CRRC Zhuzhou Institute Co., Ltd. Comprehensive Energy Business Unit 2024 Environmental, Social and Governance (ESG) Report

Reported by:	CRRC Zhuzhou Institute Co., Ltd.
Reported on:	May 2025
Reporting year:	January 1, 2024-December 31, 2024

About the Report

The 2024 Environmental, Social and Governance (ESG) Report of CRRC Zhuzhou Institute Co., Ltd. Comprehensive Energy Business Unit (hereinafter referred to as "the Report") is the second ESG report issued by the CRRC Zhuzhou Institute Co., Ltd. Comprehensive Energy Business Unit (see the abbreviation in the "Abbreviation Description" table below for details). The Report presents the Comprehensive Energy Business Unit's sustainable development concept, management methods, actions, and performance to stakeholders.

❖ Report Scope

Report time scope	January 1, 2024 to December 31, 2024. For report continuity and comparability, certain contents of the Report have been moderately extended to include the previous and subsequent years.
Report organization scope	Including Comprehensive Energy Business Unit and its subordinate custodian companies (see the "Abbreviation Description" table below for details)
Report release cycle	Annual report

❖ Abbreviation Description

Abbreviation	Description
CRRC, Group Company	CRRC Corporation Limited

CRRC Zhuzhou Institute, Company	CRRC Zhuzhou Institute Co., Ltd.
Comprehensive Energy Business Unit and its subordinate custodian companies	
Comprehensive Energy Business Unit, Business Unit, Comprehensive Energy, We	CRRC Zhuzhou Institute Co., Ltd. Comprehensive Energy Business Unit
Subordinate custodian companies	Haiyuan Branch of Ningxia CRRC New Energy Co., Ltd.
	Yibin CRRC Times New Energy Co., Ltd.
	Changji Branch of Yibin CRRC Times New Energy Co., Ltd.
	Baidong Branch of Guangxi CRRC New Energy Equipment Co., Ltd.
	Xilinhot Branch of CRRC Zhuzhou Institute Co., Ltd.
	Jiguan Branch of Jixi CRRC New Energy Equipment Co., Ltd.
	Tongling Branch of CRRC Zhuzhou Institute Co., Ltd.

❖ Preparation Basis

The Report is prepared with reference to the *Sustainability Reporting Standards* issued by the Global Reporting Initiative (hereinafter referred to as "GRI standards"), the United Nations Sustainable Development Goals (hereinafter referred to as "SDGs"),

and the *Reference Indicator System of Special ESG Reports for Listed Companies Controlled by Centrally Administrated State-owned Enterprises* published by State-owned Assets Supervision and Administration Commission of the State Council.

❖ Data Description

The information and data disclosed in the Report mainly come from the Business Unit's official documents, internal statistics and publicly released materials. The quantitative data cited is the final statistical result. Unless otherwise specified, the monetary amounts involved in the Report are measured in RMB.

❖ Access to the Report

The Report is available in simplified Chinese and English. In case of any discrepancy between the Chinese and English versions, the simplified Chinese version shall prevail. If you have any questions or feedback about the contents herein, please contact us by:

- Tel.: 86-0731-28494477
- E-mail: liuhe@csrzic.com
- Address: Headquarters No. 1 Building, 898 Zhuzhou Avenue, Tianyuan District, Zhuzhou City, Hunan Province, P.R. China

General Manager's Speech

Distinguished stakeholders,

CRRC, as a rail transit equipment manufacturing group in China, shoulders the era's mission of creating pillars of China and shaping the national image. As a representative of central enterprises in the field of energy storage, the CRRC Zhuzhou Institute Comprehensive Energy Business Unit gives full play to the technology chain and industrial chain advantages in various fields, such as wind and photovoltaic power generation, power electronic transmission and distribution, equipment electrification, new materials, power semiconductors, and intelligence, by relying on the ten core technologies inherited from the high-speed rail field, rich top-level resources and strong group capital. We are committed to creating a complete set of "carbon peaking and carbon neutrality" solutions, helping energy structure transformation and sustainable development in China.

Since establishment just three years ago, the Comprehensive Energy Business Unit has upheld the quality concept of "improving quality through management, building the brand through leanness, pursuing excellence through innovation, and serving customers with value". We have made product quality a strategic priority, continuously increased R&D investment, established and implemented total quality management, focused on product safety, performance, cost and intelligence, and constantly improved competitiveness in energy storage, so as to deliver greater value to customers. In 2024,

we achieved outstanding financial results, with operating revenue reaching RMB 7.085 billion.

The Earth is our shared home, and it is our responsibility to protect the environment. China has anchored the "carbon peaking and carbon neutrality" goals to promote green economy, backed by comprehensive policy support for the new energy industry. The Comprehensive Energy Business Unit actively responds to the national "carbon peaking and carbon neutrality" strategy. Relying on our own advantages in product R&D and equipment technology, we provide customers with energy-efficient, environmentally friendly, safe and intelligent clean energy equipment and system solutions, promoting synergistic efficiency of pollution reduction and carbon reduction, and driving high-quality development and new progress in ecological civilization.

Talents are the driving force and foundation of sustainable development for enterprises. Embracing the concept of equality and diversity, we gather talents and wisdom, respect and care for employees, and strive to foster a fair and harmonious work environment. In terms of health and safety, we adhere to the people-oriented principle and pursue "zero accidents and zero injuries" to create a safe and healthy working environment for employees and promote harmonious development with them. From 2022 to 2024, there were no fatal accidents or occupational disease cases in the Company.

With strong momentum, energy storage is now providing pivotal support for energy transformation and power system upgrading. We will continue exploring new technological innovation paths and expand the industrial and scientific research

cooperation with partners such as upstream and downstream supply chains, jointly advancing the energy storage industry to new heights.

The journey is long, and we must forge ahead. Looking ahead, we are filled with confidence in the energy storage industry. Together with our industry peers, we will embrace new opportunities, tackle emerging challenges, and work toward creating a brighter future!

CRRC Zhuzhou Institute Co., Ltd. Comprehensive Energy Business Unit

Tang Yuanyuan, General Manager

About Us

Company Profile

CRRC Zhuzhou Institute Co., Ltd., formerly known as Zhuzhou Electrical Locomotive Research Institute affiliated to the Ministry of Railways, was established in 1959, and currently is a first-tier, wholly-owned subsidiary of CRRC Corporation Limited. Comprised of 13 entities, the CRRC Zhuzhou Institute boasts 2 listed companies, 10 national platforms of scientific research and innovation, 3 corporate postdoctoral research centers, 5 overseas technology R&D centers, and 13 national specialized and special new "small giant" enterprises.

The Comprehensive Energy Business Unit, established in June 2022, is a first-level strategic business unit under CRRC Zhuzhou Institute and also serves as a crucial industrial platform for CRRC Zhuzhou Institute to fulfill its responsibility as a central enterprise and undertake the national "carbon peaking and carbon neutrality" strategy deployment. Building on more than 60 years of CRRC Zhuzhou Institute’s innovation in converter technology and over 20 years of its expertise in energy storage technology, the Business Unit is committed to providing customers with energy-efficient, environmentally friendly, safe and intelligent clean energy core equipment and comprehensive system solutions. The Business Unit headquarters is located at Room 2401, Headquarters No. 1 Building, 898 Zhuzhou Avenue, Songshan Road Subdistrict, Tianyuan District, Zhuzhou City, Hunan Province, P.R. China.

In 2024, the Business Unit achieved total assets of RMB 8.989 billion (up 153.34% YoY) and operating revenue of RMB 7.085 billion (up 22.94% YoY). During the

reporting period, the Business Unit ranked first in the Chinese energy storage industry in terms of winning bid quantity; the shipment volume of energy storage systems was 14.16 GWh, showing a YOY growth of 180.81%; a total of 101 energy storage installation projects were distributed across 24 provinces, including Inner Mongolia, Heilongjiang, Jiangxi, Chongqing, Qinghai, and Xinjiang.

During the reporting period, the Comprehensive Energy Business Unit	
Operating revenue YOY growth RMB 7.085 billion 22.94%	Shipment volume of energy storage systems YOY growth 14.16 GWh 180.81%

❖ **Business Sector**

Energy storage business	• Generation-side energy storage system solution • Grid-side energy storage system solution • Industrial and commercial energy storage system solution • Flexible green power to hydrogen system solution
Hydrogen energy business	• Main products: energy management system (EMS), hydrogen production control system (DCS), hydrogen production power supply, electrolyzer, separation and purification device
Comprehensive energy business	• Source-grid-load-storage integrated energy solution • Low-carbon park integrated energy solution

❖ **Production Base**

As a key player in manufacturing clean energy equipment in China, the Comprehensive Energy Business Unit has established energy storage battery PACK production lines and (or) energy storage battery compartment integrated production

lines in places such as Zhuzhou (Hunan), Yibin (Sichuan), and Changji (Xinjiang), continuously enhancing the capability for large-scale in-house production. As of the end of the reporting period, the annual capacity of the Comprehensive Energy Business Unit's energy storage battery compartment integrated production lines reached 21.5 GWh, and that of energy storage battery PACK production lines reached 15 GWh.

During the reporting period, the Comprehensive Energy Business Unit	
Number of energy storage production bases 7 bases	Number of hydrogen energy production & test bases 2 bases
Annual output of energy storage battery PACK 8.274 GWh	Annual output of energy storage battery compartment 11.54 GWh

Energy Storage Production Base

	
Liyu Base • Production base of energy storage battery compartment integrated production line, located in Zhuzhou,	**Haitian Base** • Production base of energy storage battery PACK production line, located in Zhuzhou, Hunan

Hunan • The production started in July 2022, with an annual capacity of 3 GWh.	• The production started in May 2023, with an annual capacity of 4 GWh.
	
Yibin Base • Production base of energy storage battery compartment integrated + PACK production lines, located in Yibin, Sichuan • The energy storage battery compartment integrated production line was put into operation in January 2024, with an annual capacity of 8 GWh. • The energy storage battery PACK production line was put into operation in April 2024, with an annual capacity of 8 GWh.	**Haiyuan Base** • Production base of energy storage battery compartment integrated production line, located in Zhongwei, Ningxia • The production started in July 2023, with an annual capacity of 5 GWh.

<table>
<tr><td>  </td><td>  </td></tr>
<tr><td>Changji Base
Production base of energy storage battery compartment integrated production line, located in Changji, Xinjiang
The production started in January 2024, with an annual capacity of 1.5 GWh.</td><td>Xilingol League Base
Production base of energy storage battery compartment integrated + PACK production lines, located in Xilingol League, Inner Mongolia
The production started in July 2024. The annual capacity of both the energy storage battery compartment integrated production line and the energy storage battery PACK production line reached 2 GWh.</td></tr>
<tr><td>  </td><td></td></tr>
<tr><td>Jixi Base</td><td></td></tr>
</table>

• Production base of energy storage battery compartment integrated + PACK production lines, located in Jixi, Heilongjiang • The production started in October 2024. The annual capacity of the energy storage battery compartment integrated production line reached 2 GWh, and that of the energy storage battery PACK production line reached 1 GWh.	

Hydrogen Energy Production & Test Base

	
200 Nm3 Hydrogen Production & Test Line • It is located in Zhuzhou, Hunan. Its main product is the containerized hydrogen production and refueling	**Green Power to Hydrogen Equipment Production & Test Center** • It is located in Zhuzhou, Hunan. Its main product is electrolyzer (1,000-4,000 Nm^3) performance testing

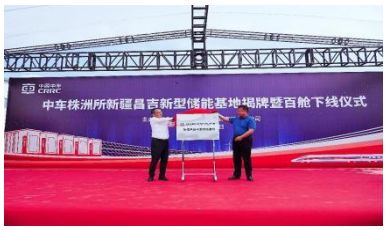
station.	and certification.

