a “zero tolerance” attitude towards disciplinary violations and illegal acts, ensuring that every case is discovered and dealt with, enhancing the deterrent effect, and promoting new achievements in the Company’s comprehensive and strict governance of the Party.



## Lush greenery■

building an ecological home together








The Company continues to strengthen environmental management, enhance environmental risk emergency management capabilities, continuously increase investment in environmental protection, and actively fulfill environmental responsibilities.

## Environment management system

The Company strictly complies with the Environmental Protection Law of the People's Republic of China and other environmental protection laws and regulations, and formulates internal systems such as the Quality, Environment, Occupational Health and Safety Management Manual and the Energy Conservation and Environmental Protection Management Measures. The Company and its manufacturing enterprises have prepared environmental and occupational health and safety management manuals and procedure documents in accordance with the ISO14001 environmental management system, comprehensively assessing and analyzing their own environmental impact factors, and continuously optimizing environmental management quality through standardized management workflow.



The Company complies with the Company Law of the People's Republic of China and other relevant laws and regulations, establishes a corporate governance system centered on the Articles of Association, and constructs a corporate governance architecture of "three boards and one layer", which consists of the Board of Shareholders, Board of Directors, Board of Supervisors and senior management. To ensure the effective operation of the Company's environmental management system, the Company has established the Occupational Health, Safety, and Environmental Management Committee to oversee the Company's safety and environmental protection work, and has set up the Safety, Environmental Protection, and Quality Department responsible for organizing and carrying out specific environmental protection tasks. Each affiliated enterprise has established its own Occupational Health, Safety, and Environmental Management Committee to oversee its safety and environmental protection work, and has the Environmental Protection Department responsible for the specific implementation of environmental monitoring, waste management, environmental protection investment, environmental technology improvement, etc. On this basis, the Company actively implements internal and external environmental management measures:

	Regularly communicate with the government's regulatory agencies, industry associations, customers, and other stakeholders to understand their expectations for environmental management and incorporate them into the management scope.
	Pay close attention to feedback from the residents in communities surrounding the factories to avoid inconvenience to surrounding residents due to shortcomings in environmental management.
	Affiliated enterprises establish internal management procedures to promptly handle, investigate, rectify, and review complaints from communities or local residents and other stakeholders, continuously improving the effectiveness of environmental management.
	Strengthen the supervision and accountability of affiliated enterprises, all affiliated enterprises have signed safety and environmental protection responsibility agreements, incorporating issues such as failure to implement energy conservation and ecological environmental protection responsibilities, inadequate performance of duties, and sudden environmental pollution incidents into accountability matters.
	Taking advantage of promotion opportunities such as "June 5" World Environment Day, "April 22" Earth Day, and National Low Carbon Day, we widely conduct environmental protection and green low-carbon promotion activities using various media forms such as electronic screens, and broadcasts, mobilizing employees to participate in ecological environmental protection and practice green low-carbon production and lifestyles.
	We conduct training on environmental protection laws and regulations, Company's environmental protection systems, hazardous waste management, and emergency plans for sudden environmental accidents, organize environmental knowledge competitions, with nearly 5,000 participants, significantly enhancing the environmental protection awareness of employees.



Waste Sorting Science Popularization Activity on Environment Day



Large Screen Promotion on Environment Day

In accordance with the Technical Guidelines for Formulating Emergency Emission Reduction Measures for Key Industries in Heavy Pollution Weather (Edition 2020) issued by the Ministry of Ecological Environment and the emergency plans for heavy pollution weather in Harbin, the Company guides affiliated companies to formulate the Emergency Plan for Sudden Environmental Events, to conduct environmental risk identification and evaluation, to formulate the List of Environmental Factors, to strengthen dynamic risk management, to formulate environmental risk emergency drill plans, and to organize emergency drills for sudden environmental events such as chemical leaks and environmental pollution, thereby enhancing the enterprise's ability to respond to environmental risks.

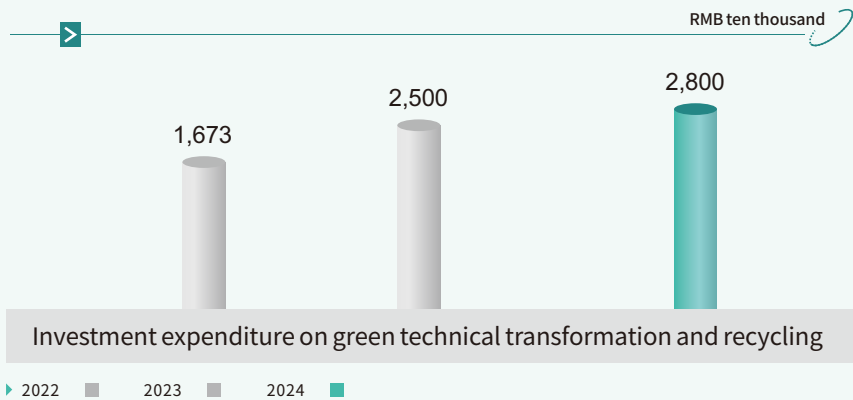


Emergency Drill for Emulsion Leakage Accident by Turbine Company



Emergency Drill for Radiation Accident by Heavy Equipment Company

- 2024 The emergency plans for sudden environmental events formulated by the Company have been approved and filed by the local ecological environment bureau
- The Company and its affiliated manufacturing enterprises have all passed the environmental management system certification





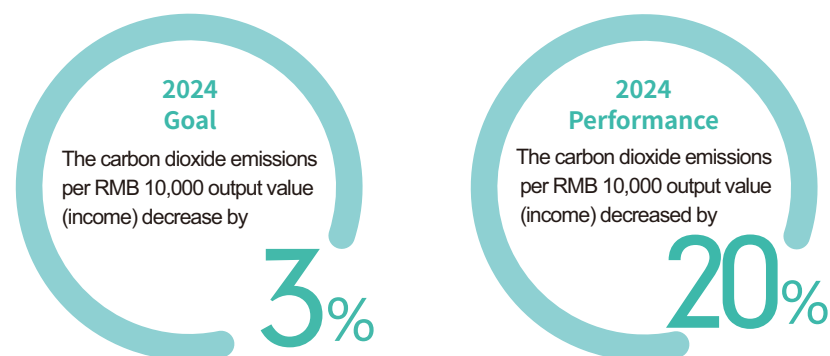
## Combat with climate change

The Company actively promotes green and low-carbon transformation and development, proactively identifies and analyzes the potential impact of climate risks and opportunities on the Company's operations, takes response measures based on the different identification results to manage the impact that climate change brings to the Company, and strives to transform towards a greener, win-win, and sustainable “zero-carbon” future.

### Climate change governance

By incorporating green and low-carbon development into its overall development strategy and overall plan for “14th Five-Year Plan”, the Company releases and implements the Energy Conservation and Environmental Protection Development Plan for “14th Five-Year Plan” to actively optimize the development of green and low-carbon industries, build a green and low-carbon manufacturing system, strengthen green and low-carbon lean management, continuously accelerate the Company's green and low-carbon transformation, and actively and steadily promote the achievement of carbon peaking and carbon neutrality.

### Combat with climate change



The Company includes low-carbon development indicators such as energy conservation and environmental protection indicators as binding indicators in the annual business performance assessment of management and affiliated companies. It organizes the selection of advanced organizations and individuals in safety and environmental protection annually, and rewards organizations and individuals who have made outstanding achievements in implementing energy conservation, emission reduction, and carbon reduction. It vigorously carries out special rectification of key energy-consuming equipment and facilities, strictly enforces mandatory standards for energy consumption and emissions, and promotes the complete elimination of high-energy-consuming motors below the national access level.

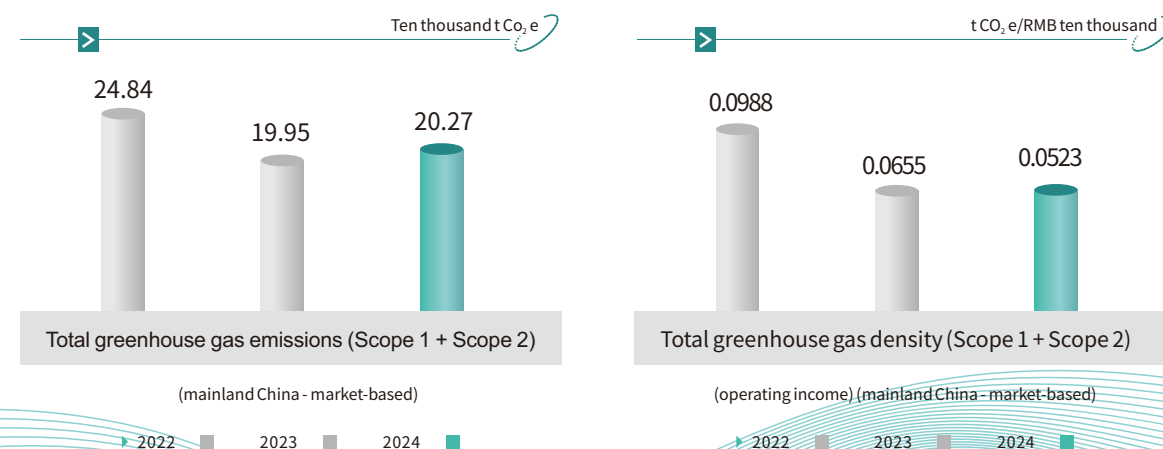
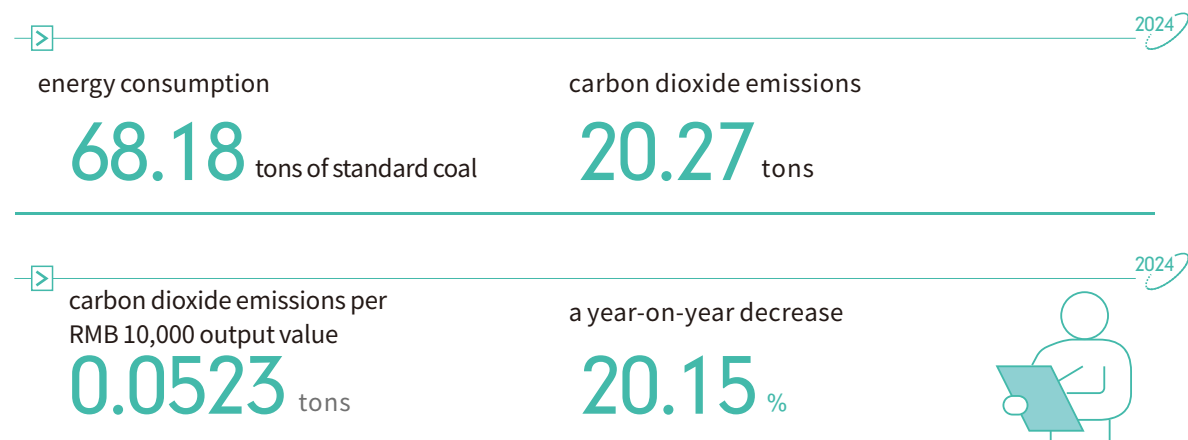
### Carbon emission management

According to the Guidelines for Accounting and Reporting of Greenhouse Gas Emissions from Machinery Equipment Manufacturing Enterprises (Trial) and General Principles for Accounting and Reporting of Greenhouse Gas Emissions from Industrial Enterprises, the Company continuously strengthens greenhouse gas emission monitoring and management, and formulates green and low-carbon management systems, namely Carbon Emission Management Rules and Green and Low-carbon Management Rules, for standardizing the statistical caliber and accounting methods for energy consumption, carbon emissions, and pollutant emissions. It establishes its green and low-carbon evaluation and assessment standards, further improves its green and low-carbon institutional system, statistical system, and assessment system, and sets up a carbon emission statistical reporting system to regularly collect and summarize emission data from various enterprises and report it to relevant departments. The Company's carbon emissions mainly come from greenhouse gases generated by the direct combustion of fossil fuels such as natural gas, gasoline, and diesel in the production process of its affiliated companies, as well as greenhouse gases converted from the net purchased electricity and heat in daily office and production operations.

The Company vigorously implements the green and low-carbon development strategy, adheres to the development direction of high-end, intelligent, and green businesses, collaboratively promotes carbon reduction, pollution reduction, green expansion, and growth, accelerates the green transformation of development methods, and actively and steadily advances carbon peaking and carbon neutrality, contributing the Corporation's strength to accelerate the construction of China's new energy system and ensure energy security. According to China's “carbon peaking and carbon neutrality strategy guidance and the Company's current situation, the Action Plan for Achieving Peak Carbon Dioxide Emissions is formulated.

To earnestly fulfill its energy conservation and emission reduction responsibilities, promote internal management, and continuously explore internal energy conservation potential, the Company establishes a Register of Updated Equipment in Key Areas for list-based, register-based, and grid-based management of equipment.

In addition, the Company is committed to advocating and promoting energy conservation and carbon reduction, actively publicizing relevant national policies, widely popularizing basic knowledge of energy conservation and emission reduction, and creating a good atmosphere for energy conservation and consumption reduction. On this basis, the Company actively promotes advanced experiences and practical technologies. Through the application of the office automation system, online management of processes such as document circulation, administrative approval, and vehicle application has been achieved, effectively reducing carbon emissions during operations. The Company actively practices the green and low-carbon philosophy and promotes energy conservation and emission reduction by implementing specific measures such as “turning off lights when leaving” and saving water.










Energy management

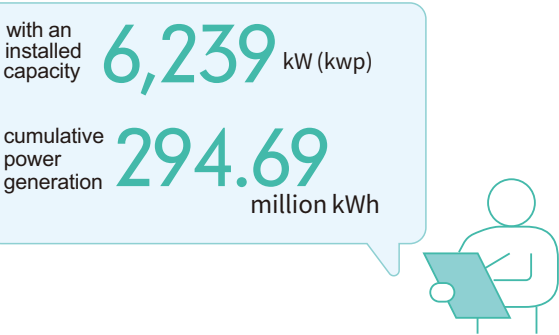
The Company attaches great importance to energy management. In accordance with the Energy Law of the People's Republic of China, Law of the People's Republic of China on Energy Conservation, and Supervision and Management Measures for Energy Conservation and Ecological Environmental Protection of Central Enterprises, it formulates a series of internal regulations such as the Management Measures for Energy Conservation and Environmental Protection, Green and Low-carbon Management Rules, Environmental Protection Reward and Punishment Measures, and Company Energy Plan Outline. It requires subsidiaries to establish energy management systems based on ISO 50001:2018 requirements, to implement energy management projects within respective subsidiaries, and to continuously strengthen energy control.

The Company implements energy management from two aspects: reducing energy consumption and expanding the layout of clean energy. Each affiliated company conducts analysis and evaluation of energy consumption and energy utilization status for key energy-consuming units, and compiles energy utilization analysis reports, energy conservation self-inspection reports, etc., to provide references for the formulation and adjustment of energy policies and the improvement of energy utilization efficiency. At the same time, the Company strengthens the management of key energy-consuming equipment and energy metering facilities, and further standardizes the basic work of energy consumption data monitoring, metering, and statistics, to facilitate timely understanding of energy usage and the formulation of scientific and reasonable energy conservation measures. In addition, the Company also strengthens energy inspections to further increase the rectification of phenomena such as escaping, emitting, leaking and dripping based on on-site lean management and reduce unnecessary energy losses.

Measures and achievements

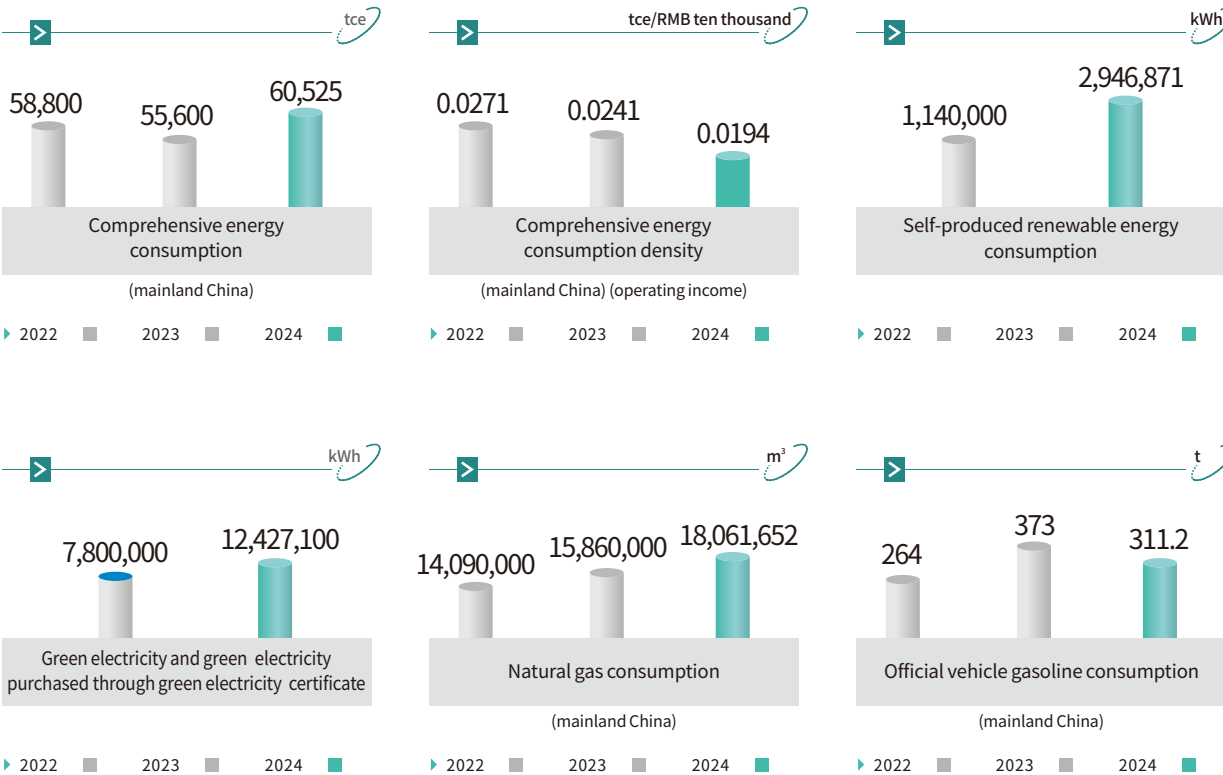
	The Company actively promotes affiliated companies to carry out clean production audits, with Electric Machinery Company, Boiler Company, and Heavy Equipment Company passing the clean production audits.
	The Company carries out special rectification of key energy-consuming equipment and facilities, strictly enforces mandatory standards for energy consumption and emissions, and promotes the complete elimination of high-energy-consuming motors below the national access level. In 2024, 792 key energy-consuming equipment, including boilers, motors, transformers, refrigeration and heating compressors, heat exchangers, pumps, and kilns were updated.
	The Company continuously promotes energy-saving and carbon-reducing transformation of lighting fixtures, with energy-saving lighting equipment accounting for more than 80%.
	The Company promotes the utilization of waste heat and pressure. It gradually upgrades and transforms air compressors, heat treatment furnaces, etc., by installing waste heat recovery system to strengthen the utilization of waste heat and pressure and improve energy utilization efficiency.
	The Company promotes the transformation of energy-consuming structure towards green and low-carbon structure. encourages affiliated companies to purchase green electricity, build rooftop photovoltaic power generation projects according to local conditions, construct clean lighting systems, and promote the construction and application of industrial green microgrids to increase the proportion of clean energy. Seven manufacturing enterprises have all built comprehensive intelligent lighting systems and wind-solar complementary factory lighting systems; Electric Machinery Company and other companies have built fiber optic lighting systems, saving about 82,000 kWh of electricity annually.