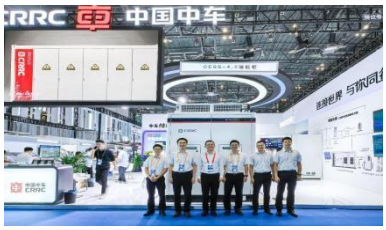
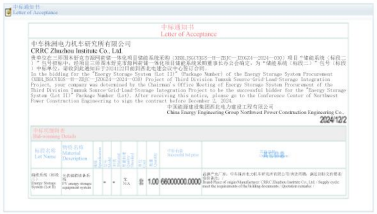
Enterprise Culture

Enterprise mission	Connecting the World and Benefiting Mankind
Enterprise vision	To Affirm Its Position as a Global Leading Enterprise in the Field of Transportation and Energy
Enterprise spirit	Pragmatism, Respect, Innovation, Achievement
Core value	Responsibility, Expertise and Outstanding Results

Annual Events

January 2024	Annual summary meeting - after countless trials and tribulations, we conquered new challenges once more	
February 2024	The second anniversary of the Comprehensive Energy Business Unit's establishment	
March 2024	Won the bid for the first Australian project, a successful step in going global	
March 2024	Officially released the new generation of flexible green power to hydrogen system	

May 2024	Changji Base officially unveiled, with the 100th energy storage DC compartment rolling off the production line	
June 2024	First product of Jiaze CRRC Digital Energy Storage Battery Manufacturing Park in Jixi City successfully launched	
June 2024	Assisted in bringing the largest sodium-ion technology demonstration project in China to full operational capacity	
July 2024	Xilingol League Base officially unveiled, with the first energy storage DC compartment rolling off the production line	
July 2024	"Working Together for Energy Storage" Industrial and Commercial Energy Storage Ecological Partner Conference successfully held	
August 2024	Facilitated the grid connection of the first indoor industrial and commercial energy storage project in Zhejiang Province	
August 2024	Won the bid for Datang Xizang Ali 60MW/300MWh independent grid-forming (GFM) energy storage project, contributing to the order size surpassing RMB 5 billion	

September 2024	Released the new generation of CESS-4.0 energy storage system	
October 2024	The independently developed 2,000 Nm^3 electrolyzer officially rolling off the production line	
October 2024	Yibin Base unveiled, with the 500th energy storage DC compartment rolling off the production line	
November 2024	Overseas market expedition meeting held	
December 2024	Won the bid for CEEC Northwest Investment Tumxuk 60MW/120MWh Energy Storage Project, contributing to the order size surpassing RMB 10 billion	

Honor Recognition

Award	Picture	Awarding Organization
National Awards		

Second Prize of National Science and Technology Progress Award		The CPC Central Committee, the State Council
Advanced Collective of Central Enterprises		Ministry of Human Resources and Social Security, the State-owned Assets Supervision and Administration Commission of the State Council
Enterprise Awards		
2024 Most Influential Enterprise in China's Energy Storage Industry		China International Energy Storage Conference Organizing Committee, China Energy Storage Network
2024·Energy Storage List: Top Ten Energy Storage Brands of the Year		International Energy Network, International Energy Research Institute

2024 Energy Storage List: Top Ten Energy Storage PCS Brands of the Year		International Energy Network, International Energy Research Institute
Top 10 China's Energy Storage System Integrators by Global Market Shipment Volume in 2023		Energy Storage International Summit Organizing Committee
Top 10 China's Energy Storage System Integrators by Chinese Market Shipment Volume in 2023		Energy Storage International Summit Organizing Committee
China's Top 500 Energy Enterprises		China Energy News, China Institute of Energy Economics
2024 Top Ten Influential Brands in China's Energy Storage Industry		China Wind, Solar and Energy Storage Network
Top Ten Energy Storage System Brands in China's Energy Storage Industry in 2024		China Wind, Solar and Energy Storage Network

2024 Most Influential Enterprise in Energy Storage Industry		Organizing Committee of China (Shandong) Energy Storage High-quality Development Conference
Leading Enterprise in the Energy Storage Industry		International Solar Photovoltaic and Smart Energy (Shanghai) Conference and Exhibition
2024 Most Influential Enterprise Award		Electrical Energy Storage Alliance
2024 Huachu Award		Organizing Committee of the 2024 Second Energy Storage Industry Annual Conference, Energy Storage China Network
2024 "Juneng Cup" Outstanding Energy Storage Enterprise		Energy Storage and Power Market

2024 Top 100 in Hydrogen Power Industry		Gaogong Consulting
Worker Pioneer		Zhuzhou Federation of Trade Unions

2024 Performance

❖ Environmental Performance

Shipment volume of energy storage systems in the Chinese market	No. 1	Investment in environmental protection	RMB 322,000
Total GHG emissions	2,293.39 tonnes of CO_2e	Total energy consumption	13,741.16 GJ
Purchased electricity	3,814,959.37 kWh	Total water consumption	5,825.80 tonnes
Number of production bases certified by ISO 14001	2 bases	Major environmental pollution accidents	0 pcs.

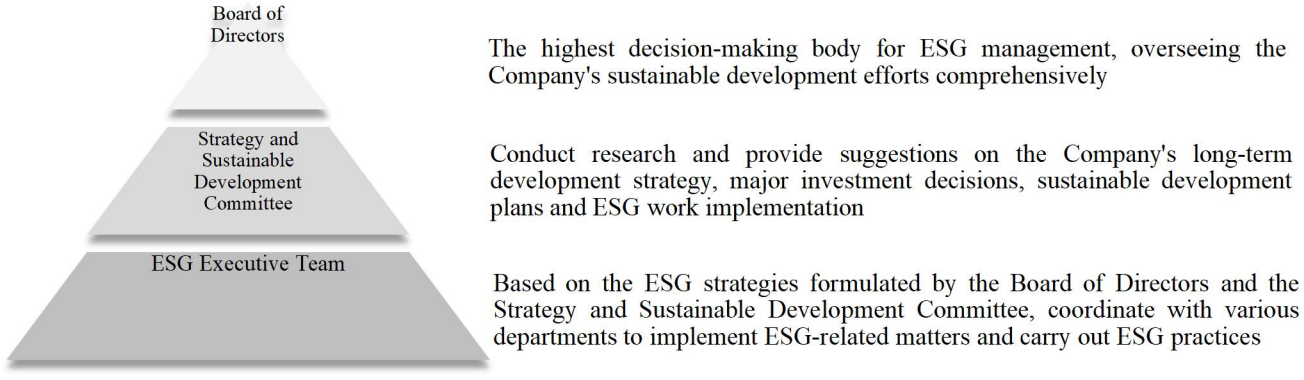
❖ Social Performance

Total number of employees	637 employees	Proportion of female employees	6.91%
R&D investment	RMB 157 million	Investment in employee training	RMB 1,807,200
Total number of suppliers	380 suppliers	Customer satisfaction	95.33%
Number of production bases certified by ISO 9001	2 bases	Number of production bases certified by ISO 45001	2 bases
Number of quality liability accidents	0 times	Death rate per million working hour	0

ESG Management

ESG Governance System

The Comprehensive Energy Business Unit strictly follows the three-tier ESG governance structure of "governance level-management level-execution level" established by CRRC Zhuzhou Institute, and ensures that the ESG-related strategic decisions and management requirements of CRRC Zhuzhou Institute are effectively transmitted to the Business Unit through vertical management and collaborative promotion mechanism.



ESG governance structure of CRRC Zhuzhou Institute

The Business Unit’s General Manager holds primary responsibility for the Business Unit’s ESG management. Under the leadership of the General Manager, the Business Unit has deeply integrated the ESG concept into the whole process, including business planning, product innovation, risk prevention and control, and operation management. According to the division of responsibilities, all personnel across functions and levels—including subsidiaries, branches, departments, and centers—strengthen corporate governance, actively fulfill social responsibilities, and

implement stringent environmental management requirements, continuously improving the Business Unit's ESG governance ability and performance level.

Stakeholder Communication

The Comprehensive Energy Business Unit attaches great importance to effective communication with stakeholders. We established a systematic and regular communication mechanism to fully understand the opinions and suggestions of stakeholders that have an important impact on our sustainable development, such as government and regulatory agencies, investors, customers, employees, suppliers and partners, industry associations, media, the public and communities. Focusing on key topics of concern to stakeholders, we promptly disclose the progress and results of sustainable development management, and conduct targeted exchanges and responses through various channels to enhance stakeholder trust and lay a solid foundation for long-term value co-creation.

Stakeholders	Main topics of concern	Communication methods
Government and regulatory agencies	• Supporting economic development • Compliance operation • Business ethics • Emissions and waste management • Energy management • Resource management	• Daily work reporting • Paying taxes according to law • Research and investigation • Symposium • Information disclosure

	• Environmental management system • Addressing climate change	
Investors	• Corporate governance • Business performance • Compliance operation • Risk management • Business ethics • ESG management	• Branch annual report • Regular information submission • Exchange meeting and on-site inspection • Telephone/Email inquiries and feedback
Customers	• Product quality and safety • Product R&D and innovation • Information security and privacy protection • Green products • Customer relationship management	• Daily service communication • Customer visit • Customer satisfaction survey and feedback handling • Exhibitions, forums and other activities • Quality lifecycle management
Employees	• Employee rights and benefits • Good remuneration	• Regular meetings • Internal training • Cultural and sports activities

	• Employee training and development • Employee equality and diversity • Occupational health and safety	• Employee satisfaction surveys • Internal information communication platforms • Occupational health monitoring and work safety management
Suppliers and partners	• Compliance operation • Business ethics • Sustainable supply chain management	• Tendering and bidding activities • Supplier visit and investigation • Online daily communication • Supplier conferences • Strategic cooperation and joint innovation
Industry associations	• Industry cooperation and development • Product quality and safety • Product R&D and innovation	• Participating in the formulation of industry standards • Exchanges and visits • Industry summits, forums and other activities
Media	• Product quality and safety • Addressing climate change	• News release • Visitor reception and interview • Information disclosure

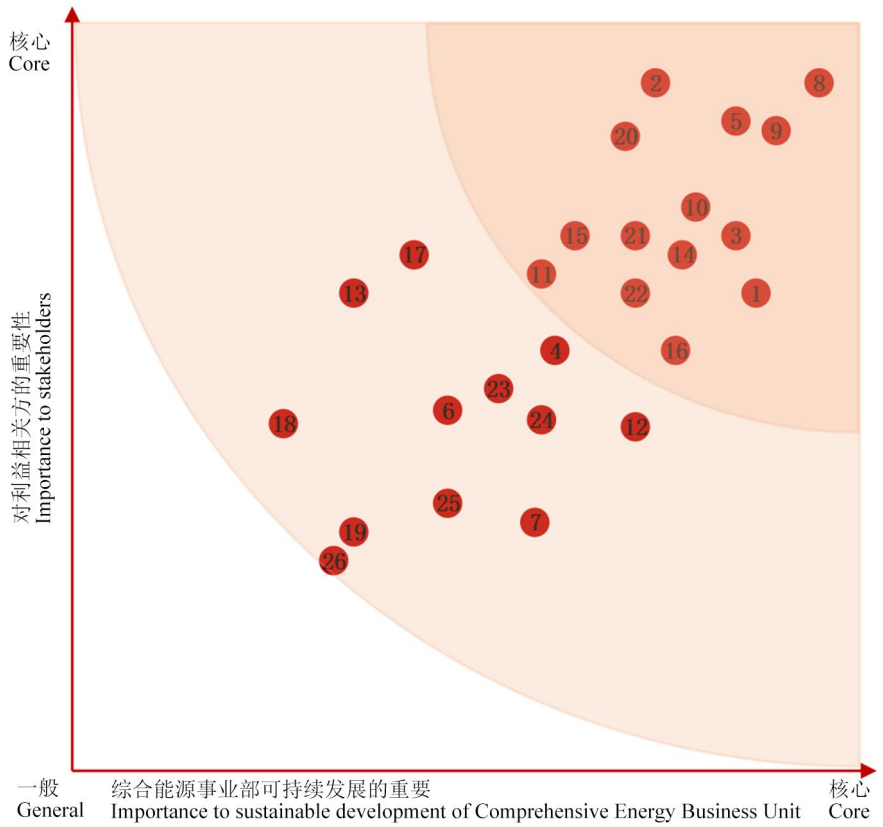
Public and community	• Supporting economic development • Supporting public welfare and charity • Emissions and waste management • Biodiversity protection	• Public welfare volunteer activities • Exchanges and visits • Comment feedback • Information disclosure

Materiality Assessment

The materiality assessment is an important basis for the Comprehensive Energy Business Unit to prepare ESG reports, continuously improve ESG management level and better respond to the expectations and demands of stakeholders. In 2024, the Business Unit implemented optimization based on the results of ESG topic identification in 2023 and formed 26 material topics for 2024 that are highly relevant to the Business Unit, with reference to mainstream disclosure standards at home and abroad and topics of concern to peers, and in combination with its own business development strategies and characteristics. On this basis, the topics were ranked from the following two dimensions considering the attention of stakeholders to each topic and the views of internal and external experts: importance to the Comprehensive Energy Business Unit's sustainable development and importance to stakeholders. The core topics are emphasized in the Report.

Comprehensive Energy Business Unit's Material Topic Judgment Process	
Topic	Through supplementing, merging and deletion of ESG topic

identification	identification results in 2023, we formed 26 material topics for 2024 that are highly relevant to us, in combination with the requirements of mainstream disclosure standards at home and abroad, major topics concerned by peers, and own business development strategies and characteristics.
Topic research	The feedback from internal stakeholders (the Management and employees) and external stakeholders (government and regulatory agencies, investors, customers, suppliers and partners, industry associations, media, the public and communities, etc.) was collected through questionnaires.
Topic ranking	Based on the topic research results and expert opinions, all material topics were scored and ranked from two dimensions to form a materiality matrix: importance to the Comprehensive Energy Business Unit's sustainable development, and importance to stakeholders.
Topic determination	The materiality matrix result was submitted to the Business Unit's Management for review and confirmation. The core topics are emphasized in the Report.



●: Governance topics ●: Social topics ●: Environmental topics

2024 Materiality Matrix of Comprehensive Energy Business Unit

Core topics	Important topics
1. Corporate governance	4. Business ethics
2. Compliance operation	6. ESG management
3. Risk management	7. Information security and privacy protection
5. Business performance	
8. Product quality and safety	12. Customer relationship management
9. Product R&D and innovation	13. Employee equality and diversity
10. Sustainable supply chain management	17. Employee training and development
11. Industry cooperation and	18. Supporting economic development

development

14. Employee rights and benefits

15. Occupational health and safety

16. Good remuneration

20. Green products

21. Addressing climate change

22. Energy management

19. Supporting public welfare and charity

23. Resource management

24. Environmental management system

25. Emissions and waste management

26. Biodiversity protection

1. Compliance Foundation, Responsible Comprehensive Energy

The Comprehensive Energy Business Unit takes corporate governance as the cornerstone of sustainable development. By building a branch governance structure with well-defined rights and responsibilities and efficient collaboration, we promote the effective integration of business development and compliance management, optimize the comprehensive risk management system, adopt a "zero tolerance" attitude to commercial bribery and corruption, strengthen data and privacy protection, and lay a solid foundation for high-quality development and long-term value creation.

- Responding to material topics
  - ✓ Corporate governance
  - ✓ Compliance operation
  - ✓ Risk management
  - ✓ Business ethics
  - ✓ Information security and privacy protection
- Responding to the United Nations Sustainable Development Goals

1.1 Corporate governance

As a first-level strategic business unit under CRRC Zhuzhou Institute, the Comprehensive Energy Business Unit has established a branch governance structure, with the Management as the Business Unit's executive body. The Management is responsible for making decisions on the Business Unit's daily affairs, planning

operation, ensuring implementation, and strengthening management. Affairs beyond the decision-making authority of the Management shall be decided by CRRC Zhuzhou Institute in accordance with the provisions of the *Articles of Association* and other system documents of CRRC Zhuzhou Institute.

For the Management, the Business Unit's General Manager serves as the top leader, supported by 4 deputy general managers. The current members of the Management have professional capabilities in different fields such as industry, business administration, and human resources management, and boast rich industry experience, laying a good governance foundation for the Business Unit's stable operation and long-term strategy implementation.

- **Standardize the selection and appointment management for the Management.** The member selection and appointment management for the Management strictly follows the internal system requirements such as *Leading Cadre Selection and Appointment Management Measures* of CRRC Zhuzhou Institute. Methods such as competitive employment and organizational selection are mainly adopted to improve the accuracy, credibility and satisfaction of personnel selection and appointment.
- **Improve the assessment and compensation management system for the Management.** The following incentive mechanism for leading cadres is adopted: incentive mechanism based on comprehensive assessment and evaluation, linked to job responsibilities and work performance, integrating short-term incentives with medium- and long-term incentives, and combining spiritual encouragement with material rewards. The compensation management

of the Management strictly follows the *Management Measures for Leadership Compensation* of CRRC Zhuzhou Institute to ensure that executives' compensation is aligned with organizational performance and long-term sustainable development goals.

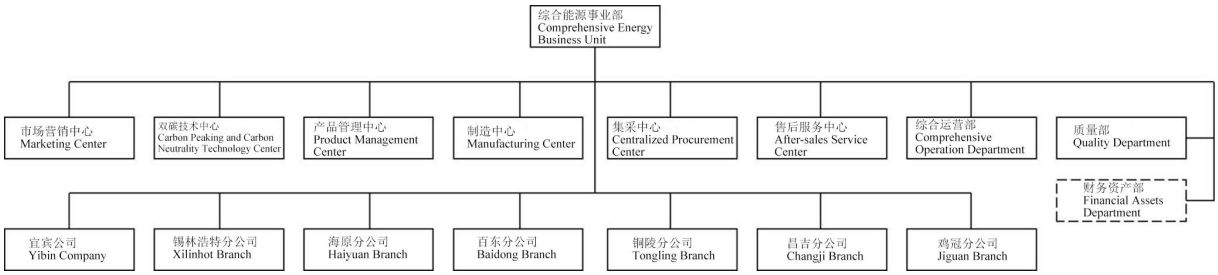
- **Strengthen the management on conflicts of interest.** According to the unified requirements of CRRC Zhuzhou Institute, the senior management and all professional managers shall regularly report their personal interests every year, including sensitive information such as investment, part-time jobs and kinship. We implement a strict decision-making avoidance system. In the process of making decisions involving potential conflicts of interest, relevant management personnel must recuse themselves to ensure the impartiality and independence of decision-making and safeguard the overall interests of the organization.

General Manager's Office Meeting is set under the General Manager as a deliberative body to discuss the Business Unit’s business management matters to ensure the decision-making scientificity, correctness and rationality and minimize the risks of business decisions. The General Manager's Office Meeting is convened and chaired by the General Manager/Executive Deputy General Manager, and is held once a week in principle.

The responsibilities of the General Manager's Office Meeting include:

- According to the resolutions of superior units such as CRRC Zhuzhou Institute, study specific implementation measures.
- Discuss, decide and organize the implementation of the Business Unit's daily operation and management.

- Based on the defined decision-making authority scope of the Party Branch Committee and the General Manager's Office Meeting of the Business Unit, exercise the decision-making authority of the General Manager's Office Meeting.



Comprehensive Energy Business Unit's Organization Chart

Notes:

1. The Carbon Peaking and Carbon Neutrality Technology Center is co-managed by Electrical Technology and Materials Engineering Research Institute of CRRC Zhuzhou Institute;

2. Financial Assets Department shares commonality with the Finance and Asset Management Center of CRRC Zhuzhou Institute;

3. The branches and subsidiaries are the Business Unit's custodian companies entrusted by CRRC Zhuzhou Institute.

1.2 Compliance and internal control

The Comprehensive Energy Business Unit takes strengthening the construction of compliance management system as its main line, strictly implements various compliance management systems, continuously promotes the construction of compliance culture and effectively prevents compliance risks; takes internal control

management as a starting point to optimize business processes, improve audit supervision system, and strengthen risk identification and response capabilities; adheres to paying taxes in good faith according to law, while upholding its responsibilities to society.

1.2.1 Compliance management

The Comprehensive Energy Business Unit actively implements the compliance policy of "compliance by everyone, for everything, at all times and everywhere", and improves the compliance management system, promotes the effective operation of the compliance management system and strengthens the construction of compliance culture, to enhance the compliance awareness of all employees and build an impregnable compliance baseline enterprise-wide.

In terms of the construction of compliance management system, CRRC Zhuzhou Institute has built an internal institutional framework including *Compliance Management Measures, Implementation Measures for Accountability of Illegal Operation and Investment, Management Measures for Operator Centralized Declaration,* and *Information Reporting Management Measures* around the fields of compliance system, violation accountability management, operator centralized declaration management, and information reporting management. In 2024, CRRC Zhuzhou Institute revised the *Compliance Management Measures* and added supporting documents such as the *Compliance Management Manual* and *Detailed Rules for Compliance Reporting and Investigation* to continuously improve the Company's compliance management system. The Comprehensive Energy Business Unit strictly

implements various compliance management system requirements of CRRC Zhuzhou Institute.

In terms of the operation of the compliance management system, the Comprehensive Operation Department takes the lead in compliance management of the Comprehensive Energy Business Unit, and a compliance manager is appointed. On the basis of comprehensively promoting compliance management, the Business Unit highlights key areas, key links and important personnel to effectively prevent compliance risks. In 2024, CRRC Zhuzhou Institute successfully obtained the ISO 37301 compliance management system certificate, with the certification scope covering the Comprehensive Energy Business Unit.

Certificate CN24/00007130

SGS

The management system of

CRRC ZHUZHOU INSTITUTE CO.,LTD.

Unified Social Credit Code: 91430200445175251X1
Business Registration Address: Tianxin, Zhuzhou City, Hunan Province, P.R. China
Business Operation Address: Times Building, 2/F & 11/F of Times Technology Building, 1/F& 5/F of Electronics Building, 1/F & 5/F of Electrician Building, Marketing Building and 2/F of Garage, No.169 Times Road, Shifeng District, Zhuzhou City, Hunan Province, P.R. China

has been assessed and certified as meeting the requirements of

GB/T 35770-2022/ISO 37301:2021

For the following activities

Compliance management involved in the headquarter control of rail transit business, wind turbine equipment, energy storage sector, carbon management, carbon consulting, carbon asset development and trading business, & import and export business platform operation
Compliance management involved in the design, development,sales and production activities of electrochemical energy storage systems
Compliance management involved in the design, development,sales and production activities of wind turbines and accessories

This certificate is valid from 15 November 2024 until 10 November 2027 and remains valid subject to satisfactory surveillance audits.
Issue 2. Certified since 11 November 2024
Certified activities performed by additional sites are listed on subsequent pages.

Authorised by
David Xin
Sr. Director - Business Assurance
SGS-CSTC Standards Technical Services Co., Ltd.
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SGS

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ISO 37301 Compliance Management System Certification

In terms of the construction of compliance culture, CRRC Zhuzhou Institute organized all employees to sign the Compliance Commitment Letter, including all the Business Unit's employees; and carried out 5 special training sessions for the

Management, compliance system personnel, business personnel, etc. The training topics included *Training on Improving the Compliance Performance Ability of Directors, Supervisors and Senior Managers under the New Company Law, Revision of the Company Law and State-owned Enterprise Management Practice, Training for Compliance Management System Internal Auditors, and A Series of Training on Overseas Business Compliance Risk Prevention.*

Case: A Series of Training on Overseas Business Compliance Risk Prevention
In July 2024, CRRC Zhuzhou Institute organized a series of training on overseas business compliance risk prevention. Personnel involved in overseas business marketing, project management, and resource development from the Comprehensive Energy Business Unit participated in the training. The training contents include interpretation of EU *Foreign Subsidies Regulation*, analysis on the latest situation of operator centralized declaration, and risk prevention and control for overseas new energy project investment. 