In terms of energy types, the Company and it's affiliated companies are mainly concentrated in the production and manufacturing of power equipment and daily office operations using traditional energy sources such as electricity, gasoline, and diesel, as well as clean energy sources such as natural gas and solar energy. The Company's affiliated companies have built several distributed photovoltaic power generation projects, with an installed capacity of 6,239 kW (kwp) and a cumulative power generation of 2.9469 million kWh in 2024.

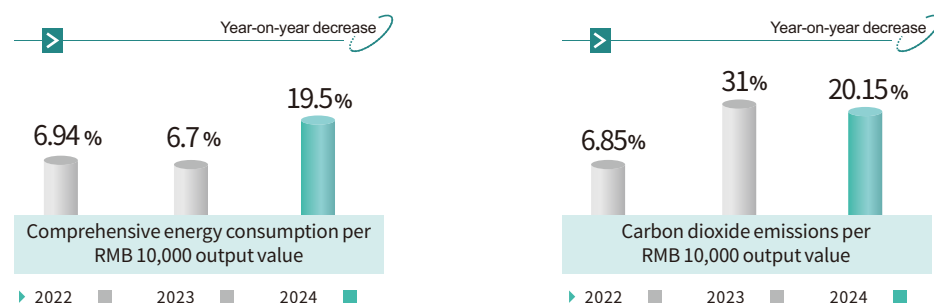


The Company and partners conduct in-depth exchanges on deepening cooperation in traditional energy fields, expanding new energy, new energy storage, and international industrial cooperation with an aim of accelerating the transformation of energy and electricity and jointly serving local economic and social development. With a focus on strengthening key energy project construction, key technology R&D, industrial system optimization, both parties enhance collaborative innovation between industrial chain and supply chain, and jointly serve the national energy security strategy. At the same time, by fully leveraging respective advantages, both parties reach cooperation consensus in technological innovation, energy equipment manufacturing, new energy project development, and overseas business expansion, jointly promote the construction of a new power system and the high-quality development of the energy industry, and contribute to local economic and social development and the implementation of the national energy strategy.

Indicator







## Achievement of energy use efficiency goals



## Green operation

The Company promotes in-depth implementation of green factory transformation in its manufacturing enterprises. It continuously carries out the creation of green workshops, improves the operational level of green factories by taking green workshops as an starting point, and further explores the potential of green factories for energy conservation and carbon reduction. It also organizes enterprises to carry out carbon emission verification, carbon footprint certification management, and promotes the pilot creation of “zero-carbon factories” and “carbon emission management system” certification in Heavy Equipment Company.

 <p>Green office</p>	<p>Advocate saving office paper, promote paperless office through online processes; print materials according to standard layout, double-sided printing, and reduced copying; call for the use of e-books.</p>
 <p>Green lighting</p>	<p>Deepen the transformation of green lighting, promote the proportion of energy-saving lamps in major manufacturing enterprises to exceed 80%, actively advance the construction of comprehensive intelligent lighting systems, wind-solar complementary factory lighting systems, and optical fiber lighting systems.</p>
 <p>Green certification</p>	<p>The Boiler Company, Turbine Company, Electric Machinery Company, Heavy Equipment Company, and Valve Company have all passed the national “green factory” certification; the Turbine Company and Electric Machinery Company have passed the national “green product design” demonstration enterprise certification; the Boiler Company, Valve Company, and Electric Machinery Company have passed the national “green supply chain” demonstration enterprise certification.</p>
 <p>Reward and punishment system</p>	<p>Develop the energy conservation and environmental protection development plan for “14th Five-Year Plan” and annual energy conservation and environmental protection work plan, clarify the reduction goals in unit energy consumption and carbon emission intensity, sign annual safety and environmental protection liability statements, strengthen process inspection and early warning throughout the year, and conduct year-end assessments to ensure the completion of annual goals and tasks.</p>

## Case: Construction of green lighting system by Heavy Equipment Company

The comprehensive intelligent lighting system of Heavy Equipment Company can operate intelligently according to different usage scenarios, automatically start and stop, adjust brightness, and monitor energy consumption data in real time. This achieves a 50% reduction in the installed power of the lighting system, a reduction of 1,095 h in annual operation time, a 60% reduction in energy consumption, an annual energy saving of 1.7432 million kWh, an annual reduction of 1,014.54 tons of carbon dioxide emissions, and a reduction of 770 h in time spent on light switching, meter reading, and energy consumption analysis.



## Green building

The Company actively pushes energy conservation and carbon reduction renovations for old buildings, organizes special rectification of old buildings, promotes the application of green building materials, and implements green and carbon-reducing upgrades to building walls and supporting facilities.

## Case: Green building renovation by Heavy Equipment Company

Heavy Equipment Company actively explores near-zero-carbon buildings. The exterior walls of its comprehensive testing building and auxiliary production building in the factory area are equipped with ACC boards with excellent thermal insulation properties. Compared with traditional insulation materials, ACC boards can effectively reduce heat loss and have good thermal insulation characteristics. They can keep the buildings warm in winter and cool in summer, effectively reducing building energy consumption and achieving significant energy conservation effects. The building roofs are also equipped with solar thermal systems, solar water heaters, and rooftop photovoltaic power generation projects equipment, achieving alternative use of renewable energy.



## Environmental protection training

- Organize study of General Secretary Xi Jinping's important expositions on ecological civilization, and relevant responsible persons and business personnel of affiliated companies to participate in the 2024 training class on “Studying Xi Jinping's Ecological Civilization Thought and Typical Cases on Promoting Green and Low-carbon Development of Enterprises” through “SASAC app” .
- Conduct carbon reduction training for comprehensively interpreting the national “carbon peaking and carbon neutrality” policy and sharing successful experiences in creating “zero-carbon factories” and energy conservation and emission reduction technology cases, and enhance the energy conservation and carbon reduction responsibility awareness and management capabilities of cadres and employees.
- Organize the “Safety and Environmental Protection Micro-course Competition” . During the competition, 131 micro-course works were collected, and 30 outstanding works were selected from them for broadcast on the Company's various network media platforms to guide employees to firmly establish green safety philosophy and improve safety and environmental protection literacy.
- Actively carry out promotional activities such as Energy Conservation Week, National Low Carbon Day, and “June 5” World Environment Day, summarize and promote excellent green development cases, and advocate for green and low-carbon production and lifestyles.
- Strengthen the cultivation of professional talent teams, organize training for green and low-carbon related personnel to obtain energy manager and carbon emission manager certificates, and enhance the professional quality and business level of managers.





Zero-carbon Factory Training



Low-carbon and Green System Training

## Environmental initiatives



Organize affiliated companies to widely carry out environmental protection and green and low-carbon promotional activities using various media forms such as electronic screens, broadcasts, and official accounts.



Mobilize employees to participate in ecological environmental protection and practice green and low-carbon production and lifestyles.



Organize affiliated companies to participate in the Energy Conservation Week knowledge quiz, and enhance employees' awareness and ability of energy conservation and carbon reduction.



Carry out the theme promotion of "green transformation, energy conservation" through multiple channels. During the event, more than 500 promotional posters were posted, more than 20 promotional micro-videos were produced, more than 60 banners were hung, and more than 50 display boards were made, actively creating a strong atmosphere for energy conservation and carbon reduction, enhancing employees' awareness of resource crisis and conservation, and increasing their sense of urgency and responsibility.

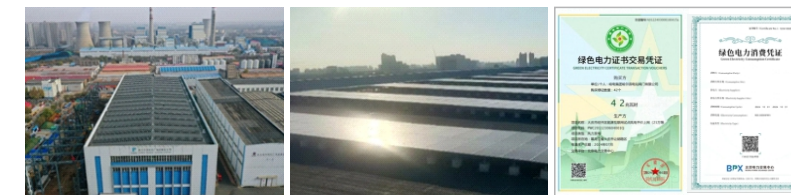
### Case: Turbine Company fills the gap in the field of large-scale thermocline heat storage tanks in China

The thermocline energy storage technology developed by Turbine Company was selected in the Recommended Catalogue of Energy Conservation and Carbon Reduction Technology Equipment in the Field of National Industrial and Information (Edition 2024) and Recommended Catalogue and Application Guide Case of Green Equipment Updated from Large-scale equipment in Industrial Field. The technology is applicable to industries such as energy storage, combined heat and power generation, and solar power generation. It achieves simultaneous storage of cold and heat media, simplifies the layout of cold and heat medium storage systems in power plants, effectively realizes thermoelectric decoupling and flexible peak shaving, improves the flexibility of unit operation, and can also perform peak shaving for heating units to increase their peak load capacity. It has been successfully applied in the renovation projects of Huaneng Dandong Power Plant and Datang Liaoyuan Power Plant. The heat storage tank in Datang Liaoyuan Power Plant is the first large-scale thermocline heat storage tank in China with an effective volume of 26,000 m<sup>3</sup>, filling the gap in the field of large-scale thermocline heat storage tanks in China.



### Case: Transformation of energy-consuming structure towards green and low-carbon structure

Affiliated companies actively purchase green electricity, build photovoltaic power generation projects, and construct clean lighting systems to increase the proportion of clean energy. In 2024, Heavy Equipment Company and Valve Company purchased 12.45 million kWh of green electricity throughout the year, reducing carbon dioxide emissions by approximately 7,200 tons; Turbine Company and Electric Machinery Company newly built rooftop photovoltaic power generation projects with an installed capacity of 5.06 MW (peak) and completed grid-connected power generation, with an average annual power generation of about 5.61 million kWh, reducing carbon dioxide emissions by 3,200 tons.



### Case: Turbine Company and Electric Machinery Company win two Asian Power Awards

The Integrated Energy Station Project of Guangdong Energy Group Co., Ltd. in Huizhou Daya Bay Petrochemical Zone to which Turbine Company and Electric Machinery Company supplied equipment was put into operation with high quality, becoming the first integrated energy demonstration base project in China that combines hydrogen energy utilization. Compared to pure natural gas fuel, the two units can reduce carbon dioxide emissions by up to 58,630 tons, which significantly contributes to mitigating global climate change, reduces greenhouse gas emissions, and achieves sustainable development goals.



## Pollutant and environmental impact management

The Company attaches great importance to the management of wastewater, exhaust gas, and solid waste. In accordance with laws and regulations such as the Law of the People's Republic of China on the Prevention and Control of Water Pollution, Law of the People's Republic of China on Prevention and Control of Air Pollution, Law of the People's Republic of China on the Prevention and Control of Soil Pollution, Law of the People's Republic of China on the Prevention and Control of Noise Pollution, and Regulations on the Administration of Pollutant Discharge Permits, the Company formulates the Management Measures for Energy Conservation and Environmental Protection and List of Corporate Responsibilities for Energy Conservation and Environmental Protection to provide scientific and effective management measures to reduce pollutant emissions, protect water, air, and soil environmental quality, build a good ecological environment, and standardize waste management.

The Company actively conveys the spirit of the central enterprise ecological environmental protection work conference and warning education conference held by the State-owned Assets Supervision and Administration Commission of the State Council, issues the Notice on Effectively Strengthening Ecological Environmental Protection, requiring all enterprises to deeply study Xi Jinping's ecological civilization thought, further advance the battle against pollution, strengthen pollution reduction and system efficiency enhancement, improve the environmental supervision system, and ensure that all affiliated companies firmly establish ecological environmental protection awareness. During the reporting period, the compliance disposal rate of hazardous waste by affiliated companies was 100%.

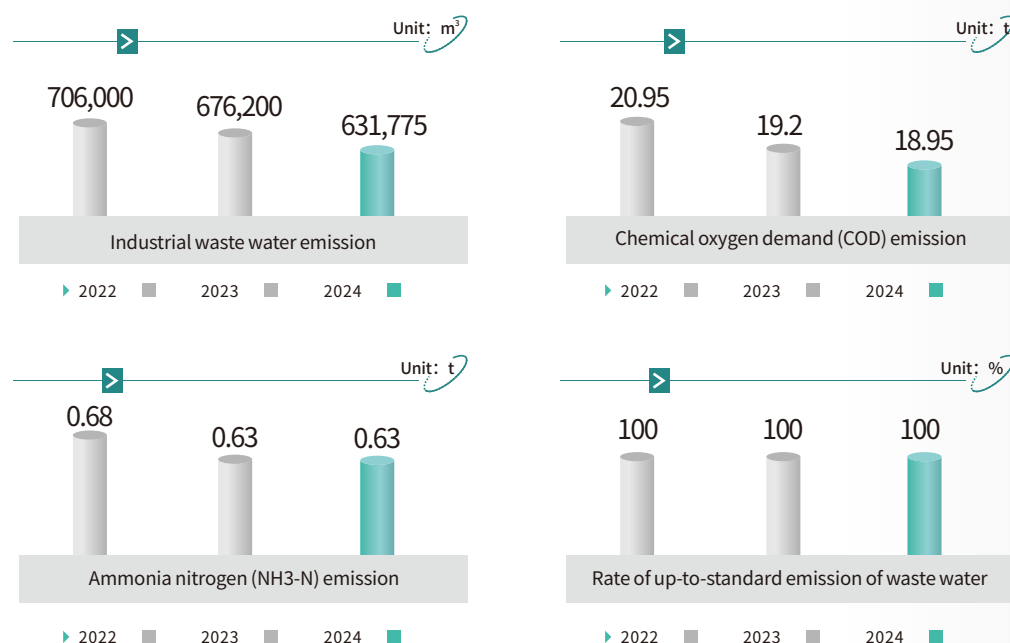


## Waste water management

The Company's manufacturing enterprises generate a certain amount of wastewater during production, mainly including domestic wastewater and water for hydraulic test. Adhering to the principle of "separating rainwater and sewage and conducting comprehensive treatment", relatively independent rainwater, domestic sewage, and production wastewater pipelines, domestic sewage treatment stations, and production wastewater treatment stations have been constructed. A variety of treatment methods and sewage management methods such as chemical and biochemical methods are adopted to ensure that wastewater discharge complies with relevant national and regional standards and policy requirements. The Company's affiliated companies apply for pollutant discharge permits in accordance with the law, discharge pollutants according to the permits, and regularly entrust qualified third-party testing companies to conduct tests based on the requirements of the pollutant discharge permits to ensure that wastewater discharge meets standards. During the reporting period, wastewater treatment facilities operated well and all met the GB8978-1996 Integrated Wastewater Discharge Standard.

### Construction and operation of wastewater pollution prevention facilities

- Process routes and manufacturing technologies that consume less water, are non-toxic, and do not cause pollution or relatively light pollution to the water environment are used to reduce the generation of wastewater and pollutants at the source;
- Industrial wastewater treatment stations and production wastewater treatment stations are set up. Domestic sewage is discharged into domestic sewage treatment stations, treated by the A2O process, and discharged after meeting standards; production wastewater is discharged into production wastewater treatment stations, treated by processes such as acid pickling, coagulation, flocculation, neutralization, and oxidation, and discharged after passing the inspection of online monitoring equipment for water pollution sources;
- High-concentration ionized water generated during the preparation of deionized water is recycled to reduce wastewater generation at the source. The recycling rate of deionized water reaches 20%, saving 1,200 tons of water annually;
- Regular inspections for the prevention and control of water pollution are conducted, standardized sewage discharge outlets are set up, and online sewage monitoring equipment is installed to monitor water quality in real time and avoid water pollution incidents;
- Monthly wastewater comparison monitoring and quarterly wastewater monitoring are conducted as required;
- The reuse of wastewater is continuously increased and air conditioning condensate water is used for greening to improve water resource recycling.



## Waste gas management

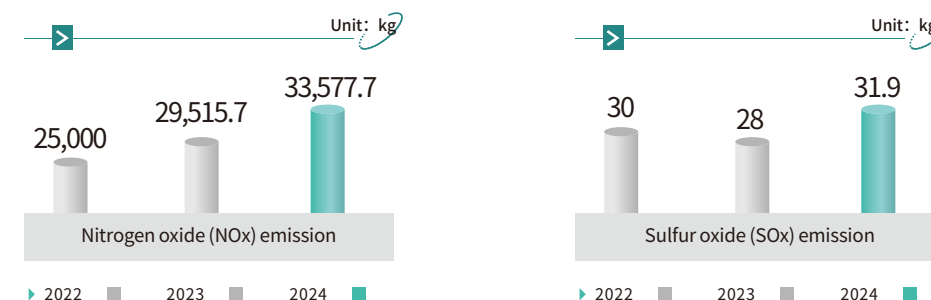
The Company's manufacturing enterprises generate a certain amount of waste gas during production, mainly including process waste gas, volatile gases from hazardous waste warehouses, and coating waste gas. Adhering to the principle of "source control, process management, and end compliance" for waste gas treatment, a comprehensive waste gas collection, treatment, and monitoring system has been established. A variety of technologies and methods such as volatile gas collection and treatment, activated carbon adsorption, catalytic combustion, and desulfurization devices are adopted to ensure that waste gas emissions comply with relevant national and regional standards and policy requirements. The Company's affiliated companies apply for pollutant discharge permits in accordance with the law, discharge pollutants according to the permits, and regularly entrust qualified third-party testing companies to conduct tests based on the requirements of the pollutant discharge permits to ensure that waste gas emission meets standards. During the reporting period, waste gas treatment facilities operated well and all met relevant emission standards.

### Construction and operation of waste gas pollution prevention facilities

- Volatile gas collection and treatment equipment is installed in hazardous waste warehouses to prevent unorganized emissions of waste gas.
- The maintenance of organic waste gas treatment facilities is strengthened, the replacement of activated carbon is completed as required, the normal operation of waste gas treatment equipment is guaranteed, and waste gas emissions are reduced.
- Desulfurization devices are installed at the front end of the natural gas heat treatment furnaces to reduce sulfur dioxide emissions in the flue gas.
- Retractable and fixed spraying shops are set up, and a treatment process of filter cotton adsorption + boiling water adsorption + catalytic combustion is adopted to effectively treat coating waste gas, ensure that the waste gas generated during the coating process meets emission standards, and achieve compliant emissions.
- Waste gas pollution prevention facilities are regularly maintained, standardized waste gas discharge outlets are set up, and VOC online monitoring equipment and boundary VOC online alarms are installed to monitor waste gas emissions in real time and avoid non-compliant emissions.
- Quarterly waste gas comparison monitoring and quarterly waste gas monitoring are conducted, and a third party is entrusted to conduct waste gas testing every quarter to ensure that waste gas emissions meet standards.
- Quarterly waste gas testing for sulfur dioxide, nitrogen oxide, particulate matter, non-methane hydrocarbon, benzene, toluene, and xylene is conducted, and comparison of waste gas from fixed pollution sources in the spraying shop by automatic monitoring equipment is carried out.