1.2.2 Internal control

The Comprehensive Energy Business Unit continues to promote the construction of the internal control system in accordance with relevant requirements of the *Basic*

Standard for Enterprise Internal Control and *Guidelines for the Application of Enterprise Internal Control* of the Ministry of Finance, and *Internal Control Work Management Measures* of CRRC Zhuzhou Institute. As of the end of the reporting period, the Business Unit has issued 186 process documents around management strategy, integrated product development, market management, integrated supply chain, customer management, after-sales service management, procurement management, etc., and clearly defined the responsible department, person in charge, validity period and next review time of processes.

The Comprehensive Energy Business Unit, together with the Audit Risk Department of CRRC Zhuzhou Institute, conducts a comprehensive evaluation of the Business Unit's internal control design and implementation every year, finds out internal control defects and makes rectifications to ensure the effectiveness of the internal control system. According to the internal control evaluation results in 2024, the Comprehensive Energy Business Unit achieved internal control objectives and had no major risks, with its internal control effectiveness rate reaching 99.16%.

During the reporting period, the Business Unit also carried out special supervision on the execution compliance of procurement for categories such as transportation, tools, fasteners, and auxiliary materials. The inspection revealed defects in the execution of certain procurement processes, and those responsible have been urged to make corrections and adhere to regulations.

Internal Control Audit

1.2.3 Tax management

The Comprehensive Energy Business Unit strictly abides by relevant financial laws and regulations, actively implements the internal systems such as *Tax-related Business Management Measures* and *Invoice Management Measures* of CRRC Zhuzhou Institute that aim to regulate tax management and prevent tax risks, ensures that taxes are declared and paid in accordance with the law, and carries out tax planning work in accordance with the law. CRRC Zhuzhou Institute, together with a third-party agency, conducts inspections for all internal units regarding all tax types. For the problems found, the Business Unit is required to make timely rectifications and problems are reported within the Company to avoid similar problems from recurring. In 2024, the Comprehensive Energy Business Unit paid a total of RMB 148 million in taxes.

1.3 Risk management

The Comprehensive Energy Business Unit, through the establishment and continuous optimization of the comprehensive risk management system, strengthens the three lines of defense of all functions, forming a large-cycle risk management mode with prevention as the focus, control as the main line and supervision activities

throughout the whole process. This aims to avoid major risks, promote realization of strategic objectives, and ensure the Business Unit's continuous sound operation.

Implement the requirements of comprehensive risk management system. Guided by risk management system requirements such as *Measures for Comprehensive Risk Management, Measures for the Administration of Major Project Risk Reviews*, and *Risk Management Measures for New Energy Market Projects* issued by CRRC Zhuzhou Institute, the Comprehensive Energy Business Unit standardizes the daily and special work of its risk management and continuously improves its risk management ability.

Build a risk management organizational structure. The Comprehensive Energy Business Unit integrates the requirements of risk management into daily management and business processes, establishes a risk management framework composed of Business Department, Risk and Compliance Department, and Internal Audit Department, and forms a closed-loop risk management mechanism of "prevention beforehand, supervision during the event, and correction afterward".

"Three Lines of Defense" for Risk Management

The first line of defense	**The second line of defense**	**The third line of defense**
Business Department	Risk and Compliance Department	Internal Audit Department
Implement daily risk control requirements through internal	Formulate risk control standards and supervise their implementation, and coordinate	Independently review the effectiveness of the internal control system, identify loopholes, and

control processes cross-departmental risk promote rectification disposal

Strengthen risk control throughout the process. At the end of each year, the Comprehensive Energy Business Unit organizes all of its centers and departments to carry out annual risk assessment, identify risks in strategy, operation, market, finance and law, score the identified risks according to their possibility and impact degree, determine the risk level, form a risk list, adopt targeted risk management strategies such as avoidance, transfer, reduction or acceptance, and formulate appropriate risk control measures according to the management strategies. The Business Unit follows up the risk control progress of major risk items on a quarterly basis to ensure that risk items are rectified in place and achieve risk closed-loop management. It identifies strategic, operational, international and other risks, timely updates new risk factors identified to the risk monitoring table, improves risk information, and ensures follow-up to the closed loop.

Basic Process of Risk Management

Collection of initial information on risk management ▶ Implementation of risk assessment ▶ Development of risk management strategy ▶ Propose and implement risk management solutions ▶ Supervision and improvement of risk management

Strengthen the construction of risk culture. In May 2024, the Business Unit carried out special training on risk management with the theme of "Risk Management in Power Station Investment and Construction", so as to continuously enhance employees'

awareness of business risk prevention and control and improve the organization's risk management resilience.

Special Training on Risk Management

1.4 Anti-corruption and business ethics

The Comprehensive Energy Business Unit upholds the value of "Responsibility, Expertise and Outstanding Results" and adopts a zero-tolerance attitude towards commercial bribery and corruption. It establishes and improves rules, regulations and management processes with anti-corruption and business ethics as the core, strengthens the prevention and control of integrity risks throughout the process, actively maintains fair competition order in the industry, and creates a transparent and credible business ecosystem for stakeholders.

1.4.1 System construction

Strengthen the construction of integrity system. In strict accordance with the *Anti-Corruption Law of the People's Republic of China* and other relevant laws and regulations, the Comprehensive Energy Business Unit implements the internal systems of CRRC Zhuzhou Institute, such as Management Measures for Prohibition of Commercial Bribery, Management Measures for Professional Integrity, and

Management Measures for Implementation of Integrity Risk Prevention and Control, to strengthen employees' awareness of self-discipline in professional integrity and standardize the company's integrity risk prevention and control.

The Business Unit attaches great importance to internal integrity risk prevention and control. Guided by the Integrity Risk Prevention and Control Manual of CRRC Zhuzhou Institute, it strengthens the monitoring of 13 key business areas for integrity risk prevention and control, such as "Three Majors and One Large" management, "Selection and Appointment of Leading Cadres" and "Procurement Management". It promotes all managers to sign the Integrity and Self-discipline Commitment Letter and all employees to sign the Compliance Commitment Letter, and requires procurement, marketing and other business-related employees to abide by special integrity code of conduct, so as to realize the combination of full coverage of professional integrity and focusing on key points.

The Business Unit attaches great importance to integrity co-construction with supplier partners. It has formulated the Supplier Management Measures to blacklist suppliers involved in corruption and causing adverse effects, and cancel the qualifications of unqualified suppliers. It has formulated the Supplier Code of Conduct covering all suppliers, to list the prohibition of corruption and bribery and the commitment to integrity and self-discipline as basic requirements that suppliers shall follow.

1.4.2 Cultural construction

Deepen the education of integrity culture. CRRC Zhuzhou Institute organizes and

holds the 2024 Conference on Efforts to Improve Party conduct, Uphold Integrity and Combat Corruption, and conducts collective integrity talks with all professional managers. The Business Unit organizes 1 integrity talk at different levels, covering 44 professional managers and key positions. CRRC Zhuzhou Institute organizes all professional managers to participate in 1 cadres' integrity education conference, and organizes 11 new leading cadres and key position personnel to go to the Hunan Provincial Party School Integrity Education Base for on-site integrity education. The Business Unit achieves full coverage of integrity education for party members, cadres and key position personnel by conveying the spirit of the superior integrity education meeting, analyzing typical cases, playing relevant documentaries, and carrying out characteristic integrity cultural activities. In addition, the Business Unit provides integrity and self-discipline training on supplier access management, and continuously conveys integrity requirements to suppliers in daily business communications to enhance partners' awareness of integrity and self-discipline, jointly building an honest and transparent business ecosystem.

Case: Hold a knowledge contest of "Hydrogen" Wind Promotes Righteousness and Integrity "Stores" in the Heart
To enhance the awareness of integrity and self-discipline among all employees, the Comprehensive Energy Business Unit held a knowledge contest of "Hydrogen" Wind Promotes Righteousness and Integrity "Stores" in the Heart in September 2024. Before the knowledge contest began, Tang Yuanyuan, the Secretary of the Party Committee and the General Manager of the Comprehensive Energy Business Unit,

reviewed the Business Unit's course of struggle and emphasized the importance of discipline construction and cultural construction for corporate development. Cheng Jian, the Secretary of the Discipline Inspection Commission of CRRC Zhuzhou Institute, gave a lecture on the theme of "March to the Top and Walk with Integrity", explaining the disciplinary requirements in an easy-to-understand way, and guiding everyone to stick to the bottom line of integrity combined with practical cases.

The knowledge contest is divided into individual competition and team competition, covering topics such as the basic knowledge of efforts to improve Party conduct and uphold integrity, CRRC profile and product knowledge. The contestants showed a good mental outlook in the competition with their solid knowledge reserves and agile thinking ability.

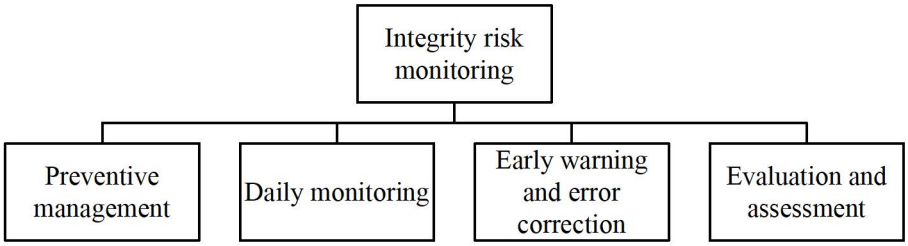
Lecture on the Theme of "March to the Top and Walk with Integrity"

Knowledge Contest

1.4.3 Supervision mechanism

Continue to improve the integrity risk prevention and control system, and strengthen the closed-loop mechanism for rectification of issues found in supervision. The Comprehensive Energy Business Unit strengthens the dynamic monitoring of the

implementation of systems and mechanisms and the power operation process through various channels such as petitions and reports, case investigation and handling, supervision and inspection, economic responsibility audit and cadre assessment, so as to promptly discovers integrity risk issues and forms a list of issues. It uses handling measures such as conversations, letter inquiries, warnings and exhortations, and orders for correction to perform early warning and error correction, curb the signs of issues and resolve integrity risks. The Business Unit has set up anti-corruption related posts and is equipped with 1 professional. No litigation cases involving corruption occurred in 2024.



Integrity Risk Prevention and Control Measures

1.4.4 Reporting mechanism

CRRC Zhuzhou Institute has formulated the Measures for Handling Petitions and Reports from Discipline Inspection, which clarifies the closed-loop management process of petitions and reports such as registration and filing, issue clues sorting, proposed approval, undertaking and assignment, urging and supervision, filing and archiving. It establishes an informant protection mechanism, and standardizes the company's management of petitions and reports from discipline inspection. The informant can report through email, phone, reporting box, or going to the reception room in person. The Comprehensive Energy Business Unit shall accept reports of violations in accordance with its duties and authorities, investigate and handle the

reported issues, and create a clean and upright working atmosphere. The Business Unit strictly keeps confidential the informant's information, resolutely opposes any form of retaliation, and fully protects the legitimate rights and interests of the informant.