In 2024, the Company's sulfur dioxide emissions per RMB 10,000 output value decreased by **18%** compared to 2023

the Company's volatile organic compound emissions per RMB 10,000 output value decreased by **65%** in 2024.



### Case: Waste gas pollutant control

The Valve Company strengthens air pollution control measures, completes the upgrade and transformation of the automatic painting line, upgrades and installs waste gas treatment facilities, and installs catalytic combustion devices to reduce volatile organic compound emissions.

The Heavy Equipment Company builds zeolite + catalytic combustion waste gas treatment facilities for efficiently converting harmful substances in the waste gas into harmless substances, with a treatment efficiency of  $\geq 92\%$ , and installs VOC online monitoring equipment to establish a comprehensive waste gas treatment and monitoring system and ensure that waste gas emissions always meet standards.



### Waste management

The Company attaches great importance to waste management and strictly complies with regulations such as the Environmental Protection Law of the People's Republic of China, Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste, Management Measures for the List of Key Units under Environmental Supervision, Measures for the Management of Hazardous Waste Transfer, Management Measures for the Legal Disclosure of Environmental Information by Enterprises, Standard for Pollution Control on the Non-hazardous Industrial Solid Waste Storage and Landfill, and Standard for Pollution Control on Hazardous Waste Storage. The Company's solid waste is mainly generated during processes such as mechanical processing, overhaul and repair, welding operations, and sandblasting operations. The Company collects the generated solid waste in accordance with national standards and requirements, temporarily stores it in a solid waste storage site, and entrusts qualified disposal manufacturers for compliant disposal. The Company's temporary solid waste storage site complies with the technical requirements of the Technical Guidelines for Solid Waste Treatment & Disposition Engineering.

For hazardous waste generated in the Company's business activities, the Company uniformly collects it in a dedicated warehouse for temporary storage, and then hands it over to qualified third-party hazardous waste disposal manufacturers for transfer and disposal. The collection, storage, transfer, and disposal of hazardous waste all comply with relevant national laws and regulations. In 2024, the Company's hazardous waste disposal rate was 100%.

The Company standardizes the management of key processes such as the generation, collection, storage, transfer, and disposal of general industrial solid waste and hazardous waste in accordance with solid waste classification standards. It promotes the use of intelligent management system for hazardous waste, introduces intelligent hazardous waste terminal machines, and conducts information-based management for the storage and transfer processes of hazardous waste.



The disposal rate of hazardous waste **100%**

The comprehensive utilization rate of general industrial solid waste **100%**

### Harmless wastes

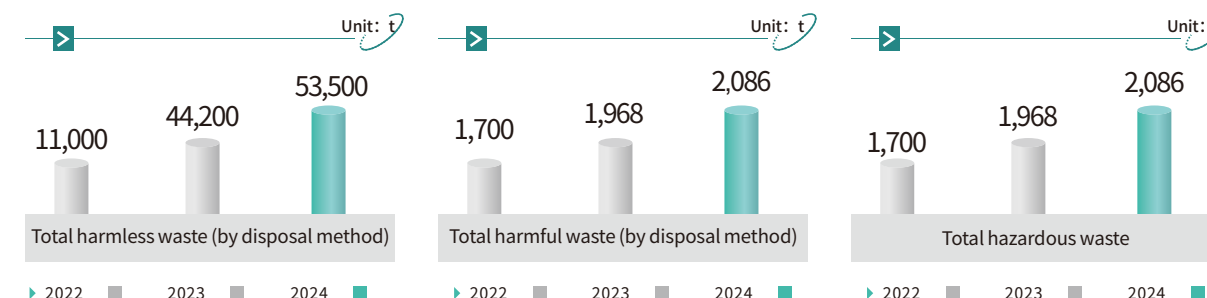
The Company implements a series of measures for solid waste reduction management, improves the utilization rate of raw materials and product quality through production process improvements, thereby reducing the reject rate. At the same time, it details the technical and environmental standards of purchased products and materials in the bidding documents of the procurement project, which stipulates the priority selection of products with energy efficiency labels, green water-saving certifications, and environmental labels, effectively reduces the use of excessive packaging and disposable articles.

The Company steadfastly implements green and sustainable development, and independently conducts clean production audits, strengthens institutional construction, and actively promotes waste reduction, harmless treatment, and resource utilization according to the Law of the People's Republic of China on the Prevention and Control of Solid Waste Pollution. In 2024, the Company achieved a 100% substitution rate for non-copper welding materials and a 100% comprehensive utilization rate of general industrial solid waste, achieving good economic benefits.

### Harmful wastes

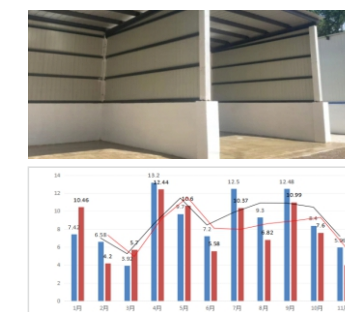
The Company actively promotes the replacement of oil-based paints with water-based paints, achieving a substitution rate of over 80%. The Turbine Company launches a special rectification of waste emulsion, establishes a lean project titled Reducing the Monthly Generation of Waste Emulsion per RMB 10,000 Output Value. This organically integrates lean management with environmental pollution control, resulting in a 25.55% year-on-year reduction in waste emulsion generation, achieving source reduction of hazardous waste.

The Company actively promotes the application of water-based paints. Water-based paints are more environmentally friendly than traditional solvent-based paints, containing no harmful substances and having minimal impact on human health and the environment. In 2024, the Company has promoted the application of water-based paints in key enterprises and actively collaborated with suppliers to develop new products for gradual expansion of the scope of application. The promotion of water-based paints can reduce the generation of hazardous waste and pollutants, and also lower the safety risk level at the worksite.



### Case: Lean waste management at Turbine Company

Turbine Company has formed a network management system for waste materials. The 110,743.71 tons of waste steel, leftover materials, scrap metal, and metal shavings generated during production are all comprehensively utilized by small-scale recycling enterprises, achieving full traceability from generation to comprehensive utilization. The Turbine Company further strengthens pollution prevention measures throughout the entire process of solid waste generation, collection, storage, transportation, utilization, and disposal. It upgrades and renovates solid waste storage facilities, launches a special rectification of waste emulsion, This results a 25.55% year-on-year reduction in waste emulsion generation.





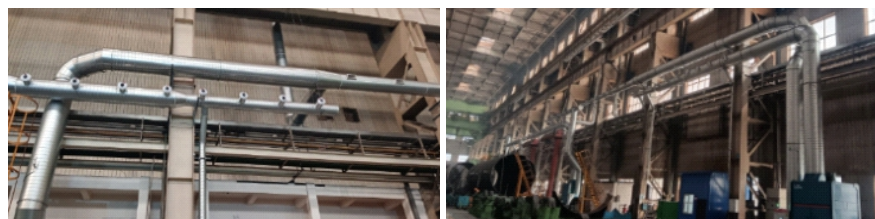
In 2024, the Company has increased investment and deepened the special campaign of welding fume and dust control, which continuously expands the coverage of dust collectors and dust removal systems, and improves the on-site working environment to create a cleaner workspace.

### Case: Deepening the special campaign for welding fume and dust control

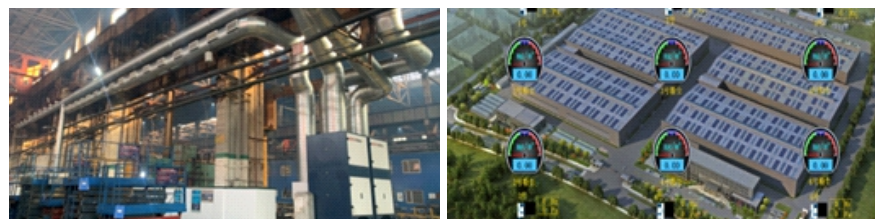
The Heavy Equipment Company invests in the construction of a centralized fume treatment system for the welding training center, implementing centralized management of welding fume at the training center. The advanced fume capture technology is adopted for the system, which can efficiently collect fume and dust at the source through an optimized design of the gas collection hood and avoid fume and dust diffusion. The dust removal efficiency reaches 99%, accurately removing fine fume and dust particles from the air. After treatment, the working environment of the welding training center has been greatly improved, the concentration of fume and dust in the air has been significantly reduced, and the cleanliness has been greatly enhanced.



The Boiler Company continues to advance the regional treatment of welding fume and dust. In 2024, three sets of regional dust removal systems were newly installed in the heavy container workshop and the burner workshop. The system is a blow-suction circulation purification system, which can effectively reduce the accumulation of welding fume in the welding operation area and lower the concentration of fume and dust in the suspension layer. Together with an efficient fume and dust purification system, the system saw an average PE value in the manual welding area of  $\leq 2.0 \text{ mg/m}^3$  and an average TWA test result of  $\leq 1.7 \text{ mg/m}^3$  after being put into use, fully meeting national standards.



The Electric Machinery Company uses advanced new internal circulation multi-layer air supply and return technology from both domestic and international sources to comprehensively treat the welding fume and dust area in the cold working workshop. Compared to traditional ventilation and purification methods, the project investment is reduced by about 50%, and the operating energy consumption is reduced by 20-30%. At the same time, the intelligent monitoring and control system introduced can automatically adjust the operating parameters of ventilation equipment and the working status of dust collection devices, achieving precise treatment, improving treatment efficiency, and reducing energy consumption. After treatment, the concentration of fume and dust decreases by more than 60% compared to that before treatment, and the environment of the cold working workshop has been greatly improved. In addition, the Electric Machinery Company establishes and improves detection record and archive management systems, providing data support and reference for subsequent treatment work. A comprehensive environmental monitoring system has been established to regularly monitor indicators such as fume and dust concentration and air quality in the workshop, promptly grasp changes in environmental quality, and provide a scientific basis for adjusting treatment measures and optimizing on-site working environments.



## Resource use management

The Company continues to focus on resource utilization, and strictly standardizes the management of water resources, energy and materials for effective resource utilization and resource conservation, and sustainable development.

### Water resource management

The Company continues to advance the construction and renovation of water treatment facilities in key enterprises, strengthen the recycling of test water, and reduce the intake of new water. The Heavy Equipment Company completes the deionized water recycling project. After the renovation, the water return rate is about 20%, saving more than 1,200 tons of water annually. At the same time, the Company organizes affiliated companies to carry out promotional activities such as “World Water Day” and “China Water Week”, and widely promotes water conservation and enhances employees' awareness of resource concerns and conservation using various media forms such as electronic screens, broadcasts, and official accounts. It promotes green, low-carbon production and lifestyle to the public, and fulfills the responsibility of a central enterprise.

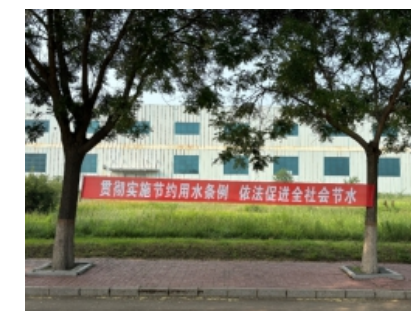
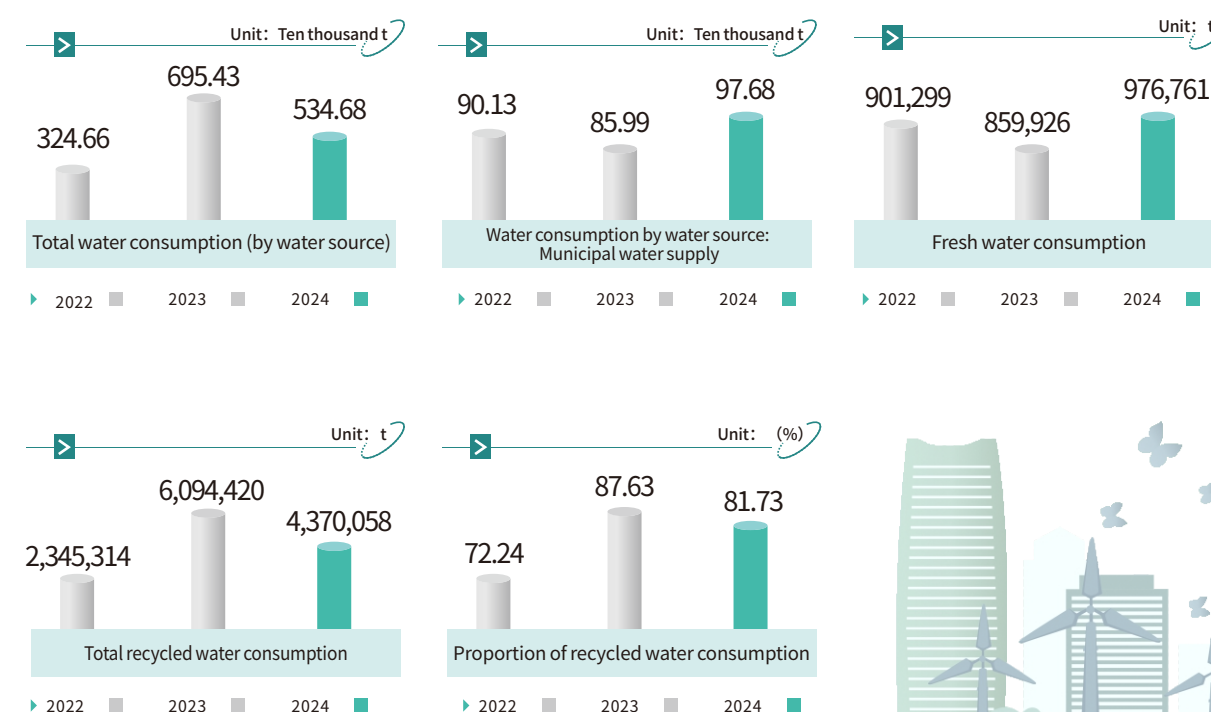


Figure: Water Conservation Banner in the Plant Area

During the reporting period, the main water usage links at the company headquarters and subsidiaries were static test of units and pump water test, the main types of water resources used were test circulating water and boiler circulating water, and the water source was urban water supply. The Company is not involved in significant direct or indirect water resource impacts caused by water extraction, consumption, discharge, or changes in water storage.





## Materials management

The Company recognizes that material management is a crucial part of its operations. The Company's affiliated companies improve material management by establishing procurement management procedures, warehouse management standards, and related management systems.

The main types of materials for the Company include raw materials, parts and components, and packaging materials. Affiliated companies establish management procedures and standards for material entry, warehousing, safe storage, and issuance to regulate material management. For material storage, the Company formulates regulations to clearly define the classification, storage conditions, safe storage, stacking standards, maintenance standards, and labeling records, thereby helping to manage material needs and improve utilization.

During the reporting period, the Company adhered to the principles of lightweight, reduction, and recycling in packaging material usage, and improved material utilization through design and process improvements. The Electric Machinery Company applied elastic coating technology to replace wooden boxes with cardboard boxes for air transport projects, reducing unpacking, repair, and wood usage. At the same time, the Company innovatively designed the "one row dual use" for oil and water collection, reduced the weight of the metal bottom row and the amount of solid wood used, minimized high-energy-consuming operations, and achieved material savings and cost optimization.

## Biodiversity protection

The Company strictly adheres to laws and regulations such as the Environmental Protection Law of the People's Republic of China, Law of the People's Republic of China on Evaluation of Environmental Effects, Law of the People's Republic of China on the Protection of Wildlife, Forest Law of the People's Republic of China, Law of the Peoples Republic of China on Maritime Environmental Protection, Wetland Protection Law of the People's Republic of China, Biosecurity Law of the People's Republic of China, Regulations of the People's Republic of China on Wild Plants Protection, and Regulations of the People's Republic of China on Nature Reserves. It actively fulfills the Convention on Biological Diversity, reasonably applies responsible biodiversity management methods, continuously promotes ecological balance and biodiversity protection in project areas, and strives to achieve the vision of harmonious coexistence between humans and nature.

During the project design, construction, and operation stages, the Company strictly implements biodiversity protection measures to minimize the impact of production and operations on the ecological environment. For example, during the construction of the Manzanillo Combined Cycle Project in Mexico, the Company adhered to the philosophy of sustainable development, with environmental protection efforts running throughout the process; in Ecuador, the Minas Hydropower Station is located in an area rich in plant and animal resources. The Company proactively launched a flora and fauna rescue plan for relocating, protecting, and rehoming various plants and rare animals within the reservoir area, and establishing a new image of the Company's overseas green construction; in China, the Company continues to carry out special rectification work on ecological environmental protection of enterprises along the Yangtze River basin, organizes experts in energy conservation and environmental protection to supervise and inspect the ecological environmental protection management of riverside enterprise.

### Case: Harbin Electric International's Manzanillo Project in Mexico protected biodiversity

Green environmental protection is one of the cornerstones for the successful implementation of the "Belt and Road" initiative. Under the framework of this great initiative, Harbin Electric International's Manzanillo Project in Mexico actively practiced green development philosophy, and implemented a series of innovative environmental measures that not only effectively reduced damage to the local ecology but also brought sustainable environmental benefits to the affected areas, which fully demonstrated The Company's firm commitment and responsibility to environmental stewardship.

Throughout the implementation of the Manzanillo Project, environmental protection was a consistent focus. The project team carried out multiple initiatives including tree replanting and donation to restore vegetation, to protect on-site wildlife, dust suppression, waste sorting, and environmental awareness campaigns. These measures not only ensured the smooth progress of construction activities but also promoted the restoration and improvement of the ecological environment on multiple levels.

In the Manzanillo Project, tree replanting and donation were crucial measures for restoring vegetation and repairing the ecological environment. To ensure the healthy growth of trees in the local environment, the project team not only conducted large-scale tree planting activities but also implemented a series of long-term maintenance measures to guarantee the sustainability of vegetation restoration.

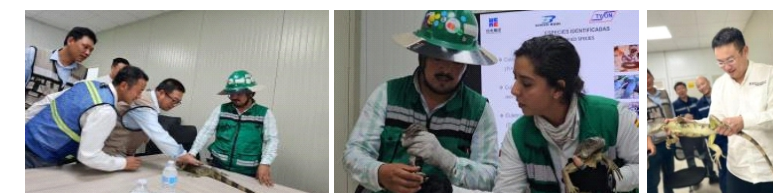
A professional animal protection team was established on site for monitoring, rescuing, and safely relocating wildlife found at the site. The team successfully helped over 60 animals, including iguanas, snakes, and birds, migrate to suitable habitats. This effectively reduced construction interference with the local ecosystem and made a positive contribution to biodiversity conservation.



The project invited experts to popularize the knowledge of reptiles to the employees, especially to explain the characteristics and habits of snakes and iguanas common on the site. Through such knowledge dissemination and practical activities, they demonstrated the Company's profound respect and responsibility for the natural environment, as well as a firm commitment to the relentless pursuit of sustainable development.



This series of environmental protection measures not only directly reduced the impact on the ecological environment during the construction process but also brought lasting environmental benefits to the Manzanillo region through meticulous actions, which further promoted the implementation of green development philosophy and highlighted the Company's sense of responsibility and long-term vision in ecological protection.





## Innovation-driven empowerment of quality for the future

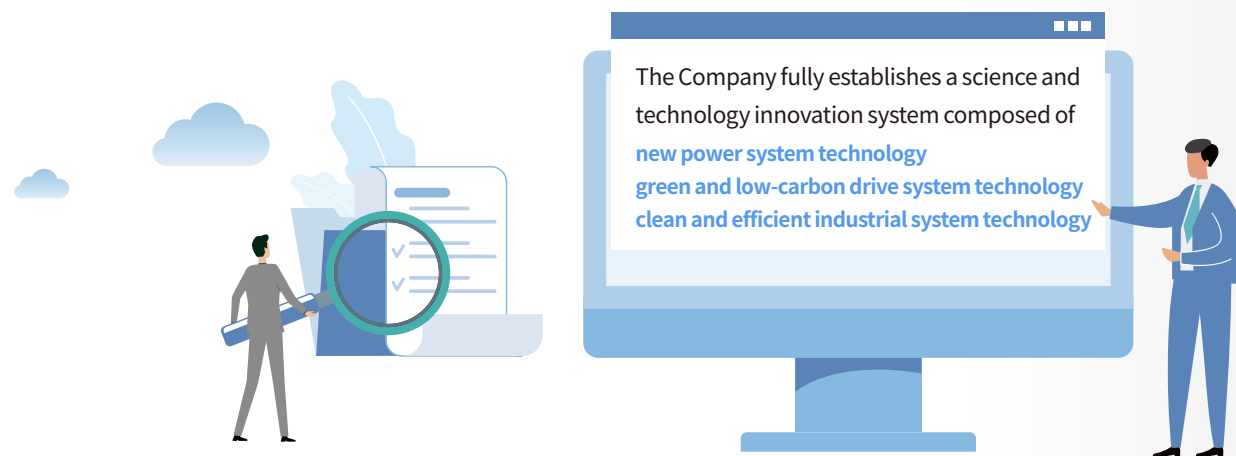


As the earliest power generation equipment research and manufacturing base in China, the Company consistently adheres to the goal of being “the best in China and world-class”, and that technology is the primary productive force, driving science and technology innovation with a talent-based approach, supporting the Company’s sustainable development, and leading the industry with cutting-edge products. At the service level, the Company strictly controls product quality and provides customers with high-quality products.



## Advocating science and technology innovation

The Company continuously strengthens the reserve of core key technologies and the application of research achievements, vigorously develops new power system products and technologies. It focuses on cultivating high-end products to forge more core proprietary technologies, coordinating technological breakthroughs across multiple domains including next-generation coal power, ultra-high-head large-capacity hydropower, advanced fourth-generation nuclear power, safe and efficient energy storage, and solar thermal power generation. These efforts align with national strategic priorities, industry frontiers, market demands, and technological weaknesses, aiming to enhance the competitiveness of emerging industries like energy storage and solar thermal power generation. Concurrently, the Company reinforces the construction of scientific research infrastructure, strengthens capabilities in tackling key technological challenges, optimizes innovation platform development, and intensifies open cooperation. By consistently delivering high-level scientific and technological innovations, it empowers the construction of new power systems and drives high-quality development.



### Science and technology innovation system and achievements

It is pointed out in the Report to the 20th National Congress of the Communist Party of China that: “It is required to insist on the principle that science and technology is the primary productive forces, talents are the primary resource and innovation is the primary driving force; deeply implement the strategy of revitalizing the country through science and education, strengthen the country through talent development, and promote innovation-driven development.” The Company has always insisted on leading with technological innovation to promote the efficient development. It accelerates the construction of the Company’s innovation system, vigorously invests in scientific research work, and cultivates endogenous power.

Disclosure item	Unit	2022年	2023年	2024年
Proportion of R&D expense in operating revenue	%	5.20	5.53	4.93
Proportion of R&D personnel	%	23.69	25.31	24.00
Investment of R&D expenses	RMB billion	12.69	15.84	19.08
Number of R&D personnel	Person	2,893	2,895	3,260

The Company is committed to promoting technological innovation and industrial upgrading in the field of power equipment manufacturing. By overcoming key core technologies, it fills many domestic and international industrial gaps, laying a solid foundation for the power equipment manufacturing technology in China to move towards the world’s leading level. These achievements not only demonstrate the Company’s strong strength and innovation capabilities in the field of power equipment manufacturing, but also provide strong support for the energy structure optimization, energy security and sustainable development of the power industry, contributing Chinese wisdom and Chinese solutions to the development of global power technology.



### Case: Five milestones of technological innovation and breakthrough

The No. 1 unit of the Shaanxi Binchang 660 MW high-efficiency ultra-supercritical circulating fluidized bed power generation project, the world’s first unit with the highest parameters and largest single-unit capacity developed by the Company, is officially put into operation. It fills the gap in the global 660 MW high-efficiency ultra-supercritical circulating fluidized bed boiler power generation technology, marks that the global circulating fluidized bed boiler technology has officially entered the era of high-efficiency ultra-supercritical parameters, and represents the highest level of circulating fluidized bed boiler technology in the world.



The No. 1 unit of 2×530 MW unit innovation upgrade and life extension project of Tianjin Guoneng Panshan Power Generation Co., Ltd. developed by the Company is officially put into commercial operation in Tianjin. It effectively fills the industrial gap in the upgrade and transformation of the power equipment in China, and explores new paths and provides new ideas for the cross-generation upgrade and life extension of old coal-fired power generation units at home and abroad.



The Company independently develops a variety of high-efficiency regenerative heat exchangers such as cross-flow, hairpin and fixed tube plate heat exchangers, successfully develops a complete set of heat exchanger for the compression and expansion sides of a 300 MW large-scale compressed air energy storage power station, and promotes the world’s first demonstration application of 300 MW compressed air energy storage power station technology, marking that the high-power compressed air energy storage technology in China has reached the world’s leading level.



The Company overcomes many key core manufacturing technologies such as thermal barrier coating spraying, and successfully develops a 300 MW F-class heavy-duty gas turbine prototype combustion chamber, achieving an important breakthrough in the “stranglehold” problem that restricts the development of the gas turbine industry in China.

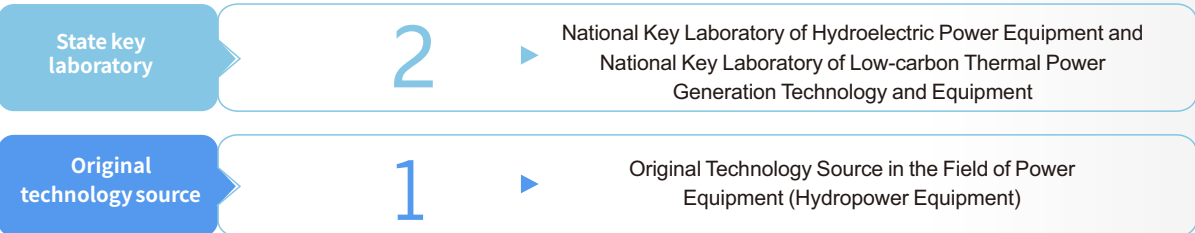


The Company solves the problem of welding ultra-large and ultra-thick low-carbon martensitic stainless steel strong and tough forgings, overcomes the difficulty of efficient and high-strength welding and manufacturing of ultra-thick water buckets with complex curved surface, and masters the key technologies of ultra-high bonding strength surface strengthening manufacturing process. The Electric Machinery Company successfully welds and manufactures the impulse turbine runner with the largest single-unit capacity and largest size in the world, marking a breakthrough in the research and development technology for high-head and large-capacity impulse hydropower units in China.

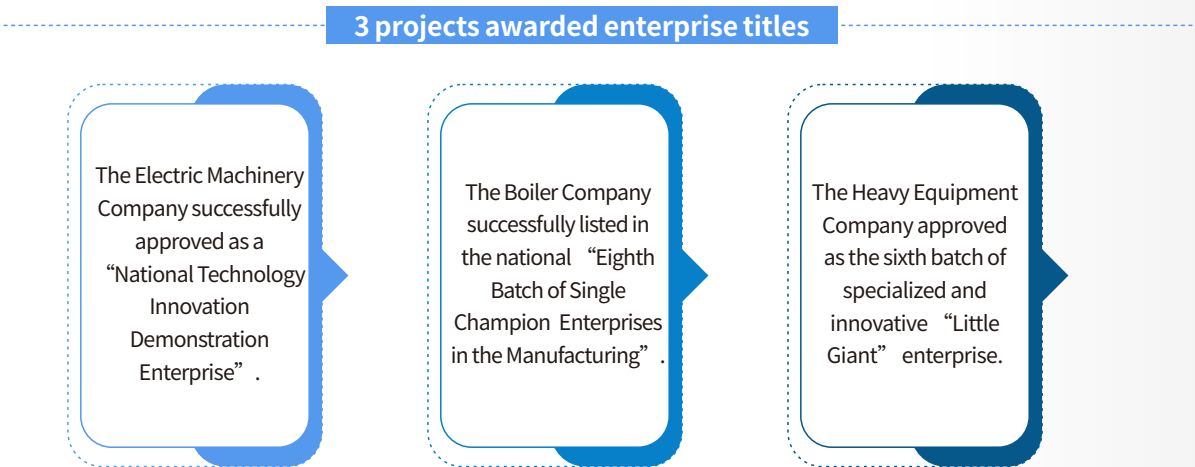
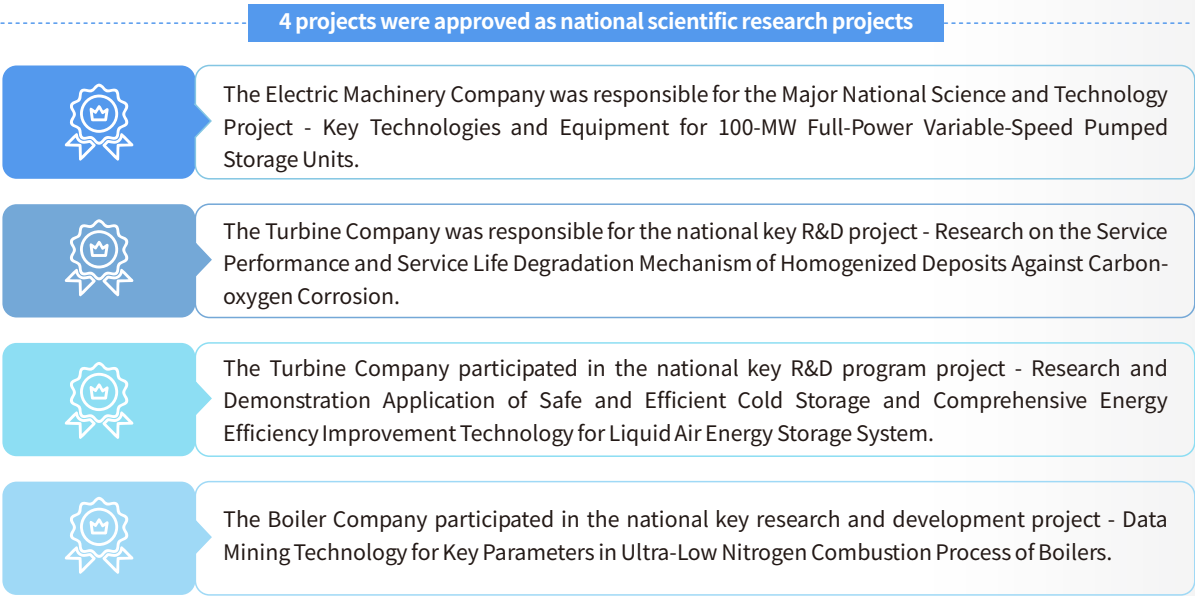




In 2024, the Company invested RMB 1.908 billion in research and development and had more than 3,260 scientific researchers. The Company actively plans national scientific research projects, strengthens the construction of key laboratories and original technology sources, and promotes the breakthrough and application of innovative products and technologies. At the same time, the Company has achieved remarkable results in standard setting, patent authorization and major technological equipment research and development. It led or participated in the development of 39 standards, secured 242 authorized patents, and obtained approval for 4 national-level research projects. The Company has shown outstanding performance in standard setting, patent authorization and major technological equipment research and development, and has won multiple scientific and technological awards and enterprise honorary titles at provincial and ministerial level. Besides, 4 projects have been selected into the National Energy Administration's Catalog of First-of-its-Kind Major Technical Equipment in the Energy Sector, demonstrating strong innovation strength and technological influence.



The Company's innovative product achievements in 2024



Other achievements



Complete Equipment of 400 MW Variable-speed Pumped Storage Unit

Large Impact Turbine Forged-welded Structure Runner

Extraction Check Valve for Nuclear Power Unit Turbine

60 MW Liquid Air Energy Storage System and Key Equipment Based on Deep and Low Temperature Cascade Cold Storage Technology

Award type	Award-winning technologies	Award issuer
Development and Application of 1,000 MW Ultra-supercritical Secondary Reheating Π-type Boiler	Development Technology of 1,000 MW Ultra-supercritical Secondary Reheating Π-type Boiler	People's Government of Heilongjiang Province
Development and Industrial Application of Comprehensive Utilization of Large-scale Equipment for Efficient and Clean Biomass	Development technology of Comprehensive Utilization of Large-scale Equipment for Efficient and Clean Biomass	People's Government of Heilongjiang Province
Development and Industrial Application of Long-cycle High-parameter Waste Incineration Waste Heat Boiler	Garbage Incineration Waste Heat Boiler Technology	People's Government of Heilongjiang Province
Nuclear Power Design Technology Based on Multi-dimensional Intelligent Reconstruction Simulation	Nuclear Power Design Technology Based on Multi-dimensional Intelligent Reconstruction Simulation	People's Government of Heilongjiang Province
Development and Application of Baihetan 1,000 MW Hydro-generator Unit	Development Technology of 1,000 MW Hydro-generator Unit	People's Government of Heilongjiang Province
Key Technology and Application of Efficient Hybrid Ventilation for 1,000 MW Steam Turbine Generator	Key Technology of Efficient Hybrid Ventilation for 1,000 MW Steam Turbine Generator	People's Government of Heilongjiang Province
Development and Engineering Application of Distributed Phase-shifting Camera Series Products	Development Technology of Distributed Phase-shifting Camera Series Products	People's Government of Heilongjiang Province
Modeling Method and Wave Suppression Technology for Complex Structure Acoustic Coupling Systems	Modeling Method and Wave Suppression Technology for Complex Structure Acoustic Coupling Systems	People's Government of Heilongjiang Province

Gas Thermal Design Technology and Application of Flow Components at the Hot End of Gas Turbine	Gas Thermal Design Technology of Flow Components at the Hot End of Gas Turbine	People' s Government of Heilongjiang Province
Development and Application of 1,000 MW Ultra-supercritical Air-cooled Steam Turbine	Development Technology of 1,000 MW Ultra-supercritical Air-cooled Steam Turbine	People' s Government of Heilongjiang Province
Key Development Technology and Engineering Application of 235 MW Axial Flow Impeller Turbine	Key Technology of Large-capacity Axial Flow Impeller Turbine	Chinese Society for Electrical Engineering
Research and Engineering Application of Key Technology for Reliability Improvement of Steam Turbine Generator Under Flexible Operation Mode	Key Technology for Reliability Improvement of Steam Turbine Generator Under Flexible Operation Mode	Chinese Society for Electrical Engineering
Key Technology and Engineering Application of Large-capacity 7-pole Pair Generator-motor	Key Technology of Large-capacity 7-pole Pair Generator-motor	Chinese Society for Electrical Engineering
Development and Industrial Application of Comprehensive Utilization of Large-scale Equipment for Efficient and Clean Biomass	Development technology of Comprehensive Utilization of Large-scale Equipment for Efficient and Clean Biomass	Chinese Society for Electrical Engineering, Office of China Electric Power Science and Technology Awards
Development and Industrialization of High-efficiency Ultra-supercritical Boilers for Low-calorific-value Gas from Steel Enterprises	Development of High-efficiency Ultra-supercritical Boilers for Low-calorific-value Gas from Steel Enterprises	Chinese Society for Electrical Engineering, Office of China Electric Power Science and Technology Awards
Safety Assurance Technology and Application for High-temperature Heating Surfaces in Ultra-supercritical Units	Safety Assurance Technology for High-temperature Heating Surfaces in Ultra-supercritical Units	China Electric Equipment Management Association
High-efficiency Combustion Technology and Application for Low-calorific-value Inferior Lignite	High-efficiency Combustion Technology for Low-calorific-value Inferior Lignite	China Machinery Industry Federation
Design Innovation and Engineering Application of First Reactor of "Hualong One" in Western China	Design Technology of First Reactor of "Hualong One" in Western China	China Nuclear Energy Association
Development of a Series of Narrow-gap Ring-seam Automatic TIG Welder	Development Technology of a Series of Narrow-gap Ring-seam Automatic TIG Welder	Industry and Information Technology Department of Hebei Province
Research on Manufacturing Technology and Engineering Application of 200 MW High-temperature Gas Cooled Reactor Steam Generator	Manufacturing Technology of 200 MW High-temperature Gas Cooled Reactor Steam Generator	Hebei Provincial Department of Science and Technology
Development and Application of Ultra-supercritical Secondary Reheating 1,000 MW Steam Turbine	Development Technology of Ultra-supercritical Secondary Reheating 1,000 MW Steam Turbine	China Innovation Design Industry Strategic Alliance Chinese Mechanical Engineering Society

Key Technology and Application of 400 MW 700 m High-stability Pumped Storage Units	Key Technology of 400 MW 700 m High-stability Pumped Storage Units	China Electricity Council
Key Design, Manufacturing, Operation and Monitoring Technology of Supercritical Carbon Dioxide Boilers and 5 MWe Demonstration Application	Key Design, Manufacturing, Operation and Monitoring Technology of Supercritical Carbon Dioxide Boilers	China Electricity Council
Key Technology and Engineering Application of Domestic Large-capacity 7-pole Pair 4-branch Generator-motor	Key Technology of Large-capacity 7-pole Pair 4-branch Generator-motor	China Electricity Council
Key Technology for True Fault Detection and Intrinsic Safety Enhancement of Turbine Generators Under Complex Conditions	Key Technology for True Fault Detection and Intrinsic Safety Enhancement of Turbine Generators Under Complex Conditions	China Electricity Council
Multi-dimensional Life Monitoring Method for Nuclear Power Steam Turbines	Multi-dimensional Life Monitoring Method for Nuclear Power Steam Turbines	China Electricity Council
Research and Demonstration Application of High-efficiency Energy-saving Key Technology for Coal-fired Units Based on Overall Optimization	High-efficiency Energy-saving Key Technology for Coal-fired Units Based on Overall Optimization	China Electricity Council
Research and Demonstration Application of Deep Energy-saving Technology for Coal-fired Units Adapting to New Power Systems	Deep Energy-saving Technology for Coal-fired Units Adapting to New Power Systems	China Electric Equipment Management Association

In the future, the Company will continue to optimize and improve the science and technology innovation system, further promote the construction of two national key laboratories, accelerate the tackling of key core technologies, increase investment in strategic emerging industries and future industries, and comprehensively enhance the level of transformation and application of science and technology achievements.