1.4.5 Fair competition

Advocate for fair competition. In strict accordance with the relevant laws and regulations such as *Anti-monopoly Law of the People's Republic of China*, the *Law Against Unfair Competition of the People's Republic of China*, as well as the special guidelines formulated by CRRC Zhuzhou Institute for key areas such as anti-monopoly and anti-commercial bribery, the Comprehensive Energy Business Unit actively guides employees to maintain good business ethics and conduct and enhance their awareness and ability to prevent anti-monopoly compliance risks, and maintains fair competition order in the industry.

Adhere to responsible marketing. In strict accordance with the *Advertising Law of the People's Republic of China* and other relevant laws and regulations, the Business Unit formulates and implements internal systems such as the Contract Review Control Procedure, integrates compliance awareness throughout the entire marketing process, conveys true and accurate product and service information to customers, and signs transparent and equal sales contracts.

1.5 Information and privacy security

The Comprehensive Energy Business Unit attaches great importance to information security and privacy protection, strictly abides by the requirements of laws and regulations such as *Cybersecurity Law of the People's Republic of China*, *Data*

Security Law of the People's Republic of China and *Personal Information Protection Law of the People's Republic of China*, strengthens information security control measures, improves the awareness of all employees on information security, prevents data privacy risks, and effectively enhances the ability to ensure information security.

1.5.1 Information security

The Comprehensive Energy Business Unit strictly implements internal system documents of CRRC Zhuzhou Institute, such as the Administrative Measures for Cybersecurity, Measures for the Administration of Information System Lifecycle Security, and Measures for the Administration of Information Notification on Network and Information Security to strengthen the company's information security management and prevent information security risks. The Business Unit sets up a cybersecurity responsible department to organize, coordinate and centrally manage the cybersecurity of Business Unit.

The Business Unit implements the requirements of the information security management system in terms of information system access control management, information system development and maintenance security management, system and cybersecurity management, information security incident management, physical and environmental security management, human resources security management, and compliance management. No major security attacks or information leakage incidents occur during the reporting period.

To enhance employees' awareness of information security and effectively deal with data leakage risks, the Business Unit organized the investigation of security and

confidentiality risks at the unit level and employee level in November 2024 to achieve full coverage at all levels. In addition, it also organized publicity activities on network information security management to popularize information security-related knowledge to employees in key areas such as network security protection of critical information infrastructure, data security, and personal information protection.

Cybersecurity Publicity Foldout

1.5.2 Privacy protection

In the process of data use activities such as data collection, transmission, storage, processing, exchange and destruction, the Comprehensive Energy Business Unit strictly abides by the laws and regulations, as well as the requirements of internal systems such as Data Management Measures, Data Security Management Measures and Data Security Classification and Grading Management Measures of CRRC Zhuzhou Institute, establishes a data security management mechanism, implements the hierarchical and classified management requirements for data security, data lifecycle security management requirements and data cross-border transfer management requirements, and protect the data of employees, customers, business partners and other identifiable individuals.

During the reporting period, the Business Unit does not receive any substantiated complaints concerning breaches of customer privacy and losses of customer data.

During the reporting period, the Comprehensive Energy Business Unit	
Number of trainings on information security and privacy protection **2** times	Substantiated complaints concerning breaches of customer privacy and losses of customer data **0** pcs.

2. Leading Innovation, High-quality Comprehensive Energy

With scientific and technological innovation as the core driving force and a focus on quality and user satisfaction, the Comprehensive Energy Business Unit deepens the technological innovation of clean energy and continues to create high-quality and reliable green products and solutions, so as to accelerate green and low-carbon transformation of energy. In addition, the Business Unit deeply integrates social responsibility into the supply chain management system, cooperates with upstream and downstream partners to build an open and collaborative innovation ecosystem, and jointly promotes the sustainable development of the industry.

- Responding to material topics
  - ✓ Product R&D and innovation
  - ✓ Product quality and safety
  - ✓ Customer relationship management
  - ✓ Sustainable supply chain management
  - ✓ Industry cooperation and development
- Responding to the United Nations Sustainable Development Goals

2.1 Product R&D and innovation

Technological innovation is an important engine for the Comprehensive Energy Business Unit to achieve high-quality development. The Business Unit firmly grasps the main line of "Innovation and Speed, Reality and Quality", focuses on the two key areas

of energy storage and hydrogen energy, builds an efficient R&D management system, continuously consolidates the technical foundation, promotes product upgrades, and helps the sustainable development of the new energy industry.

2.1.1 R&D management system

The Comprehensive Energy Business Unit follows the overall idea of "centralized technology research, joint product development, and capacity building and sharing" of CRRC Zhuzhou Institute, takes market orientation and strategic planning as the dual drive, deeply implements the scientific and technological innovation strategy, establishes and improves the scientific and technological innovation management system, and accelerates the transformation of scientific and technological achievements.

Improve the scientific and technological innovation management system. The Comprehensive Energy Business Unit strictly implements 46 management measures/procedures of CRRC Zhuzhou Institute, such as *Science and Technology Innovation Management System Manual, Management Measures for Science and Technology Development Planning, Integrated Product Development Procedure*, and *Hierarchical Management Measures for Scientific Research Projects*, and realizes the standardization and systematization of the entire process of scientific and technological innovation management from 6 aspects: strategy, process, resources, open innovation, knowledge and achievement management, and innovation capability assessment and improvement. During the reporting period, the Business Unit has also formulated 4 specific management measures for scientific research projects based on actual conditions: Management Measures for Scientific Research Project Approval,

Management Measures for Scientific Research Project Process, Management Measures for Scientific Research Project Completion, and Management Measures for External Science and Technology Project Application.

Strengthen the construction of R&D institutions. Improve the internal R&D structure. The Comprehensive Energy Business Unit sets up Carbon Peaking and Carbon Neutrality Technology Center to be responsible for the Business Unit's technological innovation. This center is co-managed with the Electrical Technology and Materials Engineering Research Institute, a professional R&D institution of CRRC Zhuzhou Institute. This center includes Technical Management Department, responsible for technical planning, scientific and technological project management, technical standard system construction, intellectual property management and other scientific and technological management work; and nine departments set considering the Business Unit's technology R&D direction, i.e., Hydrogen Energy Technology Department, Energy Storage System Department, Product Development Department, Control Technology Department, Inspection and Testing Department, Battery Technology Department, Grid-connected Technology Department, Material Technology Department and International Business Product Development Department. **Strengthen the construction of scientific and technological innovation platforms.** Relying on the national R&D platforms owned or jointly built by the Company, including Zhuzhou National Engineering Research Center of Converters Co., Ltd., National Energy Active Distribution Network Technology R&D Center, and National Energy Large-Scale Energy Storage Technology Equipment and Application R&D Center, the Business Unit promotes key core technology research in the field of clean energy core equipment

manufacturing.

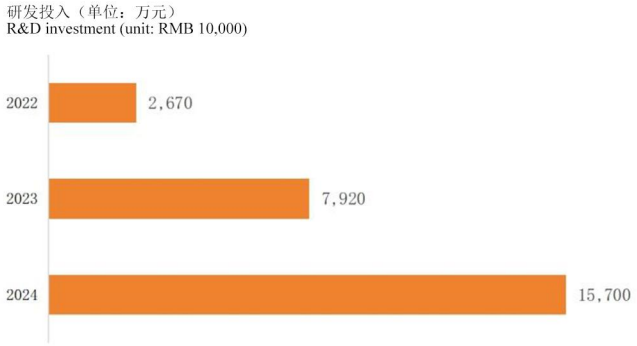
Case: Strengthen the construction of hydrogen energy R&D capabilities and master the comprehensive testing capabilities of hydrogen production materials - components - complete machine - systems
Build a hydrogen energy electrochemical laboratory to carry out material testing, and have the capability to test catalysts, electrodes, membrane electrodes, diaphragms, gaskets and ALK/PEM/AEM. Build a pilot line of electrolyzer to carry out component production and testing, and have the capability of prototype development and ex-factory testing. The annual capacity of electrolyzers is 1 GW. Establish the Green Power to Hydrogen Equipment Production & Test Center to carry out the complete machine test, and build one of the electrolyzer demonstration platforms with the largest testing capacity in the industry. Build a demonstration base for flexible green power to hydrogen system to carry out system tests, and create an off-grid PV hydrogen production system.

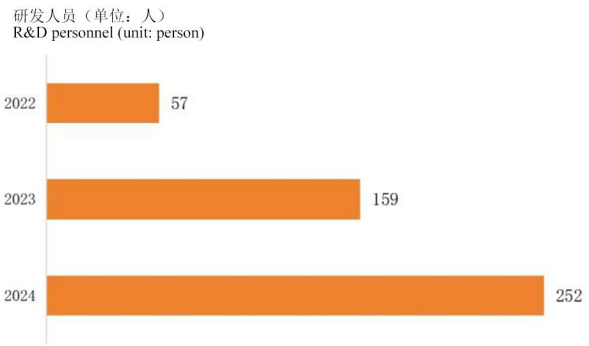
Establish a standardized R&D process. The Integrated Product Development Procedure of CRRC Zhuzhou Institute divides product development into six stages: scheme design, technical design, construction design, prototype trial production and testing, first-piece trial production and testing, small-batch trial production and testing, and stipulates the implementation requirements and operating guidelines for each stage. The Business Unit strictly follows the relevant requirements and promotes product R&D activities in a standardized, orderly and efficient manner. In addition, relying on the RDS system, an enterprise R&D integrated management platform, the Business Unit

conducts comprehensive information system management on design documents and product drawings of R&D activities, so as to realize functions such as centralized management of R&D data, version control and authority management, and ensure that the data is accurate, complete and traceable. For the review of design documents in the process of product development, it carries out closed-loop tracking of technical review opinions in the RDS system to ensure the standardization of review and effectively improve the design quality.

Increase R&D investment and innovation incentives. The Comprehensive Energy Business Unit continues to increase R&D investment and accelerate technological innovation. In 2024, the Business Unit's R&D investment reached RMB 157 million, with a YOY increase of 98.23%. By the end of 2024, R&D personnel totaled 252, showing a YOY increase of 58.49%. To enhance independent R&D capability, the Business Unit attaches great importance to the construction of R&D talents. There are 5 doctors in the R&D team, covering core fields such as electrical, automation, machinery, computer and energy, and laying a solid foundation for scientific and technological innovation and underlying technology research. The Business Unit follows the principle of "stimulating maximum value creation with reasonable value distribution", strictly implements innovative incentive systems of CRRC Zhuzhou Institute, such as Management Measures for Performance Evaluation of Scientific Research Projects, Measures for Major Scientific Research Project Appointment Assessment and Rewards, and Reward Measures for Special Scientific and Technological Achievements, and sets up scientific research project rewards, major scientific research project appointment rewards, special scientific and technological

achievement rewards, and subsidies and incentives for young scientific and technological talents to fully stimulate the sustainable innovation motivation of scientific researchers. The Business Unit improves the implementation of IPD assessment and incentive system. It builds a product line incentive mechanism for platform and market projects, carries out multi-dimensional and phased evaluation, and allows product managers and project managers to distribute bonuses to activate the team's innovation motivation.





Case: Capacity Building of R&D Team
To enrich the team's professional knowledge reserve and strengthen the construction of R&D innovation capabilities, the Business Unit organized 38 professional training sessions, 3 large-scale skill tests and 5 large-scale skill competitions around the field of energy storage R&D in 2024, significantly boosting the team's R&D capabilities.

2.1.2 Innovation achievements

Relying on a mature and complete R&D management system, the Comprehensive Energy Business Unit focuses on the frontier fields of energy storage and hydrogen energy, fully promotes clean energy technology innovation, accelerates the research and development of innovative products, and contributes to the construction of a clean, low-carbon, safe and efficient energy system.

Energy storage field

Carry out core technology research. The Business Unit has completed high energy density integration technology, new thermal management technology, key technology of 2,000V battery cluster, grid-forming key technology, energy storage system life simulation technology, key technology of environmental adaptability, and energy storage battery cell research.