## Intellectual property protection

The Company attaches great importance to the protection of intellectual property, and establishes management systems such as the Patent Work Management Rules, Trademark Work Management Rules and Management Measures for the Protection of Trade Secrets and Work Secrets, to safeguard the Company' s technological innovation.

  
 In 2024, the Company and its affiliated companies continuously strengthened the protection of intellectual property, obtaining a total of **242** patent authorizations, including **108** invention patents



### Case: New achievements in the cultivation of intellectual property enterprises

In 2024, the Electric Machinery Company was recognized as a National Intellectual Property Demonstration Enterprise; the Turbine Company was recognized as a National Intellectual Property Advantage Enterprise and signed a project with the Heilongjiang Intellectual Property Administration for the construction of a high-value invention patent cultivation center,



Disclosure item	Unit	2022	2023	2024
Number of valid patents per RMB 10,000 revenue	Item	0.00172	0.001436	0.001138
Number of software copyrights per RMB 10,000 revenue	Item	0.000016	0.000014	0.000015
Number of software copyrights during the reporting period	Item	40	40	56
Number of software copyrights registered during the reporting period	Item	40	40	56
Number of intellectual properties such as trademarks and copyrights during the reporting period	Item	51	51	67
Number of patent authorizations during the reporting period	Item	409	331	242
Number of trademark approvals during the reporting period	Item	0	0	0
Number of valid patents during the reporting period	Item	4,239	4,117	4,359

## Digital and intelligent transformation

The Company is based on the national “14th Five-Year” digital economy development plan and the Company’s “14th Five-Year” development plan strategic basis. The Company deeply realizes that the development of the digital economy is of great significance to the long-term development of enterprises, and firmly holding the digital transformation of the equipment manufacturing industry is a practical need to promote the high-quality development of the Company. The Company continuously accelerates the digital and intelligent transformation of its traditional industries, promotes the digital transformation as a major strategy that benefits the present and the future, constantly researches and explores the deep integration of digitalization and manufacturing, and opens a new development path to achieve the transformation and upgrading of traditional industries and high-quality development.

In accordance with the 14th Five-Year Plan for Digitalization, the Company formulates institutional documents such as the Cybersecurity and Digitalization Management Measures and the Cybersecurity Management Measures to standardize digital construction. The Company adheres to digitalization of production, intelligent equipment and information-based management as the direction of enterprise digital transformation, focuses on digital technology to enable advanced manufacturing, promotes management improvement, helps improve physical efficiency and reduce costs, and vigorously carries out digital construction. At present, we are vigorously exploring and promoting innovative applications of new-generation information technologies such as 5G, cloud computing, big data and AI, and comprehensively advancing the integrated construction of digital workshops, intelligent equipment and smart power plants.

The Company anchors the equipment manufacturing industry to high-end, intelligent, green development direction, and promotes two batches of 45 unveiling projects to enter the final stage of tackling challenges. In 2024, 4 new digital workshops for headers, heavy vessels, punching and shearing, and control were completed; 7 digital production units including a digital production line for intelligent material preparation of steel plates, sealing plate scanning and cutting unit and digital unit for hydropower production were built, achieving significant improvements in production capacity and efficiency. The Company has been listed on the “2024 Second China Top 50 Leading Enterprises in Industrial Digital Transformation” ranking. Additionally, its subsidiary Motor Company was recognized as a State-Owned Enterprise Digital Transformation Pilot by the Ministry of Industry and Information Technology (MIIT), while Heavy Equipment Company was awarded the title of 2024 Provincial Industrial Internet Benchmark Demonstration Factory in Hebei Province. The digital workshop for heavy-duty steam turbine equipment processing and assembly was awarded the title of Heilongjiang Digital (Intelligent) Demonstration Workshop in 2024.

Focusing on the diversified and intelligent needs of users, the new requirements of power grid regulation for power generation equipment, the integrated promotion in the three directions, and the development of intelligent O&M products in the three directions of thermal power, hydropower and nuclear power TG, the Company successfully releases the main equipment O&M system of Harbin Electric Digital Power Island, achieves an integration of remote O&M platform of thermal power unit, an improvement of intelligent power generation process of coal power unit, and a deep integration of coal-fired power unit design principles and modern information technology, reduces the workload of O&M personnel based on ensuring safe, efficient and green operation of the unit, and brings significant comprehensive economic benefits.



### Case: Digital production lines empower efficient production.

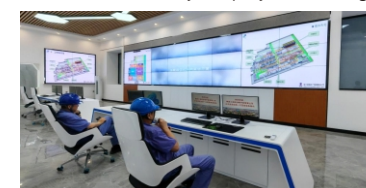
The Company has empowered the transformation and upgrading of traditional manufacturing industries through new-generation information technologies, and accelerated the construction of digital production, to achieve a significant increase in production efficiency and a remarkable optimization of product quality. The digital workshop for headers of the Boiler Company newly established in 2024 has reduced the comprehensive manufacturing cost by 10%, increased the production capacity by 20%, improved the quality by 10%, and enhanced the labor productivity per capita by 25%. The fully automated production line for the whole process of small and medium-sized blades in the Steam Turbine Company has realized the automated operation of all processes, which increases the equipment utilization rate by 8% and reduces the consumption of welding materials by 66%. The “5G+ equipment IoT system for large equipment manufacturing enterprises” has been rated as the typical case of digital-physical integration awarded by the Ministry of Industry and Information Technology. The digital welding project has been selected as one of the “key cultivation projects of the industrial Internet in Hebei Province in 2024. The scenarios of “flexible configuration of production lines” and “dynamic process optimization” have been awarded the excellent scenarios of intelligent manufacturing in 2023. The “Innovative practice of promoting the quality improvement of the whole process of steam turbine blade manufacturing in the mode of flexible automatic production lines” has been granted the silver award in the Third National Machinery Industry Product Quality Innovation Competition. The “fully digital production line for the whole process of small and medium-sized blades” has been selected as an excellent case of coordinated digital and green transformation and development in Heilongjiang Province in 2024. A total of 2 invention patents have been applied for. The digital production lines have set a benchmark for the digital transformation of China’s power equipment manufacturing industry, and have also provided valuable experience for the intelligent upgrading of traditional manufacturing industries.



the Steam Turbine Company has built a full-process digital production line



the Electric Machinery Company has built a digital workshop for punching and shearing



the Electric Machinery Company has built a digital coil workshop

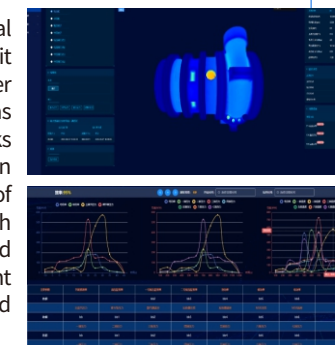


the Boiler Company has built a digital workshop for joint boxes



### Case: Digital empowerment of management and O&M

The Company, guided by market demand and supported by an independent industrial Internet platform, integrates and builds specialized intelligent modules from all unit companies internally, to build a main equipment O&M system for HEDP Smart Power Island. In 2024, the main equipment O&M of Harbin Electric Smart Power Island was successfully launched, was successfully launched the system V1.0 version, which marks that the Company has achieved a new breakthrough in the field of intelligent operation and maintenance of coal power units and set a new benchmark for the development of the industry. The system empowers traditional equipment through AI technology, with its functions covering the 3 main units of thermal power units: furnace, turbine and generator. It forms over 30 core functions across five functional dimensions: equipment visualization, diagnostic warning, health management, optimized operation, and maintenance and overhaul.





## Leading industry development

Adhering to the purpose of “providing power to the world and bringing light to humanity”, the Company is always committed to driving industry development through its own growth. Based on our scientific research and technological foundation, talent and resource advantages, the Company, while developing itself, has long been actively involved in industry standard setting and university-enterprise cooperation, leading the healthy and sustainable development of the industry.

As an important energy equipment manufacturing enterprise in China, the Company has always attached great importance to science and technology innovation and talent cultivation, actively promoting science and technology development and industrial upgrade through university-enterprise cooperation. The Company has carried out in-depth collaborations with multiple universities, including the joint establishment of the Institute of Green-low Carbon Energy Innovative Technology with Harbin Institute of Technology, co-leads the formation of the Energy Storage Professional Committee of the Chinese Society of Power Engineering, and signs a strategic cooperation agreement with East China University of Technology.



In 2024, the Company and its affiliated companies released international standard

1



38 national and industry standards.

## Product quality assurance

The product quality is the foundation of serving customers and building corporate reputation. The Company adheres to the national strategic plan of “building a manufacturing power, quality power”, implements the quality policy of “quality priority, pursuit of excellence, honesty and trustworthiness, and customer success”, and carries out internal quality control work.

In terms of quality assurance and improvement of products and services, the Company formulates institutions such as Quality Improvement Management Measures, Quality Responsibility Assessment Management Measures, Quality Responsibility Management Measures and Customer Complaint and Quality Information Management Measures under laws, regulations, and standard specifications such as the Product Quality Law of the People’s Republic of China, Nuclear Safety Law of the People’s Republic of China, Quality Management System Requirements and Quality Assurance and Safety Regulations for Nuclear Power Plants, to ensure the orderly development of the quality work based on the actual situation.

### Quality management system

The Company standardizes the quality control system by the Outline for Building a Quality Power, GB/T19001-2016 and HAF003 standards, formulates and strictly implements management systems such as the Quality Improvement Management Measures, Management Measures for Quality Brand Demonstration Power Plants and Quality Cost Management Measures, and establishes a quality responsibility system for personnel at all levels to consolidate quality responsibilities.

The Company establishes and improves a customer-centered product life cycle quality management system, strengthens the inspection and measurement of product quality, continuously optimizes product production standards, and insists on providing high-quality products.

The Company implements the management principle of full coverage of quality responsibilities, establishes all-round quality responsibilities for all employees and processes, promises that everything is in charge from the board level to specific functional departments, ensures coherent and orderly work, prevents responsibility vacuums, and orderly advances the quality work.



## Product quality inspection

The Company attaches great importance to the safety of enterprise product quality, establishes the Management Measures for Quality Improvement Projects, requires affiliated companies to set up special quality inspection departments to systematically carry out inspection work, strengthen pre-quality risk investigation, identify problems, focus on key points, pay attention to details, and eliminates quality hazards and adverse effects. Formulate annual quality improvement/tackling projects, concentrate superior resources to solve typical problems, promote the root cause control of “common and frequent problems”, and improve product quality. The quality loss rate is controlled within 0.30.

### Product quality inspection stage

Stage1	In the raw material stage, inspect the Company’s suppliers and raw materials.
Stage2	In the production stage, conduct quality inspection of products between various processes.
Stage3	In the pre-delivery stage, inspect the product according to specified requirements, and release products and deliver services to customers after passing the test.

For accurate product quality inspection, provide high-quality and high-demand personnel support. The Company requires personnel engaged in product quality inspection to participate in training and authorization, and to retain inspection records in the product quality inspection process. The record shall include which stages the product has been inspected in and the person in charge of product inspection confirmation. The Quality Inspection Department needs to conduct acceptance according to inspection rules and acceptance regulations.

## Quality accountability mechanism

As an important part of the quality control system, the Company focuses on establishing a quality risk management and control system, and implements risk management from design, process, manufacturing and other aspects. The Company sets up a 400 customer service complaint hotline to widely receive complaints and service inquiries from customers, addresses any dissatisfaction with the products and services provided by the Company throughout the product life cycle, and offers comprehensive pre-sales, in-sales and after-sales service consultation and solutions. Adhere to the user-centered approach, hire a third party to conduct user satisfaction surveys and evaluations on all business segments of the Company, fully listen to opinions and suggestions, effectively solve the problem concerned by users, and comprehensively improve user satisfaction.

To effectively ensure product quality, the Company instills a “quality responsibility” mindset in every employee from the production stage. Based on principles of prevention priority, heavy rewards and penalties, and “Four No’s Principle”, the Company establishes a quality accountability mechanism, which ensures that the quality issues can be traced back in time in the case they occur to identify the problem and reduce subsequent quality issues.

### Quality responsibility traceability

During the product realization, the Company records and stores relevant personnel information through product identification, achieving traceability of origin, destination and responsibility. When necessary, be able to efficiently and accurately determine the relevant responsible parties, ensure clear responsibilities, and investigate with evidence.

### Quality responsibility division

In the event of quality accidents and quality control issues, the specific responsible departments and personnel must be traced. According to the principle of “focusing on the main contradiction”, the primary and secondary responsible departments are clearly identified. If quality issues occur and the responsible departments and personnel cannot be determined, the main leaders and responsible leaders of the Company shall bear the relevant responsibilities.

<b>Quality loss recovery</b>	During the product realization, the Company records and stores relevant personnel information through product identification, achieving traceability of origin, destination and responsibility. When necessary, be able to efficiently and accurately determine the relevant responsible parties, ensure clear responsibilities, and investigate with evidence.
<b>Lifetime accountability for quality</b>	Personnel responsible for quality accidents and issues that meet the punishment standards are subject to lifetime accountability and will not be exempt from punishment due to job adjustments or transfers.

## Product quality improvement

To provide customers with high-quality products, the Company continuously strives for excellence and constantly improves the quality of products. It introduces the Management Measures for Quality Improvement Projects to standardize the continuous improvement of product quality in the Company and its affiliated companies.

The Company's Safety, Environmental Protection and Quality Department coordinates and resources the quality improvement work, concentrates advantageous resources to solve typical product problems, drives systematic rectification from point to area, and promotes the root cause treatment of "common and frequent problems".

Management process of quality improvement projects	
<b>Project application</b>	Plan and prepare quality improvement projects at the end of each year.
<b>Project approval</b>	The Company approves the declared quality improvement projects based on the principles of necessary quality statistical analysis results, strong urgency for the enterprise, and concentrated customer complaints.
<b>Project initiation</b>	After the project approval, the Company establishes a project team and officially initiates relevant quality improvement work.
<b>Planning</b>	The project team develops a reasonable quality improvement node plan.
<b>Project implementation</b>	The project team decomposes project goals and organizes their implementation. Advanced quality improvement models such as dual close loop management, lean six sigma, team-oriented problem-solving method (8D), and quality control group (QCC) can be applied during the process.
<b>Project monitoring</b>	The Company's Quality Control Department supervises and assesses the execution of project team plans and work quality. The Safety, Environmental Protection and Quality Department conducts quarterly and key milestone inspections on the company-level quality improvement projects. Each project team fills out the Quarterly Quality Improvement Project Implementation Status Form by the end of the last month of each quarter and submits the project implementation report. The project team submits an acceptance application in time to the Quality Control Department upon project completion, along with the project summary report.
<b>Project acceptance</b>	The Company's Quality Control Department accepts the project through defense review, document review and other methods after completion.

For excellent product quality improvement projects, the Company will also provide targeted cash rewards and certificate issuance, create a lean product quality atmosphere within the Company, continuously improve the quality, and bring better products to customers and the market.

## Improvement of supplier product quality

In accordance with the Law of the People's Republic of China on Tenders and Bids and Regulation on the Implementation of Laws of the People's Republic of China on Bid Invitation and Bidding, the Company establishes internal regulations such as the Supplier Qualification Management Regulations, Supply Chain Management Regulations and Procurement Management Measures, actively develops, cultivates and expands high-quality supplier resources both domestically and internationally, introduces 729 new qualified suppliers, and strictly regulates the evaluation of supplier assess, and only those who pass on-site or document reviews can enter the qualified supplier list. It continuously relies on the construction of the information management platform to promote the standardization and normalization of supplier management work, establishes a unified seven dimensional performance evaluation standard, creates a performance evaluation module on the information management platform, continuously strengthens the control of blacklisted suppliers, releases and notifies 22 blacklisted suppliers, and takes the supplier management work seriously.

The control of product quality is not only reflected within the Company, but also drives suppliers to participate in the process of improving product quality. The Company focuses on strengthening the supplier team, adheres to the principle of "management personnel shall take the responsibility; purchaser shall complete evaluation", strives to resolve prominent contradictions and issues in supplier management, continuously promotes the integration of supplier resources and the principle of high quality at a fair price, and supports the high-quality development.



### Case: Holding a supplier quality control meeting

The Company continues to strengthen supplier management, and further improves the level of supplier quality control. The Boiler Company, Turbine Company and Electric Machinery Company hold supplier quality conferences, engage in discussions with suppliers on quality control improvement, good practice sharing and typical problem analysis, deepen cooperation with suppliers in product quality, technology and services, promote stable and controlled procurement outsourcing product quality, and jointly promote the continuous improvement of the Company's product quality and quality brand.





## Supply chain security

The Company aims to achieve supply chain security and stability as a risk management goal, comprehensively controls procurement and supply chain management risks by strengthening risk identification and response, takes measures such as promoting independent controllability and reserving strategic materials to reduce the risk of supply chain disruptions, and monitors and controls the market price trend of bulk materials to control the risk of market price fluctuations, in order to ensure the stability and safety of the supply chain. It establishes a sound risk monitoring mechanism, organizes suppliers to sign the Integrity Assurance Agreement, and regularly identifies, evaluates and updates supply chain risks, to ensure the timeliness and effectiveness of risk management.

<b>Risk identification</b>	Closely monitor the international situation, predict the risk of critical raw material shortages, analyze market demand in the coming years in time, calculate the safety stock of critical raw materials, actively create conditions, and reasonably reserve a certain amount of critical raw materials in advance by signing reserve contracts, early procurement, etc. There was no production stagnation caused by raw material shortages in 2024.
<b>Diversified channels</b>	Further improve the independent and controllable work plan based on imported raw materials and accessories, classify projects by their importance, allocate resources and energy, promote classification, and establish multi-source supply channels. Strengthen cooperation with suppliers and research institutions to accelerate the R&D of domestic products, and increase efforts to promote developed domestic products to users.
<b>Material procurement</b>	The Company adheres to centralized procurement, conducts in-depth research on procurement materials for major production enterprises, further expands the categories of centralized procurement materials, includes more production materials, and establishes a company-level centralized procurement catalog, to enhance management efficiency, standardize processes such as bid evaluation, bid awarding and temporary procurement, and ensure smooth operations. Clearly define that organizations at all levels must comply with occupational health, safety and environmental protection requirements when selecting outsourcing units.
<b>Green supply</b>	Promote enterprises to expand their procurement scope of green raw materials and products, and encourage them to purchase certified energy-saving and environmentally friendly products. Actively apply for green supply chain management enterprise certification. In 2024, a new electric machinery company obtained the “Green Supply Chain Management Enterprise” certification from the Ministry of Industry and Information Technology. Promote green recycling, optimize the disposal methods of waste materials, fully utilize resource-concentrated platforms and trading markets, and entrust waste materials to qualified recycling and processing enterprises, to achieve resource recycling and reuse.
<b>Cooperation promotion</b>	Vigorously promote local supporting industries and enhance the ability of central enterprises to drive the development of small and medium-sized enterprises. Actively expand the supply scope and cooperation scale of existing suppliers. Strengthen communication and exchange with local enterprises, and actively introduce those that meet qualification requirements. Leverage the Company’s technology and management advantages to support the improvement of local suppliers’ manufacturing and management capabilities through technical cultivation, professional training, technical disclosure and business exchanges, and assist them in enhancing market competitiveness.