Enrich the energy storage product matrix. The Business Unit's energy storage products cover mainstream application scenarios, such as front-of-the-meter (FTM) and behind-the-meter (BTM), 1C rate and below, high-altitude environments, and grid-forming type. We boast diverse product lineup subject to continuous iteration. In 2024, the Business Unit has completed:

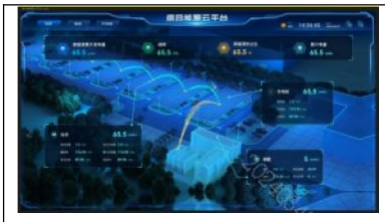
- Innovative development of multiple domestic products - centralized and string-type 5.X energy storage system 2.0, 5.X AC/DC integrated energy storage system, high-altitude grid-forming energy storage system, 35kV HV cascade energy storage system, 1,000V industrial and commercial energy storage cabinet 2.0, etc.
- Certification of multiple overseas products - UL and IEC certification for 3.X-0.5P and 5.X-0.5P overseas energy storage battery compartments, IEC certification for 3.X-1P overseas energy storage battery compartments, etc.

Domestic Energy Storage Products (Partial)	
New generation energy storage system CESS-4.0 	• It consists of three parts: a converter and booster AIO machine with a capacity of ≥ 6.9 MW, an energy storage battery compartment with a capacity of ≥ 6.9 MWh, and a supporting EMS, and brings customers a more efficient, safer, smarter, and more flexible full-scenario energy storage integrated solution. • It is equipped with three "black technologies": self-defined 600 Ah battery cell, energy storage direct cooling machine, and CCS+ technology with one core and one management.
5.X liquid-cooled system 2.0 	• Large capacity and small floor space: 5 MWh+ large capacity per compartment, floor space reduced by 30%+, and efficient use of space.

	• Extreme temperature difference and efficient thermal management: 4K extreme temperature difference, so as to ensure stable operation of the system. • Fast delivery and flexible configuration: It is equipped with a new generation of PCS, covers 0.25C-0.5C power levels, is compatible with string and low-voltage direct parallel topologies, and supports grid-forming solutions.
5.X AC/DC integrated energy storage system (air cooling) 	• It adopts intelligent design and battery - PCS integrated setting, which can reduce the workload of on-site installation and commissioning and greatly improve the efficiency of project delivery and grid connection. It can monitor the operating status of battery cells and PCS in real time to achieve early warning of faults. • It has the characteristics of simple structure, easy maintenance, low cost and strong environmental adaptability, and can meet extreme operating environments such as extreme cold and high altitude. The system's lifecycle discharge capacity is increased by 8%.
Grid-forming energy storage	• The 0.25C and 0.5C grid-forming energy storage

system 	systems meet the grid-forming requirements of 3 times overload for 10s with minimal hardware over-configuration and optimal whole station configuration, creating large-capacity, highly integrated and extremely cost-effective grid-forming energy storage systems.
35kV cascade energy storage system 	• High integration and flexible configuration: PCS is highly integrated with the battery compartment, with one cluster and one management. The capacity is flexibly configured, up to 40 MWh. • Close to the power grid, fast response speed: It is directly connected to the 35kV power grid without transformer, the power response speed is ≤ 20 ms, and the dynamic response is better. • Redundant design and online switching: It is provided with redundant module design and online switching, improves the equipment online rate, and has a higher degree of intelligence.
1,000V industrial and commercial integrated cabinet 2.0	• Efficient, reliable and economical: The system efficiency is as high as 90%, and the temperature difference in the cabinet is as low as 3K. It occupies an area of only 1.2 m² and has a unit energy density

	of 216.1 kWh/m². Compared with similar products, it has a reduced size by 25%, an increased capacity by 12% and an increased investment income by 25%. • Guarantee of safety: detection and fire protection of packet. Product liability insurance escorts customers. • Convenient operation and maintenance: It is equipped with a self-developed comprehensive energy cloud platform (including APP) to achieve flexible monitoring and operation and maintenance.
Core Sub-components	
1P104S liquid-cooled battery PACK 	• 104 cells connected in series, with high safety: The self-developed liquid-cooled plate is adopted, and the temperature difference of the whole pack is controlled within 3K. It has PACK-level fire protection and IP67 protection level, and is safe and reliable. • Excellent high-voltage-resistant battery: The whole pack is able to withstand over DC6,000V and operate reliably at an altitude of 5,000m.
Intelligent O&M Platform for energy storage	• It integrates the CRRC ForeSee digital intelligence platform, with the creation of active thermal runaway warning, core equipment life and health



management, expert-level operation and maintenance guidance, high-yield operation strategy, and holographic full-station perception as the technical core.

- It provides efficient, safe, convenient and economical operation and maintenance solutions for new energy application scenarios such as large-capacity energy storage, industrial and commercial energy storage, and comprehensive energy.

Overseas Energy Storage Products (Partial)	
 3.X Overseas Energy Storage Battery Compartment	 5.X Overseas Energy Storage Battery Compartment
 Overseas 1C Energy Storage Battery Compartment	 1,000V Overseas Energy Storage Integrated Cabinet

Hydrogen energy field

Carry out core technology research. The Business Unit focuses on breakthroughs in core materials and key technologies of electrolyzers, and promotes the development and

application of electrolyzers, separation and purification, EMS (hydrogen production energy management system), DCS (hydrogen production process control system), intelligent capacity distribution software, and off-grid hydrogen production simulation platform.

Products in the hydrogen energy field have been launched one after another. The Business Unit adheres to the principle of "safety first, efficiency first" and provides customers with green power to hydrogen system solutions with the best comprehensive benefits. In 2024, the 1000 Nm3 alkaline electrolyzer and system independently developed by the Business Unit passed three major certifications: SGS, Bureau Veritas, and Hydrogen Energy Pioneer Program; the self-developed 2000 Nm3 alkaline electrolyzer was launched, featuring various advantages, such as high current density, low energy consumption, wide regulation, and light weight, and industry-leading performance.

1,000 Nm^3 alkaline electrolyzer and separation and purification device 	• In May 2024, the performance test and third-party certification were completed. • The test certification shows that the electrolyzer has excellent operation performance, with a current density of 2,500A/m^2, a DC power consumption of ≤ 4.39 kWh/Nm^3H_2, and stable operation for more than two hours at 30% low load. The hydrogen content in oxygen is ≤ 0.5%, and the oxygen content in hydrogen is ≤ 0.15%. All performance indicators

	have reached the leading level in the industry.
2,000 Nm^3 electrolyzer 	• In October 2024, it was successfully rolled off the production line, and a large-scale flexible green power to hydrogen equipment solution is launched. • The electrolyzer has the advantages of high current density, low energy consumption, wide regulation and light weight, with industry-leading performance: The maximum current density can reach 4,000 A/m^2, about 40% higher than that of traditional electrolyzers. The DC energy consumption is ≤ 4.3 kWh/Nm^3, reaching the national standard first-level energy efficiency level. The regulation range can reach 25%-110%, adapting to various renewable energy fluctuation conditions. Its weight is about 69 tonnes. It realizes fully automatic operation and provides customers with a less-manned/unattended hydrogen production system solution.
Flexible green power to hydrogen system 	• Safe, efficient and wide regulation: It consists of the wide-power regulation electrolyzer and separation and purification device, flexible energy management EMS, flexible process control DCS, fully-controlled IGBT hydrogen production power supply and

	integrates them to achieve DC power consumption ≤ 4.39kWh/Nm³H2, with a power adjustment range of 25%-110%. • Adapt to various scenarios: Facing a variety of new energy hydrogen production scenarios such as AC/DC, grid connection/off-grid, it provides flexible, safe, intelligent and efficient system-level solutions with the best comprehensive benefits.

Honor recognition

During the reporting period, the Comprehensive Energy Business Unit has been recognized in many aspects for scientific and technological innovation, including but not limited to the following: The key technologies and applications of large-scale lithium battery energy storage in new power systems won the Second Prize of National Science and Technology Progress Award; the company was awarded the title of leading enterprise for "strengthening advantages" in the manufacturing industry by the MIIT. In addition, the Business Unit's 3.X liquid-cooled energy storage system equipment successfully applied for the first (set) major technical equipment recognition award of the Industry and Information Technology Department of Hunan Province in 2024, and the research on thermal runaway and suppression technology of energy storage lithium-ion battery system successfully applied for the key project of CRRC.

Product Development and Application Awards	
Award	Awarding Organization

2024 Excellent Projects in Large-scale Storage Track of Excellent Product Group CRRC 5.X Liquid-cooled Energy Storage System	International Energy Storage Alliance, China Energy Storage Alliance (CNESA)
Pioneer in China's energy storage industry Pioneer Award for Preferred Solution of Source-Grid-Load-Storage Integrated System	CESC China International Energy Storage Conference Organizing Committee
2024 Golden Reserve Award Benchmark Project, Datang Qianjiang 50MW/100MWh Sodium-ion New Energy Storage System Project	Organizing Committee of the 2024 Second Energy Storage Industry Annual Conference, Energy Storage China Network
Excellent System Integration Solution for China's Energy Storage Industry in 2024	Solar Energy Cup Selection Organizing Committee
Excellent Industrial and Commercial Energy Storage Solution for China's Energy Storage Industry in 2024	Solar Energy Cup Selection Organizing Committee
TOP10 of 2024 Excellent Energy Storage Product Award	China Energy Storage Alliance (CNESA)
Gaogong Golden Globe Award Technology in 2024	Shenzhen Gaogong Consulting Co., Ltd.
Gaogong Golden Globe Award Products of 2024, CRRC Zhuzhou Institute Megawatt-class PEN Electrolyzer	Shenzhen Gaogong Consulting Co., Ltd.

2.1.3 Intellectual property protection

The Comprehensive Energy Business Unit strictly abides by the *Patent Law of the People's Republic of China*, *Trademark Law of the People's Republic of China*, *Copyright Law of the People's Republic of China* and other relevant laws and regulations, effectively implements internal systems such as Intellectual Property Management Measures and Patent Management Measures of CRRC Zhuzhou Institute, standardizes intellectual property management in scientific papers, patents, major economic activities, software copyrights, trademarks and scientific research projects, prevents the loss of intangible intellectual property assets, and protect intellectual property rights.

The Business Unit also implements a full-process management mechanism for intellectual property rights in scientific research projects, embedding technical novelty retrieval, risk warning analysis and patent layout planning into key nodes of the R&D process to avoid potential infringement risks and protect technological innovation achievements.

During the reporting period, the Comprehensive Energy Business Unit		
Patents applied for	Authorized patents	Cumulative valid patents
77 pcs.	**18** pcs.	**25** pcs.

2.2 Product quality and safety

The Comprehensive Energy Business Unit adheres to the quality policy of "driving industry with innovation, and carefully building quality; listening to customer needs, and providing satisfactory services; scientific management according to laws, and

continuous improvement", and with a focus on quality and user satisfaction, establishes a "two-way (forward planning + reverse research) three-drive (process drive + data drive + culture drive)" quality management model based on the entire value chain, and strengthens the quality management of the entire series of products, thereby continuously improving product quality.

2.2.1 Quality management system

Based on ISO 9001 quality management system and "CRRC Q" quality standard system, the Comprehensive Energy Business Unit adds the management requirements of IATF 16949 Automotive Quality Management System, and combines the Business Unit's actual situation to establish a quality management system covering the entire product lifecycle with the QES Three System Manual as the programmatic document and 31 procedure documents such as Product Design and Development Control Procedure and Purchase Control Procedure as process control documents. It standardizes the standards and processes of each link to ensure product quality and reliability. The Business Unit conducts an internal audit once a year to ensure the effectiveness, compliance and suitability of the quality system and identify opportunities for improvement.

As of the end of the reporting period, the Comprehensive Energy Business Unit's Haitian Base and Green Power to Hydrogen Equipment Production & Test Center have passed ISO 9001 quality management system certification. The Business Unit hires a third-party agency to conduct quality management system audit every year and continuously ensure the effective operation of the quality system.


Bureau Veritas Certification

CRRC ZHUZHOU INSTITUTE CO., LTD.
COMPREHENSIVE ENERGY BUSINESS UNIT
HEAD OFFICE ADDRESS: ROOM2401, THE FIRST BUILDING HIGH-TECH HEADQUARTER, NO.898, ZHUZHOUAVE. SONGSHAN ROAD STREET, TIANYUAN DISTRICT, ZHUZHOU, HUNAN,P.R. CHINA

Unified social credit code: 91430211MABT2QXD1F

This is a multi-site certificate, additional site(s) are listed on the next page(s).

Bureau Veritas Certification Holding SAS - UK Branch certifies that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standards detailed below

ISO 9001:2015

Scope of certification

OVERALL：DEVELOPMENT AND DESIGN, MANUFACTURE, INTEGRATION, DELIVERY AND AFTER-SALE SERVICE OF ELECTROCHEMISTRY ENERGY STORAGE SYSTEM; DEVELOPMENT AND DESIGN, MANUFACTURE, AFTER-SALE SERVICE OF HYDROGEN PRODUCTION EQUIPMENT.

Original cycle start date: 07-02-2023
Expiry date of previous cycle: NA
Certification / Recertification audit date: NA
Certification / Recertification cycle start date: 07-02-2023

Subject to the continued satisfactory operation of the organisation's Management System, this certificate expires on: 06-02-2026

Certificate No.: CNGZ302972-U Version: No.2, Issue date: 18-03-2024

Signed on behalf of BVCH SAS UK Branch

IAF UKAS MANAGEMENT SYSTEMS 0008

Certification body address: 5th Floor, 66 Prescot Street, London E1 8HG, United Kingdom
Local office address: Bureau Veritas Certification (Beijing) Co., Ltd, Room 02, 9 / F, West Office Building 1, Oriental Economic and Trade City, Oriental Plaza, No.1 East Chang'an Street, Dongcheng District, Beijing, China. 100738

Further clarifications regarding the scope and validity of this certificate, and the applicability of the management system requirements, please call: +86 10 59683888
Certified organisation has to accept and pass regular surveillance audits, then this certificate can be continuously valid. Information of this certificate may be obtained by visiting CNCA website (www.cnca.gov.cn).

Page 1 of 2

ISO 9001 Quality Management System Certificate

Focusing on the quality control of the entire product process, the Business Unit decomposes the product quality goals into quality loss rate, timely closed-loop rate of quality problems, one-time delivery qualification rate of finished products, and unqualified product control rate. It signs a Quality Target Management Responsibility Letter with relevant responsible departments and conducts supervision and assessment at monthly and annual frequencies.

Whole-process Product Quality Management	
R&D quality	• Formulate the *Research and Development Quality Management Rules for Scientific Research Projects* to standardize 8 key quality activity processes of scientific research projects, conduct trial implementation on 4 platform projects, and output quality process data such as quality goals, "Four New" (New Technology, New Process, New Equipment, New Material) management, problem management, risk management, TR inspection, historical experience and lessons.

	• Complete the DFMEA analysis of large-scale product BMS and PACK, summarize 38 failure modes, and integrate DFMEA related requirements into technical specifications.
Supplier quality	• Establish supplier management specifications and a red and yellow card mechanism for supplier quality, and take the quality of incoming materials as an important factor in supplier access audit and performance evaluation. Provide assistance for suppliers of key materials for integrated products, and promote suppliers to improve their product quality management capabilities. • Carry out special projects to improve material quality, improve material standards such as incoming inspection documents, formulate key material control mechanisms, and complete the signing of upgraded Quality Assurance Agreement with all battery cell factories and some key PACK material suppliers. • Formulate the Development, Verification and Use Processes of New Materials to standardize and guide the development process of new productive materials from factory audit, material verification, small-batch trial to large-batch supply.
Manufacturing quality	• Optimize process quality control standards, including product process quality inspection instructions and process record related forms, to effectively evaluate the quality performance of products in the manufacturing stage.

	• Introduce automatic inspection equipment, strengthen inspector training, and implement process execution assessment, to improve process inspection capabilities. • Implement the Manufacturing Process and Inspection Management Measures, Manufacturing Process FAI Management Process and Process Quality Inspection System to promptly discover quality problems and implement corrective measures. • Improve quality traceability. Relying on the quality control and traceability system (TMES system), build a full-process online quality traceability system, accurately identify unqualified products and isolate them from the entire production process.
Service quality	• Implement hierarchical control of product quality problems, and take targeted disposal measures based on the classification results to ensure that the problems are properly resolved. • For the important quality problems that have been found, establish a product failure library to provide reference for subsequent product design and avoid the recurrence of similar problems. Set up a special team to focus on major and difficult problems. • Strengthen the construction of quality informatization, realize online management of on-site problems, and promote timely resolution of customer complaints.

During the reporting period, the Comprehensive Energy Business Unit
Qualification rate of self-developed battery pack products **98.40**%

2.2.2 Quality risk control

The Comprehensive Energy Business Unit has formulated the Management Measures for Eight Preventions to standardize the management process of "Eight Preventions" and eliminate major product quality problems. For key components such as battery cells, battery packs and liquid-cooled systems, it also establishes the "Eight-Prevention" Product List and Control Requirements Table to clarify the control requirements for each stage, such as source design, process execution, supplier management, process quality control, and on-site service, and integrate the control requirements into process operation instructions, control plans, and inspection tables.

The Business Unit has formulated the internal systems such as the Management Measures for Major Product Quality Problems and Management Measures for Product Quality Problems to clarify the disposal and management requirements for major and general product quality problems. During the reporting period, the Business Unit’s on-site energy storage equipment operates stably as a whole, and no product quality accidents or product recalls occur.

2.2.3 Construction of quality culture

To strengthen quality awareness and implement quality responsibilities, the Comprehensive Energy Business Unit establishes a quality performance evaluation mechanism covering all employees and carries out various forms of quality culture

activities.

The Business Unit has formulated the Management Measures for Quality Performance, established rewards in terms of quality cases, rationalization suggestions, system audits and quality improvement, and set up assessment items in terms of quality system, R&D quality, production quality, supplier quality and project quality, so as to promote the overall improvement of quality management capabilities through performance rewards and punishments.

During the reporting period, the Business Unit also organizes training on quality management systems and quality tools, and promotes activities such as rationalization suggestions, quality case selection, and comprehensive quality management knowledge competitions, with a total of 529 participations, 12 quality cases released and 19 rationalization suggestions adopted.

Review of Rationalization Suggestions

Quality Case Selection

Quality Activity Awards

2.3 Customer services

The Comprehensive Energy Business Unit has always adhered to the service concept of "fast, effective and satisfactory", established and improved the customer service system, continuously optimized the service process, and continuously improved

the service efficiency.

Customer Service Concept	
Fast	Handle customer demands as soon as possible and provide all-weather attentive service
Effective	Carry out on-site services in a standardized and orderly manner to ensure effective service quality
Satisfactory	Provide satisfactory services to customers and continuously improve customer satisfaction

2.3.1 Customer service system

The Comprehensive Energy Business Unit promotes the effective operation of the customer service system by improving internal management systems, strengthening the construction of service team and implementing measures to improve service quality.

In terms of system construction, the Business Unit has formulated the internal systems such as Management Measures for Product Operation and Maintenance Services, Product Failure Handling Measures, Management Measures for Product Transformation, and Management Measures for After-sales Personnel Qualification, to standardize the requirements for product operation and maintenance services, on-site failure handling and product software/hardware transformation, guide the service team to provide professional and standardized technical services, and ensure that the product application quality meets customer requirements. The Business Unit has also formulated the Management Measures for Customer Training to provide customers with diversified application technology training such as system maintenance, on-site application of

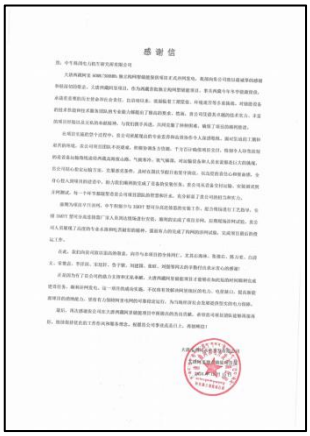
product technology, product parameter customization, product technology improvement or performance improvement, and software technology upgrades, to help customers improve product operation and maintenance management.

In terms of construction of service team, the Business Unit has set up an After-sales Service Center, including two departments: Customer Service Department and Technical Support Department, with a total of 152 people. The Customer Service Department consists of a customer service group, an overseas service group and a business support group; while the Technical Support Department consists of a large-scale storage technology group, an industrial and commercial technology group, an operation and maintenance technology group and a hydrogen production technology group. The team services cover product installation and commissioning, quality assurance service, technical support, customer training, on-site transformation, and customer relationship maintenance.

In terms of service quality improvement, the Business Unit divides the country into five major regions and implements a regional management model to enhance project coordination capabilities and improve customer response timeliness and after-sales delivery capabilities. The number of projects implemented in 2024 is more than 3 times that in 2023, fully reflecting the efficiency of regional management. In addition, it establishes an after-sales service platform (MRO) and carries out data interaction with the quality management system (QMS) to realize comprehensive digital management of project information, product information, customer information and product quality information, support instant transmission of on-site quality information, and greatly improve the timeliness of on-site fault response.

As of the end of the reporting period, the Business Unit has achieved customer service goals such as service response timeliness rate ≥ 98%, on-site fault timely resolution rate ≥ 98%, and one-time grid connection success rate of 100%.

Case: Helping the first batch of independent grid-forming energy storage projects in Xizang to be connected to the grid at full capacity
At 20:00 on November 16, 2024, Datang Ali 60MW/300MWh independent grid-forming energy storage project successfully achieved grid connection at full capacity. This project is the company's first project in the field of independent grid-forming energy storage in high-altitude areas, marking a new step for the company's technical strength and project management capabilities in the field of new energy. The project is located in Ali, Xizang, known as "the roof of the world", with an average altitude of over 4500m. The cold and hypoxic environment and variable climate pose significant challenges to the project construction and teamwork. The project team always adheres to the concept of "customer first", overcomes the psychological and physical pressure, plans in advance and organizes scientifically to ensure the safe, stable, high-quality and efficient promotion of the project, and finally completes the goal of full-capacity grid connection on November 16 on schedule. Its excellent delivery capabilities have won high recognition from customers and received letters of thanks from customers, demonstrating the team's professionalism and commitment.

	
Successful Full-capacity Grid Connection of the Project	Letter of Thanks from Customer

2.3.2 Customer satisfaction

The Comprehensive Energy Business Unit formulates and implements the Customer Satisfaction Survey Process in accordance with the requirements of ISO 9001 quality management system, and conducts customer satisfaction surveys every year. The Business Unit conducts surveys using questionnaires, which cover multiple aspects such as product quality, delivery quality, service quality, technical personnel service, and after-sales service. During the reporting period, the Business Unit conducted satisfaction surveys on 25 customers, and the average customer satisfaction was 95.33%. Based on the problems reported by customer surveys, the Business Unit sorted out a list of problems in terms of service, quality and technology, requiring the responsible departments to propose improvement measures and track the resolution of these problems.

2.4 Supply chain management

The Comprehensive Energy Business Unit attaches great importance to supply

chain management. The Business Unit improves the resilience of the supply chain and helps the green transformation of the industrial chain, through various measures such as improving the supplier lifecycle management process, integrating sustainable development factors into supply chain management requirements, and strengthening supplier capacity building.