<b>Independent and controllable</b>	Actively promote independent and controllable work. In response to the “stranglehold” technologies in the industrial chain in China and the reliance on imported key components, cooperate with upstream and downstream enterprises in the industrial chain, focus on key core components and conduct joint research and breakthroughs with suppliers, rapidly increase the localization rate of core components that are partially dependent on imports, and jointly enhance the core competitiveness and security level of the industrial chain. With the joint cooperation of the Procurement Department and Technical Department, the Company aimed to complete 17 independent and controllable projects in 2024, and 18 had been actually completed.
<b>Digital transformation</b>	Continuously promote the digital transformation of the supply chain, and achieve “one platform, one network” in the bidding. Building on this foundation, Boiler Company has streamlined its end-to-end supply chain processes and successfully launched an intelligent supply chain management platform in 2024. This platform facilitates the implementation of key operational modules, including: smart control of steel structure subcontracting, direct-to-site component delivery management, client-side project oversight, and technology preparation progress monitoring. By integrating these modules, the Company has achieved full-process digitalization and transparency in supply chain management, enhancing efficiency and traceability across all stages. In addition, relevant departments rely on the platform to continuously improve and optimize their work, and accelerate the fulfillment of contracts, significantly improving user satisfaction.

Disclosure item	Unit	2022	2023	2024
Number of significant risk and impact events in the supply chain	Item	0	0	0
Personnel involved in significant risk and impact events in the supply chain	Person	0	0	0
Number of qualified suppliers	Item	4,565	3,530	3,787
Number of suppliers in Chinese Mainland	Item	4,187	3,238	3,460
Number of overseas suppliers	Item	378	292	327

Progress during the reporting period

The number of supply chain risk events this year is

0



## Protection of rights and interests of customers

The Company highly values the protection of customer rights. The Company is committed to accurately serving customers and enhancing customer satisfaction by establishing a comprehensive customer service system. To build and maintain customer trust in the Company, formulate relevant regulations and protect customer privacy rights, sincerely listen to customer feedback on various services and products, and continuously optimize our work based on this.

### Customer service system

The Company is dedicated to serving customers, making it convenient for them, and meeting their needs, treating every customer sincerely. The Company establishes a complete customer service management system, and sets up a dedicated department for customer communication, to ensure that customer issues are resolved in time during pre-sales, sales and after-sales processes.

The Company adheres to a customer-centric approach, fully considers customer needs, responds to customer requests in time, strengthens customer trust with excellent technology and product services, enhances customer loyalty, and improves customer experience. It actively responds to customer requests, establishes an after-sales issue ledger, and improves after-sales response standards. For customers served during the year, a customer satisfaction survey is conducted every six months, to form a Customer Satisfaction Analysis Report, and deeply analyze actual customer needs.

### Customer privacy protection

Protecting customer privacy is not only a legal requirement for businesses, but also a crucial foundation for building trust and enhancing brand image. The Company places great emphasis on strictly protecting customer information in all business operations. In 2024, the Company did not receive any complaints regarding violations of customer privacy or loss of customer data, nor did any major data security incidents or customer privacy breaches occur.

The Company formulates and implements the Operation and Management Measures for Customer Relationship Management System, which clearly specifies the specific measures for protecting customer information during the use of the customer relationship management system. All authorized users are required to keep confidential the customer contact and business opportunity information contained in the system, confirm the identity of the login person by sending random SMS verification codes to authorized users and restrict the login devices of non-authorized users, to secure information.

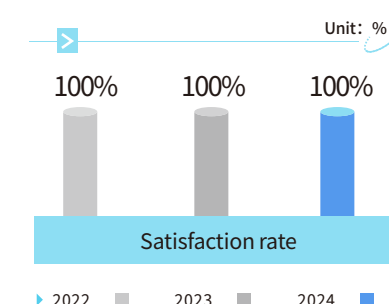
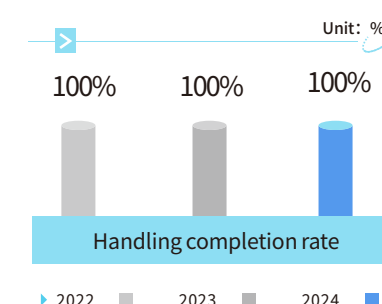
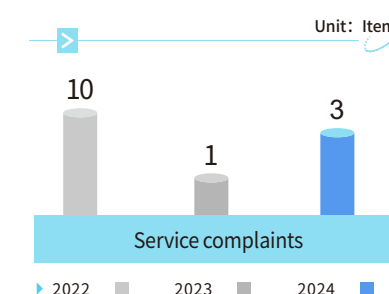
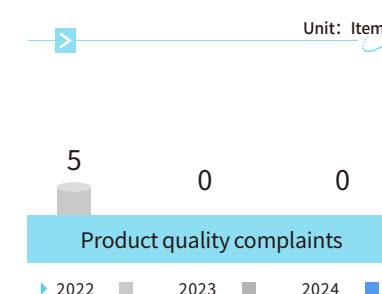
Disclosure item	Unit	2022	2023	2024
Number of confirmed incidents of leakage, theft, or loss of customer data	Item	0	0	0

## Smooth feedback channels

The Company adheres to the principles of customer priority, standardized efficiency and prompt handling, to resolve customer complaints. The Company collects customer complaint information through channels such as the “Cloud Customer Service” hotline, power station service platform, ERP information platform system, written letters, face-to-face meetings and Internet mails. It formulates the Customer Complaint and Quality Information Management Measures, which require that we always focus on the user, plan and carry out work from the user’s perspective, do everything possible to meet the user’s legal and reasonable requirements, and help the user succeed. The Company sets up a 400 customer complaint service hotline, with staff assigned as primary and secondary contacts, to answer user complaints and service consultation calls in time, handle them quickly, and follow up on the resolution.

Customer demands and evaluations are the trend for the Company’s service improvement. The Company values smooth customer feedback channels and receives customer opinions in time. In 2019, the Company’s power station service platform was officially launched, achieving the organic integration of “Internet + service”, providing users with efficient and authoritative communication and solutions for issues as well as comprehensive system services. The platform leverages the comprehensive strength of the Company’s core enterprises to meet user needs and provide high-quality and satisfactory services.

The Company sets up a 400-156-1234 customer service complaint hotline to address any dissatisfaction with the products and services provided by the Company throughout the product life cycle, and offers comprehensive pre-sales, in-sales and after-sales service consultation and solutions.







## Talent foundation for a new chapter of development



The Company always adheres to the core philosophy of “achieving talent-based long-term development and winning with powerful comprehensive strength”, insists on putting employees first, seeks welfare for employees, continuously improves the democratic management system, salary incentive mechanism and employee welfare system, and effectively enhance employees’ sense of belonging and happiness; it insists that talent is the first resource, and gathers the inexhaustible power of strengthening the enterprise with talents by establishing and improving the talent development system and skill training mechanism in the new era.



## Rights and benefits

The Company adheres to the “people-oriented, scientific and standardized” enterprise management philosophies, regards employees as the most important wealth of the enterprise, strives to build a harmonious, healthy and efficient organizational environment, continuously promotes the innovation and improvement of management methods to achieve the common growth and win-win development of the enterprise and employees.

### Equal and legal employment

The Company strictly complies with the Labor Law of the People’s Republic of China, the Labor Contract Law of the People’s Republic of China and other legal provisions, prohibits the employment of child labor, prohibits forced labor and signs labor contracts with all workers. In 2024, the Company did not have any cases of employing child labor or forced labor, and the labor contract signing rate for employees was 100%. On the basis of legal employment, in the recruitment and subsequent employee development process, the principle of fairness and justice is followed, treating all employees equally, without discrimination based on gender, race, ethnicity, age or disability.

Disclosure item	Unit	2022	2023	2024
Total number of employees	Person	12,171	11,283	11,415
Number of male employees	Person	10,343	9,510	9,603
Number of female employees	Person	1,828	1,773	1,812
Number of full-time contract employees	Person	11,676	11,017	11,265
Number of full-time dispatched employees	Person	495	266	140
Number of part-time employees	Person	0	0	0
Number of employees above the age of 50	Person	2,843	2,235	2,353
Number of employees aged 30 to 50	Person	7,874	7,367	7,256
Number of employee under the age of 30	Person	955	1,861	1,806
Number of employees working in mainland China	Person	12,171	11,283	11,415
Number of employees working in Hong Kong, Macao, Taiwan and overseas	Person	0	0	0
Total number of penalties for violations of employee employment and labor laws	Times	0	0	0
Number of penalties for violations of employee recruitment and dismissal related laws	Times	0	0	0
Number of penalties for violations of employee working hour and holiday related laws	Times	0	0	0
Number of penalties for violations of employee promotion and equal opportunity related laws	Times	0	0	0
Number of penalties for violations of employee anti-discrimination and diversity related laws	Times	0	0	0

## Protection of rights and interests of employees

The Company has established a comprehensive remuneration and performance evaluation management system and framework. The Company firmly establishes the “performance-oriented” remuneration concept, dynamically adjusting employee remuneration levels based on enterprise efficiency and performance. The Company adheres to the 8-hour workday system and pays overtime wages based on employees’ overtime work. The Company issued the Implementation Rules for Employee Paid Annual Leave to safeguard employees’ rights to paid leave, implementing a combined annual leave approach of “unified centralized annual leave + coordinated annual leave + flexible personal annual leave”. Additionally, the Company pays attention to human rights violations in the workplace, effectively protecting the rights of every employee.

The Company has established a comprehensive welfare system for employees. On top of remuneration payments, the Company contributes to various social insurances and housing provident funds for employees, establishes enterprise annuity and supplementary medical insurance systems and purchases commercial insurance for employees. The Company highly values employee interests, vigorously carries out various “warmth delivery” activities, providing consolation funds for employees during marriage, childbirth, hospitalization and the death of immediate family members. During traditional festivals, holiday benefits are distributed to employees. The “Summer Coolness Delivery” activity is held annually, providing tea, ice cream and other supplies to frontline production staff to ensure their health during the summer. At the same time, the Company places great emphasis on the physical and mental health and legal rights of female employees, effectively safeguarding their rights through measures such as hosting mental health knowledge lectures and purchasing specific disease mutual insurance for female employees.



Case: 2024 headquarters labor union flower arrangement salon activity on International Women’s Day

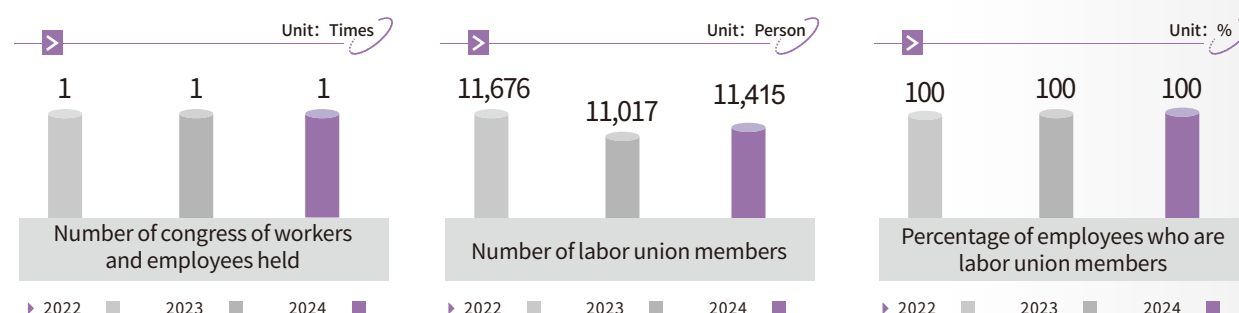
The Company held a flower arrangement activity themed “Sharing Glory Through the Years, Beautifying Time Because of You”, with more than 40 female employees participating. The activity not only enriched the off-duty life of female employees and created a strong festive atmosphere but also inspired them to serve the overall situation and make contributions, showcasing the spirit of female employees in the new era through hard work and responsibility, further playing the unique role of “half the sky” in building a learning, innovative and service-oriented headquarters.



## Implementation of democratic management

The Company adheres to the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, thoroughly implements the spirit of the 20th National Congress of the Communist Party of China and improves the enterprise democratic management system with the Workers' Congress as the basic form, in accordance with laws and regulations such as the Constitution of the People's Republic of China, the Labor Law of the People's Republic of China, the Labor Union Law of the People's Republic of China and the Constitution of the Chinese Labor Union. Through various forms and means, we effectively leverage the role of the broad workforce in enterprise democratic decision-making, democratic management and democratic supervision.

The Company holds irregular meetings with representatives of the masses to widely collect hot and bottleneck issues that are strongly reflected by the masses and seriously studies solutions to stimulate the enthusiasm, initiative and creativity of the broad workforce in participating in the Company's democratic management.



## Occupational health and safety

The Company always adheres to the principle of life first, attaching great importance to the life, health and safety of employees. We understand and grasp work safety work from a political perspective, taking "no production without safety, no construction without safety, no commencement without safety" as the basic principle of the enterprise, striving to balance development and safety and achieving full-chain standard improvement, whole-process quality enhancement and deep-level safety assurance.

The Company formulates documents such as the Occupational Health and Safety Management Regulations, the Production Safety Accident Reporting and Investigation Handling Measures and the Work Safety Cost Management Rules to standardize the management of work safety-related matters. In 2024, the Company has placed safety work in a more prominent position. All tasks of the State-owned Assets Supervision and Administration Commission's "Safety Management Enhancement Year" have been completed. No safety responsibility accidents occurred throughout the year. Safety levels have been continuously improved.

The Company adheres to a sense of responsibility of "never being at ease", always keeping the string of work safety tight, continuously strengthening safety awareness and risk prevention measures, ensuring that work safety responsibilities are implemented in every link, every position and every employee and safeguarding the life and property safety of the enterprise and employees with practical actions. Conduct comprehensive training for different levels, positions and personnel. In 2024, the Company conducted safety training for more than 72,000 person-times; compiled and distributed the Employee Green Safety Manual, actively promoted the implementation of the



Company's work safety responsibility system, focused on strengthening the safety responsibilities of grassroots positions such as team leaders, summarized the experience of lean safety teams and "12-type teams" in various subsidiaries and revised the Safety and Environmental Protection Reward and Punishment Measures, guiding cadres and employees to enhance safety awareness from the ideological level.

The Company conscientiously implemented the relevant requirements of the Occupational Disease Prevention and Control Law, strictly implemented the overall deployment of the National Health Commission on occupational health work, revised the Occupational Health and Safety Management Regulations and consolidated the foundation of occupational health construction. The Company actively organized various enterprises to carry out the "Occupational Disease Prevention and Control Law" publicity week and the selection of occupational health role models, innovated the forms of occupational health education and improved the occupational health protection awareness of the majority of employees. Affiliated companies standardized occupational health management, solidly carried out basic work such as occupational health examinations, summer heatstroke prevention, monitoring of hazardous work points and occupational disease hazard status evaluations, established special funds to comprehensively manage various production process pollutants such as welding fumes and paint process exhaust gases across the company, steadily promoted the construction of healthy enterprises, promoted the physical and mental health of employees and disseminated corporate health culture.

The Company continues to deepen the rectification of key areas to prevent safety accident risks. In 2024, the Company insisted on conducting special rectifications on major risk hazards such as hazardous chemicals, lifting machinery, related party safety, gas safety and fire risks every month for a specific theme. Meanwhile, the Company has further strengthened the construction of the work safety mechanism, improved the safety and environmental protection system and clarified the mandatory reporting items for accidents and the "one-vote veto" items for safety and environmental protection.

The Company has obtained the occupational health and safety management system certification and always prioritizes work safety in enterprise management. In 2024, the Company further consolidated the basic capabilities of work safety, clarified the qualifications of full-time work safety supervision and management personnel at all levels and enriched its safety and environmental protection expert database. By the end of 2024, the Company had 71 registered safety engineers; it continued to increase investment in work safety, focusing on rectifying major accident hazards such as gas safety, old buildings and hazardous chemical storage. In 2024, the Company organized more than 500 emergency drills across various enterprises, with over 18,000 participants, achieving full coverage of practical drills for on-site disposal plans in high-risk locations and creating a strong work safety atmosphere within the company.

Disclosure item	Unit	2022	2023	2024
Proportion of employees who died due to work-related injuries	%	0	0	0
Number of employees who died due to work-related injuries	Person	0	0	0
Number of employees in occupational disease risk positions	Person	2,404	2,698	2,566
Number of employees diagnosed with occupational diseases	Person	0	0	0
Number of working days lost due to work-related injuries	Day	762	230	240

The Company cares about employee health, actively carries out employee activities and strengthens employee health management. Through measures such as health education lectures, creating healthy dining environments and comfortable rest environments for employees, the Company effectively safeguards employee health.



## Talent development and training

The Company actively promotes the implementation of the “1610” new era talent-driven enterprise strategy: “1” is to improve a system, namely “strengthening the Party” s comprehensive leadership over talent work and establishing a new system of Party management of talent work”, “6” is to deepen the “six talent development system and mechanism reforms” and “10” is to implement the “ten major talent projects”, accelerating the construction of talent centers and innovation hubs in the fields of power equipment, power equipment and industrial equipment and effectively transforming talent advantages into innovation advantages, competitive advantages and development advantages.

### Improved talent development system

The Company issued implementation opinions based on the characteristics of the technical, management and skilled teams to highlight strategic orientation and serve industrial layout, promoting the establishment of a “three categories, three levels and multiple grades” new era talent development system that is vertically integrated, horizontally connected and bi-directionally adjustable.

#### three categories

refer to the talent development system corresponding to the “Three Teams”, which includes the technical sequence, management sequence and skill sequence.

#### three levels

refer to the industry-leading experts at the headquarters level, the professional leading talents at the affiliated company level and the professional backbone talents and professional reserve talents at the grassroots unit level.

#### multiple grades

refer to the multi-level talent development channels that run from grassroots units to the Company’ s headquarters, with the highest level corresponding to the heads of headquarters departments and the heads of affiliated companies.



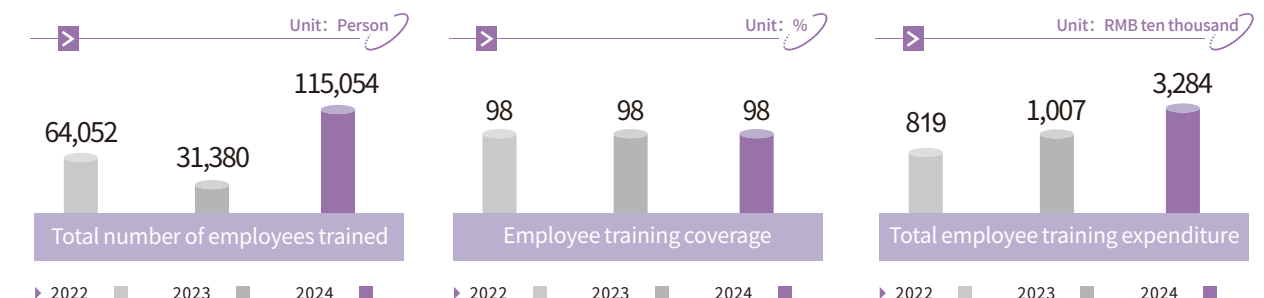
### Case: The Company held a youth scientific and technological innovation report meeting

The Company held a youth scientific and technological innovation report meeting titled “Breaking Through with ‘Innovation’ and Becoming Strong with ‘Quality’ ”, earnestly studying and implementing the spirit of the Third Plenary Session of the 20th CPC Central Committee and General Secretary Xi Jinping’ s important expositions on scientific and technological innovation. The meeting also implemented the work requirements of the Party Committee of the State-owned Assets Supervision and Administration Commission on deepening youth innovation and efficiency activities in the new era and new journey, encouraging and guiding the youth to engage in key core technology research and contribute to high-level scientific and technological self-reliance, thereby contributing youthful strength to the great rejuvenation of the Chinese nation through Chinese modernization.



### Strengthening vocational skills training

The Company places great emphasis on the improvement of employees’ vocational skills. The Company clearly stipulates that each unit should formulate a vocational skill level certification work plan at the beginning of each year, which will be summarized by the enterprise certification center, reported to the headquarters certification guidance center and filed with the provincial human resources and social security department before being announced.



In 2024, the Company actively carried out various key business training classes and thematic training classes in a combination of online and offline methods, successfully completing the annual training plan. Through active cooperation with external universities and inviting internal and external experts to teach, the Company conducted highly effective thematic training, achieving outstanding results and promoting higher-level effectiveness in the Company’ s development.



## Embracing public welfare<sup>■</sup> to support social progress



As one of China's largest power generation equipment manufacturing, complete sets and export bases, the Company actively undertakes social responsibilities, responds to the national rural revitalization strategy and supports local industrial development, infrastructure construction and talent cultivation through the output of technology, capital and management experience, contributing to rural economic development, livelihood improvement and ecological protection. The Company fully learns and applies the experience of the "Thousand Villages Demonstration, Ten Thousand Villages Renovation" project, resolutely shoulders its mission, fulfills economic, political and social responsibilities and fully implements the Party Central Committee's decisions and deployments on rural revitalization. In line with the development needs of Wenshan City, we strengthen cooperation with Wenshan City, set clear work goals and detailed measures, fully leverage the role of the Party, government, labor unions and youth leagues and carry out cooperation in multiple fields to assist rural revitalization.



## Promote rural revitalization

In 2024, the Company held 4 special work meetings on targeted assistance, the Company’s leaders conducted 2 field research trips to Wenshan City, sent 1 supervision letter to Wenshan City and identified 1 issue, and the Company and the units where the seconded cadres are located visited Wenshan 4 times to promote targeted assistance work and extended condolences to the seconded cadres. The Company focuses on the five revitalizations and takes multiple measures to assist rural revitalization. We invested RMB 11.8667 million in free assistance funds, including RMB 11 million directly invested and RMB 866,700 from industrial assistance fund income; invested RMB 1.45 million in paid assistance funds to support the development of small and medium-sized enterprises; introduced RMB 200,000 in free assistance funds to solve residents’ water supply issues; introduced RMB 464 million in paid assistance funds to promote new energy project construction; and coordinated RMB 900 million in investment attraction to assist the development of the health and wellness industry. At the same time, the Company actively implements projects such as slaughterhouse cold storage, PV power generation and agricultural, cultural and tourism infrastructure to strengthen the village collective economy and drive employment and income growth; invested RMB 300,000 in training grassroots cadres and rural revitalization leaders to enhance talent quality; invested RMB 600,000 in public cultural improvement projects to enhance rural cultural conditions; and invested RMB 3 million in human settlement improvement projects to improve rural living conditions. In addition, through party-building activities, renovating activity rooms, carrying out “Small Wish Fulfillment” activities and subscribing to newspapers and magazines, the Company strengthens grassroots party organization construction and enhances the sense of gain and happiness among the masses.



Capital type	Amount (RMB ten thousand)	Purpose
Free assistance funds	1,186.67	Used for industrial assistance and infrastructure construction to support local economic development.
Paid assistance funds	145	Supported the development of Wenshan Dianzhen Mushroom Industry Co., Ltd. through financial leasing, addressing the financing difficulties of small and medium-sized enterprises.
Introduced free assistance funds	20	Used for the renovation of the water supply network in Shangzhai Village, Panzhihua, Wenshan City, ensuring water safety for 419 households.
Introduced paid assistance funds	46,420	Invested in Wenshan City's "14th Five-Year Plan" centralized new energy PV project to promote local economic growth and tax revenue increase.
Collaborative investment attraction amount	90,000	Introduced Xiuzheng Group's investment in health and wellness projects, promoting urban construction and the development of the health and wellness industry in Wenshan City.

## Industrial assistance

The Company actively supports the growth of the village collective economy, promotes local employment and income growth for rural labor and creates favorable conditions for rural infrastructure construction and landscape improvement to support rural revitalization and local economic development. In 2024, the Company invested RMB 7 million in industrial assistance projects, accounting for 63% of the total gratis assistance funds. Funds were invested in implementing the cold storage facility project at the slaughterhouse in Zhuilijie Town, Wenshan City, the rooftop distributed PV power generation project in Binglie Township and the agricultural, cultural and tourism infrastructure improvement project in Pingba Village, Pingba Town. Upon completion, these projects will drive local employment and promote the development of the local cultural tourism industry and surrounding rural tourism.



## Cultural assistance

Focusing on the construction of rural civilization, the Company invested RMB 600,000 in public cultural improvement projects in Huangguochong Natural Village, Douzui Village Committee and Shangdatienatural Village, Yangliujing Village Committee, Liujing Township, Wenshan City. By implementing public cultural enhancement projects such as road expansion and reconstruction, installation of ethnic cultural street lamps, construction of cultural courtyards and renovation of water sources, we further meet the growing cultural needs of villagers and stimulate their internal motivation to participate in rural revitalization.

## Ecological assistance

The Company actively practices the concept of ecological revitalization and has invested RMB 3 million in implementing human settlement improvement projects. The project covers toilet renovation, road upgrades and sewage treatment facility construction in Matang Town and Dongshan Township of Wenshan City and promotes infrastructure construction at geological disaster relocation sites in Bozhu Town and Xiaojie Town, solving housing problems for 66 households and 297 people.

## Organizational assistance

The Company fully learns and applies the experience of the “Thousand Villages Demonstration, Ten Thousand Villages Renovation” project, resolutely shoulders its mission, fulfills economic, political and social responsibilities and fully implements the Party Central Committee’s decisions and deployments on rural revitalization. In line with the development needs of Wenshan City, we strengthen cooperation with Wenshan City, set clear work goals and detailed measures, fully leverage the role of the Party, government, labor unions and youth leagues and carry out cooperation in multiple fields to assist rural revitalization.

## Talent assistance

Since 2020, the Company has invested more than RMB 4.5179 million in Wenshan education, implementing a total of 55 targeted assistance projects by Harbin Electric, benefiting over 60,000 students. Since the implementation of the project, it has solved the problem of difficult bathing for students in more than 10 township boarding schools; updated teaching equipment for more than 10 schools, improving teaching quality; helped 3 schools build psychological counseling rooms; and assisted 30 schools in replacing drinking water pipes and improving access roads.



#### Case: Small wishes of 2018 students in Wenshan City were fulfilled

The “Hand in Hand with Love•Small Wish Fulfillment” activity was carried out. More than 3,000 young members provided nearly RMB 130,000 in dream-fulfillment funds, helping 2018 students in Wenshan, Yunnan, realize their small wishes. The children are allowed to feel care and encouragement, inspires them to study hard and grow strong and further leverages the positive role of the Youth League organization in comprehensively promoting rural revitalization.



### Commitment to public welfare and charity

The Company has always been committed to public welfare and charity, actively fulfilling corporate social responsibilities and practicing the mission of “giving back to society and benefiting humanity”. The Company encourages employees both at home and abroad to actively participate in various charitable activities, including voluntary blood donation, poverty alleviation and disaster relief, using practical actions to fulfill social responsibilities and contribute to social harmony and stability.

The Company always keeps in mind the mission of a state-owned enterprise, considering public welfare and charity as an important part of corporate development. On the path of undertaking social responsibilities, the Company adheres to the philosophy of “people-oriented, giving back to society”, continuously innovating public welfare models, guiding employees to participate in volunteer services and fostering a culture of full participation in public welfare.

On the 20th anniversary of “World Blood Donor Day”, the Company organized a voluntary blood donation event to help alleviate the shortage of clinical blood supply in Harbin. At the same time, the Company’s youth organizations formed 147 youth volunteer service teams, carrying out the theme activity “The spirit of Lei Feng shines; volunteer services lead the times” and actively participating in volunteer services such as assisting the elderly, visiting special schools, voluntary blood donation and snow and ice removal, using practical actions to promote the spirit of Lei Feng and showcase the mission and responsibility of the new generation.



#### Case: Organize the 2024 voluntary blood donation activity.

On the occasion of the 20th anniversary of World Blood Donor Day, the Company actively advocated the concept of caring for life and cherishing health, helping to ensure the clinical blood supply needs of medical institutions in Harbin, with a total donation volume of 317,590 milliliters. The Company used practical actions to contribute to society, demonstrating the spirit of blood donation to save lives and the responsibility of a central enterprise.



### Excellence in overseas responsibility

The Company actively responds to the “Belt and Road” initiative, focusing on its core responsibilities and continuously expanding the overseas engineering contracting and power equipment markets. At the same time, the Company actively undertakes social responsibilities and proactively participates in public welfare activities in project locations, generating widespread social impact, and making outstanding contributions to improving local people’s lives, driving employment and promoting environmental protection.

By the end of 2024, the Company has actively responded to the “Belt and Road” construction initiative, extensively cooperating with 11 countries and regions along the route. Based on the technologies, talents, and the execution experience of large-scale combined cycle power plant EPC projects, the Company has successfully entered important markets in the Middle East, Central Asia and the Americas, establishing a leading industry position. The Company has ranked in the top 100 of ENR’s “Top 250 International Contractors” list for consecutive years, executing over 2,860 EPC projects. These quality projects have forged the golden name card of “Made in China”, making significant contributions to energy development and economic development in countries along the route.

The Company, based on international development and localized operations, comprehensively improves the level of international management capabilities, enhances the value of international brands, and builds a new development pattern with new results of international management services. It has further improved the localized management mechanism for overseas employment, establishing a localized employment mechanism with overseas subsidiaries as the main employment entities. It has further increased the localization of international project operations, built a local talent resource pool, fully utilized local talent advantages, and built an international management team. In 2024, the localization ratio of overseas labor for the international companies was 45%.



#### Case: The Company signs a contract for Turkey’s first gigawatt-level energy storage power plant.

The Company actively participates in the construction of the “Belt and Road” and focuses on in-depth cooperation in green energy projects. It successfully signed the EPC contract for the Porgresiva 250 MW/1000 MWh energy storage project with Turkey’s Progresiva Energy Investment Company, which marked a new breakthrough in the energy storage market and created a new engine for green development in the international energy market.



#### Case: Dubai Hassyan Power Plant: China’s construction goes green

In recent years, the development of bilateral relations between China and the UAE has accelerated and yielded fruitful results. The “Belt and Road” Initiative is highly consistent with the UAE’s development concept. On the blue coast of the Persian Gulf, the Hassyan Power Station, built by an international company, is continuously supplying clean energy to Dubai. The Hassyan Power Plant is the world’s first dual-fuel coal-fired and natural gas-fired power station project to generate electricity at full load under the “Belt and Road” Initiative, and it is also the first clean coal-fired project in the Middle East.







First Prize of Hydropower Science and Technology Award	Key Technology and Application of 400 MW 700 m High-stability Pumped Storage Units	China Society for Hydropower Engineering
First Prize of Electric Power Science and Technology Award	Key technology and application for the installation of giant Francis turbine units	Chinese Society for Electrical Engineering
First Prize of Boiler Science and Technology Award	Development and application of 600MW efficient supercritical $\Pi$ -type boiler for ultra-high moisture inferior coal combustion Development of characterization techniques for hydrogen-resistant properties of materials in hydrogen storage and transportation systems and key equipment	Boiler and Water Treatment Association
First Prize of China Electric Power Science and Technology Award	Key technology for supercritical carbon dioxide cycle power generation and demonstration application of the world's first 5MW unit Key technology and application for green design and manufacturing of new high-end boilers	Office of China Electric Power Science and Technology Awards
Second Prize of Scientific and Technology Progress Award in Hebei Province	Research on Manufacturing Technology and Engineering Application of High-temperature Gas Cooled Reactor Steam Generator	Hebei Provincial People's Government
Heilongjiang Key Laboratory of Large High-performance Pump Equipment	Electric Machinery Company	Heilongjiang Provincial Department of Science and Technology
2023 FIDIC Outstanding Project Award	Baihetan Hydropower Station	FIDIC
The first batch of "Race to the Top" innovation platforms in the "14th Five-Year Plan"	Research and application innovation platform for key technology of digital twin in power generation industry	National Energy Administration
Special Prize of CNNC Science and Technology Award	China's Independent Third-Generation Nuclear Technology Hualong One First Reactor Project	China National Nuclear Corporation
Third-Class Merit in the Construction of Demonstration Fast Reactor Unit 1	The Company	Joint Party Committee for Demonstration Fast Reactor Project Acting on behalf of the CPC Committee of CNNC Xiapu Nuclear Power Co., Ltd.
Advanced unit in collective consultation quality assessment of Harbin City	Turbine Company	Harbin Federation of Labor Unions
Outstanding organization unit of Harbin City's factory affairs open democratic management knowledge competition	Turbine Company	Harbin Federation of Labor Unions
2023 International Safety Award	Harbin Electric International Dubai Hassyan Power Plant Project	British Safety Council

Top ten excellent cases of "2023 Chinese Enterprises' International Image Building"	Harbin Electric International's Power Plant Builders Devoted to Environmental Protection: China's Construction Goes Green	Hosted by China Foreign Languages Publishing Administration Organized by the International Communication Development Center of China Foreign Languages Publishing Administration
Excellent cases from the Blue Paper on the Overseas Social Responsibility of Central Enterprises (2023)	Harbin Electric International's Protecting Biodiversity and Building a Beautiful Ecological Environment	Bureau of Social Responsibility of State-owned Assets Supervision and Administration Commission of the State Council
2023 "Outstanding Performance" Gold Award of Outstanding Supplier	Harbin Electric International's Binjasen Phase III Project	K-Electric
The 19th Asia-Pacific Energy Industry Award Ceremony - IPP power plant of the year 2023 in Pakistan  The 19th Asia-Pacific Energy Industry Award Ceremony - ESG power plant of the year 2023 in Pakistan	Harbin Electric International's Pakistan Bhikki 1180MW Combined Cycle Power Plant	Asian Energy
19th Asia-Pacific Region Energy Industry Award Ceremony - Pakistan's 2023 Science and Technology Innovation Award	Harbin Electric International's first H-class combined cycle training hall Harbin Electric International's first innovative intelligent inspection robot project	Asian Energy
Creating world-class professional leading demonstration enterprises	Electric Machinery Company, Valve Company, etc.	State-owned Assets Supervision and Administration Commission of the State Council
Demonstration enterprise for establishing harmonious labor relations in Heilongjiang Province	The Company	Heilongjiang Human Resources and Social Security Bureau
Awards received by cadres assigned to Wenshan City, the designated assistance county		
Wenshan May Fourth Youth Medal	Guo Bo Deputy Mayor of Wenshan City	Wenshan City
2022 "Pacesetters from Seven Townships"	Sun Xianda First Resident Secretary of Wenshan City	Wenshan Municipal Committee of the CPC and Wenshan Municipal Government
2021 - 2023 Outstanding First Resident Secretary	Sun Xianda First Resident Secretary of Wenshan City	Organization Department of the Yunnan Provincial Committee of the CPC and Yunnan Provincial Rural Revitalization Bureau
Other awards		
2023 "National Craftsman of the Year"	Dong Litao Skill expert at Turbine Company	All-China Federation of Trade Unions China Media Group
Dong Litao National Milling Skills Master Studio	Dong Litao's team	All-China Federation of Trade Unions China Media Group
Advanced Collective of Central Enterprise	R&D test center of Valve Company	Ministry of Human Resources and Social Security Stated-owned Assets Supervision and Administration Commission of the State Council
Working Model of Central Enterprise	Long Zhiyun, director of performance room I of engineering design center of Boiler Company	Ministry of Human Resources and Social Security Stated-owned Assets Supervision and Administration Commission of the State Council



Heilongjiang Model of State-owned Enterprise	Qin Daqing Chief scientist of Harbin Electric Corporation	Stated-owned Assets Supervision and Administration Commission of Heilongjiang Provincial
	Dong Litao CNC miller of dynamic assembly branch factory of Turbine Company	

## Key performance indicators

Environmental performance					
Item	Indicator	Unit	2022	2023	2024
Green innovation	Investment expenditure on green technical transformation and recycling	RMB ten thousand	1,673	2,500	2800
Greenhouse gas emission	Total greenhouse gas emissions (Scope 1 + Scope 2) (mainland China - market-based)	Ten thousand t CO <sub>2</sub> e	24.84	19.95	20.27
	Total greenhouse gas density (Scope 1 + Scope 2) (operating income) (mainland China - market-based)	t CO <sub>2</sub> e/RMB ten thousand	0.0988	0.0655	0.0523
Energy consumption	Comprehensive energy consumption (mainland China)	tce	58,800	55,600	60,525
	Comprehensive energy consumption density (mainland China) (operating income)	tce/RMB ten thousand	0.0271	0.0241	0.0194
	Self-produced renewable energy consumption	kWh	—	1,140,000	2,946,871
	Green electricity and green electricity purchased through green electricity certificate	kWh	—	7,800,000	12,427,100
	Natural gas consumption (mainland China)	m <sup>3</sup>	14,090,000	15,860,000	18,061,652
	Official vehicle gasoline consumption (mainland China)	t	264	373	311.2
Waste water management	Industrial waste water emission	m <sup>3</sup>	706,000	676,200	631,775
	Chemical oxygen demand (COD) emission	t	20.95	19.2	18.95
	Ammonia nitrogen (NH <sub>3</sub> -N) emission	t	0.68	0.63	0.63
	Rate of up-to-standard emission of waste water	%	100	100	100
Waste gas management	Nitrogen oxide (Nox) emission	kg	25,000	29,515.7	33,577.7
	Sulfur oxide (SOx) emission	kg	30	28	31.9
Waste management	Total harmless waste (by disposal method)	t	11,000	44,200	53,500
	Total harmful waste (by disposal method)	t	1,700	1,968	2,086

Water resources management	Total hazardous waste	t	1,700	1,968	2,086
	Total water consumption (by water source)	Ten thousand t	324.66	695.43	534.68
	Dong Litao CNC miller of dynamic assembly branch factory of Turbine Company	Ten thousand t	90.13	85.99	97.68

Social performance

Item	Indicator	Unit	2022	2023	2024
Science and technology innovation	Proportion of R&D expense in operating revenue	%	5.20	5.53	4.93
	Proportion of R&D personnel	%	23.69	25.31	24
	Investment of R&D expenses	RMB billion	12.69	15.84	19.08
	Number of R&D personnel	Person	2,893	2,895	3,260
	Number of academicians and other cutting-edge talents	Person	0	0	
Intellectual property protection	Number of valid patents per RMB 10,000 revenue	Item	0.00172	0.001436	0.001138
	Number of software copyrights per RMB 10,000 revenue	Item	0.000016	0.000014	0.000015
	Number of software copyrights during the reporting period	Item	40	40	56
	Number of software copyrights registered during the reporting period	Item	40	40	56
	Number of intellectual properties such as trademarks and copyrights during the reporting period	Item	51	51	67
	Number of patent authorizations during the reporting period	Item	409	331	242
	Number of trademark approvals during the reporting period	Item	0	0	0
	Number of valid patents during the reporting period	Item	4,239	4,117	4,359
Customer privacy protection	Number of confirmed incidents of eakage, theft, or loss of customer data	Item	0	0	0
Customer complaint handling	Product quality complaints	Item	5	0	0
	Service complaints	Item	10	1	3
	Handling completion rate	%	100	100	100
	Satisfaction rate	%	100	100	100

Supply chain	Number of significant risk and impact events in the supply chain	Item	0	0	0
	Personnel involved in significant risk and impact events in the supply chain	Person	0	0	0
	Number of qualified suppliers	Item	4,565	3,530	3,787
	Number of suppliers in Chinese Mainland	Item	4,187	3,238	3,460
	Number of overseas suppliers	Item	378	292	327
Recruitment and employment	Total number of employees	Person	12,171	11,283	11,415
	Number of male employees	Person	10,343	9,510	9,603
	Number of female employees	Person	1,828	1,773	1,812
	Number of full-time contract employees	Person	11,676	11,017	11,265
	Number of full-time dispatched employees	Person	495	266	140
	Number of part-time employees	Person	0	0	0
	Number of employees above the age of 50	Person	2,843	2,235	2,353
	Number of employees aged 30 to 50	Person	7,874	7,367	7,526
	Number of employee under the age of 30	Person	955	1,861	1,806
	Number of employees working in mainland China	Person	12,171	11,283	11,415
	Number of employees working in Hong Kong, Macao, Taiwan and overseas	Person	0	0	0
	Number of employee turnovers	Person	87	103	80
	Number of male employee turnovers	Person	75	79	63
	Number of male employee turnovers	Person	12	24	17
	Number of turnovers of employees above the age of 50	Person	2	2	10
	Number of turnovers of employees aged 30 to 50	Person	55	70	45
	Number of employee turnovers under the age of 30	Person	30	31	25
	Number of turnovers of employees working in mainland China	Person	87	103	80
	Number of turnovers of employees working in Hong Kong, Macao, Taiwan and overseas	Person	0	0	0
	Number of employees in other employment forms (Please specify)	Person	0	0	10 (re-employment of retirees)
	Turnover rate of employees	%	0.71	0.85	0.7



Recruitment and employment	Turnover rate of male employees	%	0.62	0.65	0.55
	Turnover rate of female employees	%	0.1	0.20	0.15
	Turnover rate of employees above the age of 50	%	0.02	0.02	0.09
	Turnover rate of employees aged 30-50	%	0.45	0.58	0.39
	Turnover rate of employees below the age of 30	%	0.25	0.25	0.22
	Turnover rate of employees working in mainland China	%	0.71	0.85	0.7
	Turnover rate of employees working in Hong Kong, Macao, Taiwan and overseas	%	0	0	0
Protection of rights and interests of employees	Total number of penalties for violations of employee employment and labor laws	Times	0	0	0
	Number of penalties for violations of employee recruitment and dismissal related laws	Times	0	0	0
	Number of penalties for violations of employee working hour and holiday related laws	Times	0	0	0
	Number of penalties for violations of employee promotion and equal opportunity related laws	Times	0	0	0
	Number of penalties for violations of employee anti-discrimination and diversity related laws	Times	0	0	0
	Number of labor dispute cases	Item	0	0	6
	Number of congress of workers and employees held	Times	1	1	1
	Number of labor union members	Person	11,676	11,017	11,415
	Percentage of employees who are labor union members	%	100	100	100
	Proportion of employees who died due to work-related injuries	%	0	0	0
	Proportion of employees who died due to work-related injuries	Person	0	0	0
Occupational health and safety	Number of employees in occupational disease risk positions	Person	2,404	2,698	2,566
	Number of employees diagnosed with occupational diseases	Person	0	0	0
	Number of working days lost due to work-related injuries	Day	762	230	240
	Total number of employees trained	Person	64,052	31,380	115,054
	Employee training coverage	%	98	98	98

Social welfare	Total employee training expenditure	RMB ten thousand	819	1,007	3,284
	Total community public welfare investment (by field) as a percentage of revenue	%	0.06	0.08	0.03
	Total community public welfare investment	RMB ten thousand	1,557	2,440	1,245
	Community public welfare investment amount (rural revitalization)	RMB ten thousand	1,557	2,440	1,245
	Charitable donation amount	RMB ten thousand	11.86	0.64	12.8

Governance performance

Item	Indicator	Unit	2022	2023	2024
Company governance	Percentage of female directors on the Board of Directors	%	0	0	0
	Percentage of independent non-executive directors on the Board of Directors	%	57	57	57
	Number of members on the Board of Directors	Person	7	7	7
	Number of female directors	Person	0	0	1
	Number of independent non-executive directors	Person	4	4	4
	Number of executive directors	Person	3	3	3
	Number of non-executive directors	Person	0	0	0
	Number of directors over 50 years old	Person	7	7	7
	Number of directors aged 30-50	Person	0	0	0
	Number of directors below the age of 30	Person	0	0	0
	Average tenure of directors	Year	4	3	3
	Number of members on the Board of Supervisors	Person	5	4	5
	Number of external supervisors	Person	0	0	0

Economic performance

Item	Indicator	Unit	2022	2023	2024
Operation performance	Operating revenue	RMB ten thousand	2,464,379	2,884,086	3,829,785
	Company annual tax payment	RMB ten thousand	110,757	130,780	150,632

# Index of indicators

Index to the Environmental, Social and Governance Reporting  
Guide issued by the Stock Exchange of Hong Kong Limited

Mandatory disclosure requirements		Location in the report
Governance architecture	<p>A statement issued by the Board of Directors contains the following contents:</p> <ul style="list-style-type: none"><li>• Disclosure of the Board of Directors’ oversight of environmental, social and governance matters;</li><li>• The Board of Directors’ environmental, social and governance management policies and strategies, including the process for assessing, prioritizing, and managing significant environmental, social and governance-related matters (including risks to the issuer’s business); and</li><li>• How the Board of Directors reviews progress against environmental, social and governance-related goals and explains their relevance to the issuer’ s business.</li></ul>	ESG Statement of the Board of Directors
Reporting principles	<p>Describe or explain how the following reporting principles are applied in preparing the environmental, social and governance report:</p> <p><b>Materiality:</b> The environmental, social and governance report should disclose: (i) The process for identifying material environmental, social and governance factors and the criteria for selecting these factors; (ii) If the issuer has engaged stakeholders, a description of the identified key stakeholders and the process and outcomes of the issuer’ s stakeholder engagement.</p> <p><b>Quantification:</b> Information on the standards, methods, assumptions and/or calculation tools used for reporting emissions/energy consumption (if applicable) and the source of the conversion factors used should be disclosed.</p> <p><b>Consistency:</b> The issuer should disclose in the environmental, social and governance report any changes in statistical methods or key performance indicators (if any) or any other relevant factors affecting meaningful comparisons.</p>	About this report
Reporting scope	Explain the reporting scope of the environmental, social and governance report and describe the process for selecting which entities or operations to include in the report. If the reporting scope has changed, the issuer should explain the differences and the reasons for the changes.	About this report

## “Non-compliance explanation” regulations

Level	Indicator	Description	Location in the report
A Environment			
A1: Emissions	General disclosure	<p>For the emission of waste gas and greenhouse gases, the discharge of pollutants into water and land, the generation of harmful and harmless wastes, etc.:</p> <p>(a) Policies; and</p> <p>(b) The information about the compliance with relevant laws and regulations that have a significant impact on the issuer.</p>	Pollutant and environmental impact management
	KPI A1.1	Types of emissions and related emission data.	Pollutant and environmental impact management
	KPI A1.2	Direct (scope 1) and indirect (scope 2) greenhouse gas emissions (calculated in tons) and (if applicable) density (e.g. calculated per production unit and per facility).	Combat with climate change
	KPI A1.3	Total amount of harmful wastes generated (calculated in tons) and (if applicable) density (e.g. calculated per production unit and per facility).	Pollutant and environmental impact management
	KPI A1.4	Total amount of harmless wastes generated (calculated in tons) and (if applicable) density (e.g. calculated per production unit and per facility).	Pollutant and environmental impact management
	KPI A1.5	Describe the emission goals set and the steps taken to achieve such goals.	Pollutant and environmental impact management
	KPI A1.6	Description of the method to dispose of hazardous and harmless wastes, waste reduction goals set and the steps taken to achieve such goals.	Pollutant and environmental impact management
	General disclosure	Policies for the effective use of resources (including energy, water and other raw materials).	Resource use management
	KPI A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (0,000 kWh) and intensity (e.g. calculated per production unit and per facility).	Combat with climate change



A2: Use of resources	KPI A2.2	Total water consumption and density (e.g. calculated per production unit and per facility).	Resource use management
	KPI A2.3	Describe the energy use efficiency goal and the steps taken to achieve such goal.	Combat with climate change
	KPI A2.4	Description of any problems in obtaining the applicable water sources, the water use efficiency goals set and the steps taken to achieve such goals.	Resource use management
	KPI A2.5	Total packaging material used for finished products (in ton), and, if applicable, proportion of per production unit.	Resource use management
A3: Environment and natural resources	General disclosure	Policies on minimizing the issuer's significant impact on the environment and natural resources.	Resource use management
	KPI A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	Resource use management
A4: Climate change	General disclosure	Policies to identify and respond to major climate-related issues that have and may have an impact on the issuer.	Combat with climate change
	KPI A4.1	Description of major climate-related issues that have and may have an impact on the issuer and actions.	Combat with climate change
B. Society			
Employment and labor practices			
B1: Employment	General disclosure	For remuneration and dismissal, recruitment and promotion, working hours, holidays, equal opportunities, diversity, anti-discrimination and other salaries and welfare:  (a) Policies; and  (b) The information about the compliance with relevant laws and regulations that have a significant impact on the issuer.	Rights and benefits
	KPI B1.1	Total employees by gender, employment type (full time or part-time), age group and region.	Rights and benefits
	KPI B1.2	Turnover rate of employees by gender, age group and region.	Rights and benefits
	General disclosure	For providing a safe working environment and protecting employees from occupational hazards:  (a) Policies; and  (b) The information about the compliance with relevant laws and regulations that have a significant impact on the issuer.	Occupational health and safety

B2: Occupational health and safety	KPI B2.1	Number and proportion of occupational deaths in each of the past three years (including the reporting year).	Occupational health and safety
	KPI B2.2	Number of working days lost due to work-related injuries.	Occupational health and safety
	KPI B2.3	Describe occupational health and safety measures adopted, how they are implemented and monitored	Occupational health and safety
B3: Development and training	General disclosure	Policies on improving employees' knowledge and skills in performing their responsibilities. Description of training activities.	Talent development and training
	KPI B3.1	Percentage of trained employees by gender and category (such as senior management and middle management).	Talent development and training
B4: Labour standards	KPI B3.2	Average training hours of employees by gender and category.	Rights and benefits
	General disclosure	For the prevention of child or forced labor:  (a) Policies; and  (b) The information about the compliance with relevant laws and regulations that have a significant impact on the issuer.	Talent development and training
	KPI B4.1	Description of measures to review employment practices to avoid child and forced labour	Rights and benefits
	KPI B4.2	Description of the steps taken to eliminate violations when they are found.	Rights and benefits
Operational practices			
B5: Supply chain management	General disclosure	Management of environmental and social risk policies of supply chain.	Product quality assurance
	KPI B5.1	Number of suppliers by region.	Product quality assurance; key performance table
	KPI B5.2	Description of practices relating to engaged suppliers, number of suppliers where the practices are being implemented and how they are implemented and monitored.	Product quality assurance
	KPI B5.3	Describe the practices of identifying environmental and social risks in each link of the supply chain and the implementation and monitoring methods.	Product quality assurance
	KPI B5.4	Describe practices of promoting the use of environment-friendly products and services during the selection of suppliers, and relevant implementation and monitoring methods.	Product quality assurance
B6: Product responsibility	General disclosure	For the health and safety, advertising, labeling and privacy matters of the products and services provided and the remedies:  (a) Policies; and	Product quality assurance

B6: Product responsibility		(b) The information about the compliance with relevant laws and regulations that have a significant impact on the issuer.	Product quality assurance
	KPI B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons.	Product quality assurance
	KPI B6.2	Number of complaints about products and services received and countermeasures.	Protection of rights and interests of customers
	KPI B6.3	Description of practices relating to observing and protecting intellectual property rights.	Promoting innovative technologies
	KPI B6.4	Description of quality assurance process and recall procedures.	Product quality assurance
	KPI B6.5	Describe consumer data protection and privacy policies, how they are implemented and monitored.	Protection of rights and interests of customers
B7: Anti-corruption	General disclosure	For the prevention of bribery, extortion, fraud and money laundering:  (a) Policies; and  (b) The information about the compliance with relevant laws and regulations that have a significant impact on the issuer.	Standardized governance
	KPI B7.1	Number of corruption litigation cases filed against the issuer or its employees and concluded during the reporting period and litigation results.	Standardized governance
	KPI B7.2	Describe preventive measures and whistle-blowing procedures, how they are implemented and monitored.	Standardized governance
	KPI B7.3	Description of the anti-corruption training provided to the board of directors and employees.	Standardized governance
Community			
B8: Community investment	General disclosure	Policies on community participation to understand the needs of the community in which it operates and ensure that business activities consider the interests of the community.	Promoting rural revitalization
	KPI B8.1	Focus on contribution categories (such as education, environmental matters, labor needs, health, culture and sports).	Promoting rural revitalization
	KPI B8.2	Resources (such as money or time) contributed to focusing categories.	Promoting rural revitalization

Index to the Environmental, Social and Governance Reporting Guide issued by the Stock Exchange of Hong Kong Limited

Title		Central SOE guidelines
Establishing norms and laying the foundation, setting sailing for outstanding governance	Leadership of Party building	G1.1
	Standardized governance	G1.1 G1.2 G1.3 G3.1 G3.2 G4.1 G4.2 G5.1 G5.2
	Risk management	G2.1 G5.2
	Anti-corruption	G2.2
Lush greenery, building an ecological home together	Environment management system	E5.6
	Combat with climate change	E1.3 E3.1 E3.2 E3.4 E5.1 E5.2 E5.3
	Pollutant and environmental impact management	E2.1 E2.2 E2.3 E5.4
	Resource use management	E1.1 E1.2 E1.4
	Biodiversity protection	E4.1
Innovation-driven, empowerment of quality for the future	Advocating science and technology innovation	S2.3
	Digital and intelligent transformation	S4.4
	Leading industry development	/
	Product quality assurance	S2.1 S3.1 S3.2
	Protection of rights and interests of customers	S2.2
Talent foundation for a new chapter of development	Rights and benefits	S1.1 S1.2 S1.5
	Occupational health and safety	S1.3
	Talent development and training	S1.4
Embracing public welfare to support social progress	Promoting rural revitalization	S4.2 S4.4
	Commitment to public welfare and charity	S4.3
	Excellence in overseas responsibility	S4.4



## Reader feedback

### Feedback form

Dear readers:

Thank you for taking the time to read the Harbin Electric 2024 Enviromental, Social, Governance Report. We sincerely look forward to your comments and suggestions on this report and our work. Please provide feedback via mail or email. Your valuable suggestions will be a source of motivation for us to move forward. Thank you!

#### 1. Which category of stakeholders does your organization belong to in relation to Harbin Electric:

- ☐ Internal staff      ☐ Government/supervisory authorities      ☐ Shareholders/investors
- ☐ Customers/potential customers      ☐ Suppliers/partners      ☐ Non-governmental organizations
- ☐ Community/public      ☐ Others (Please specify)

#### 2. Is the information you are concerned about reflected in this report?

- ☐ Yes      ☐ General      ☐ No

#### 3. Your opinion on this report:

• **Readability** (clear and understandable expression, aesthetically pleasing design, engaging and easy to find the needed information)

- ☐ 3 points (good)      ☐ 2 points (average)      ☐ 1 point (poor)

• **Credibility** (the information in the report is trustworthy)

- ☐ 3 points (good)      ☐ 2 points (average)      ☐ 1 point (poor)

• **Information completeness** (balanced positive and negative information and meeting your information needs)

- ☐ 3 points (good)      ☐ 2 points (average)      ☐ 1 point (poor)

#### 4. Can you easily find the information what you are concerned about in this report?

- ☐ Yes      ☐ General      ☐ No

#### 5. Besides the content already disclosed in this report, what other information would you like to see?

## Disclaimer

The information contained in this report does not constitute any investment advice. Investors shall not replace their independent judgment with such information or make decisions solely based on such information. The Company also does not assume any responsibility for any losses that may arise or be caused by using the information in this report. The information published by the Company is true and accurate. If there is any inconsistency with the statutory disclosure documents, the statutory disclosure documents shall prevail.

The forward-looking statements contained in this report are based on the Company's current production and operation status and are predictions, assumptions or expectations. The implementation process may be affected by risk factors and force majeure and actual results may differ from the assumptions and statements made in this report.

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