2.4.1 Supplier lifecycle management

The Comprehensive Energy Business Unit has formulated a series of internal systems such as *Supplier Management Measures*, *Supplier Access Management Process*, *Supplier Performance Management Process and Supplier Degradation and Withdrawal Management Measures* to improve the procurement process, standardize the life cycle management of supplier selection, development, evaluation and withdrawal, and establish a sound supplier management system. The Business Unit comprehensively promotes the informatization of the entire procurement business process to shorten the contract signing cycle, realizing the standardization and simplification of procurement contracts and payment methods, and improving the efficiency of procurement management.

Supplier lifecycle management	
Supplier access	• The Business Unit reviews suppliers from various aspects, including legitimacy and business scope, necessary qualifications and licenses, quality management system certification, employees, infrastructure, capability to manage their own suppliers, after-sales service, and product

	performance. Based on the review results, suppliers are classified into four levels: A, B, C, and D. Only suppliers whose performance meets the minimum standard (level D or higher) are eligible to be included in the list of qualified suppliers. • Suppliers included in the potential resource pool are required to sign confidentiality agreements, PCN agreements, quality assurance agreements and safety and environmental protection management agreements of interested parties. For key and important manufacturers of production materials, on-site certification and examination are required.
Supplier performance evaluation	• Every year, organize the quality, process and technical departments to carry out performance evaluation of suppliers with a combination of method of quantitative assessment and qualitative assessment. The evaluation includes six aspects: management, cost, delivery, quality, technology and after-sales service. The review conclusions are divided into four levels: A/B/C/D. • For A- and B-level suppliers, incentives such as public commendation, order share preference, and extension of cooperation agreements will be given; for D-level suppliers, punitive measures such as warnings, rectification within a time

	limit, and suspension of procurement will be taken.
Supplier withdrawal	• Clarify the identification and disposal standards for supplier misconduct, regularly collect problems in the daily cooperation process of suppliers, and promptly initiate downgrade and withdrawal management for suppliers with serious problems (such as major quality problems). • For suppliers who are downgraded due to their need of rectification, if the evaluation after rectification meets the Business Unit's management requirements, they can apply for access again; if they still do not meet the requirements after rectification, withdrawal management will be initiated.

As of the end of the reporting period, the total number of the Comprehensive Energy Business Unit's suppliers was 380. The Business Unit resolutely implements the principle of "one main, one auxiliary, one standby, and parallel reserve". Throughout the year, 236 new suppliers have been developed and admitted, achieving 100% multi-source supply of main products. The Business Unit also formulates a procurement risk event information database to clarify risk events, risk levels, risk control measures and responsible departments to prevent procurement risks and ensure the stability and security of the supply chain.

2.4.2 Sustainable supply chain management

In order to promote suppliers to fulfill their social responsibilities and reduce supply chain risks, the Comprehensive Energy Business Unit continues to promote

responsible procurement, incorporates sustainable development into the supply chain management system, and strengthens requirements for suppliers' environmental management and social responsibility performance.

During the supplier access stage, the Business Unit includes environmental protection and occupational health management in the examination factors of the comprehensive capability assessment of key suppliers, promoting suppliers to establish and pass environmental management system certification and occupational health management system certification, and strengthen their identification and control of occupational disease hazard factors. The Business Unit includes clauses such as environmental health and safety, integrity, and responsible supply chain management in the procurement framework contract, covering all suppliers of production materials.

The Business Unit strengthens the publicity and implementation of the supplier code of conduct, safety and environmental protection requirements of interested parties, confidentiality requirements, etc. to suppliers, and signs relevant agreements 100%. Among them, the *Supplier Code of Conduct* of CRRC Zhuzhou Institute puts forward basic requirements for suppliers from ten aspects, including compliance with laws and regulations, prohibition of forced labor, prohibition of child labor, commitment to integrity and self-discipline, employee health and safety, and environmental protection. The *Safety and Environmental Protection Management Agreements of Interested Parties* clarifies the safety responsibilities of both parties to improve the level of safety management at the work site and ensure the safety and health of workers.

During the reporting period, the Business Unit also developed a battery tray recycling and reuse plan and corresponding suppliers to promote resource recycling and

reuse and reduce carbon emissions in the product value chain.

2.5 Industry cooperation and development

The Comprehensive Energy Business Unit has always adhered to the cooperation concept of mutual benefit and win-win. Adapting to the wave of new energy development, it actively participated in standard formulation and revision, deepened industry exchanges and cooperation, and worked with partners to build a more open, collaborative and innovative industrial ecology, contributing to the prosperity and development of the industry.

Promote technological progress in the industry. The Business Unit gives full play to its technical advantages to actively participate in the formulation and revision of standards in areas such as energy storage products and technologies, and promote the standardization and normalization of the industry. During the reporting period, the Business Unit planned 1 international standard and participated in the drafting of 3 national standards and 15 association standards.

Deepen industry exchanges and cooperation. During the reporting period, the Business Unit signed a number of strategic cooperation agreements with partners in the fields of energy storage and hydrogen energy, and organized industrial and commercial energy storage ecological partner conferences. It actively participated in industry seminars, exchange meetings, exhibitions and other activities to promote exchanges and learning with industry colleagues, and cooperated with upstream and downstream partners to build a collaborative innovation ecosystem for a healthy development of the industry.

Participation of association

Association name	Association identity	Participation time
China Energy Storage Alliance (CNESA)	Vice president unit	November 2022
Electrical Energy Storage Alliance	Vice president unit	June 2022
Jiangsu Energy Storage Association	Vice president unit	January 2024

Case: Holding the Industrial and Commercial Energy Storage Ecological Partner Conference
On July 30, 2024, CRRC Zhuzhou Institute held the "Working Together for Energy Storage" Industrial and Commercial Energy Storage Ecological Partner Conference, on which it released a three-power empowerment service system integrating "product power, platform power, and channel power", and signed cooperation agreements with 26 partners including GEM Co., Ltd. and Chilwee Group Co., Ltd. to jointly build an energy storage development ecosystem.

Case: Debut at the 3rd EESA Energy Storage Exhibition
From September 2 to 4, 2024, the 3rd EESA Energy Storage Exhibition was held at NECC (Shanghai) to accelerate the pace of adaptation to the scale development of

energy storage, promote the further healthy development of the industry, and facilitate the integration of the new energy industry.

During the exhibition, the Comprehensive Energy Business Unit released a new energy storage product CESS-4.0 energy storage cabinet, bringing customers a more efficient, safer, smarter and more flexible full-scenario energy storage integrated solution; joined hands with 14 core component companies in the industry chain to release new products and sign contracts, defining new technologies for lithium battery energy storage development and creating a win-win future for energy storage systems.

3. Environmental Friendliness, Green Comprehensive Energy

The Comprehensive Energy Business Unit thoroughly implements the concept of green development and unswervingly follows the path of high-quality development with ecological priority, green and low carbon. By implementing various measures for environmental protection and efficient use of resources and energy, the Comprehensive Energy Business Unit actively responds to climate change challenges, and provides clean energy equipment and system solutions to the society. It remains committed to working with stakeholders to build a beautiful home where people and nature coexist harmoniously.

- Responding to material topics
  - ✓ Green products
  - ✓ Addressing climate change
  - ✓ Energy management
  - ✓ Resource management
  - ✓ Environmental management system
  - ✓ Emissions and waste management
  - ✓ Biodiversity protection
- Responding to the United Nations Sustainable Development Goals

3.1 Sustainable product supply

As a loyal practitioner of the national "Carbon Peaking and Carbon Neutrality"

goal, the Comprehensive Energy Business Unit relies on the profound technology and industrial development experience accumulated in the rail transit field of CRRC Zhuzhou Institute to intensively develop the clean energy equipment manufacturing industry. It leads a green and low-carbon new life with comprehensive clean energy solutions, empowering the growth momentum of green, low-carbon and high-quality economic and social development.

In 2024, the Comprehensive Energy Business Unit's energy storage product capacity covered 0.2-5 MWh. The annual shipment volume of energy storage systems was 14.16 GWh and the grid connection capacity was 9.1 GWh. According to the statistics of China Energy Storage Alliance (CNESA), in 2024, the CRRC Zhuzhou Institute Comprehensive Energy Business Unit ranked first in terms of energy storage system shipment volume and grid-connection installed capacity in the Chinese market, and ranked second in terms of energy storage system shipment volume in the global market. As of the end of the reporting period, the Business Unit's 101 projects have been successfully connected to the grid and operated in 24 provinces including Inner Mongolia, Heilongjiang, Jiangxi, Chongqing, Qinghai, and Xinjiang, making positive contributions to alleviating the contradiction between regional power supply and demand and building a safer, more stable, and more reliable new power system. In addition, the Business Unit's hydrogen energy industry has entered a period of rapid development, and the industrial and commercial energy storage and comprehensive energy industries have also achieved innovation and demonstration across multiple application scenarios.

During the reporting period, the Comprehensive Energy Business Unit	
Shipment volume of energy storage systems in the Chinese market No. 1	Shipment volume of energy storage system 14.16 GWh
Grid connection capacity of energy storage system 9.1 GWh	Product capacity coverage 0.2−5 MWh

Case: Assisted in bringing the largest sodium-ion technology demonstration project in China to full operational capacity
In June 2024, the CRRC Zhuzhou Institute Comprehensive Energy Business Unit assisted in the official operation of first phase of Datang Group's 200 MWh Sodium-ion New Energy Storage Power Station in Hubei, China's first 100 MWh-scale sodium-ion energy storage project. The energy storage system of this project consists of 42 sets of energy storage battery compartments and 21 sets of string-type converters and booster AIO machine. 185 Ah large-capacity sodium-ion battery cells are selected, and a 110 kV booster station is built in conjunction with it. After being put into operation, the power station can be charged and discharged more than 300 times a year, and a single charge can store 100,000 kWh of electricity. It releases electricity during the peak period of the power grid, which can meet the daily electricity demand of about 12,000 households and reduce carbon dioxide emissions by 13,000 tonnes per year. The sodium-ion battery products provided by the Comprehensive Energy Business

Unit are designed on an advanced thermal management technology and optimized BMS control strategy to effectively reduce the risk of PACK thermal runaway; large-capacity sodium-ion battery cells are used to meet the needs of large-scale energy storage; with excellent high and low temperature performance, it can work normally in the temperature range of -40°C to 80°C, and the capacity rate is kept close to 90% at -20°C; the fast charging speed improves the convenience of use.

The operation of this project marks the first large-scale commercial application of sodium-ion new energy storage technology in the world, and also verifies the advancement and reliability of the company's sodium-ion energy storage technology.

Case: Assisted in Xinjiang Balikun (China Power Construction) Energy Storage Project to official operation

In June 2024, The Xinjiang Balikun (China Power Construction) 156 MW/624 MWh Energy Storage Project, designed, constructed and supplied by the CRRC Zhuzhou Institute Comprehensive Energy Business Unit, was officially put into operation. The project is located in the lakeside area of Santanghu, Balikun County, Xinjiang. It is the first hybrid energy storage power station in Xinjiang that uses a variety of new energy storage technologies such as lithium-ion battery energy storage,

sodium-ion battery energy storage, semi-solid-state battery energy storage, and flow battery energy storage.

Among them, the Comprehensive Energy Business Unit's 5.X lithium-ion liquid-cooled energy storage system selected for the project ensures power supply reliability in extremely low temperature environments and supports stable operation of the power grid. Compared with traditional liquid lithium-ion batteries, the semi-solid-state battery has many advantages such as high energy density, high safety, long service life and good environmental protection. The purification and recycling of vanadium raw material of the configured vanadium flow battery can be realized through the recovery and recycling of the electrolyte, reflecting the concept of green environmental protection.

After the project is put into operation, it can provide 1.25 billion kWh of electricity to the local area every year, which is equivalent to about 538,200 tonnes reduction of carbon dioxide emissions. It will make outstanding contributions to the development of clean energy and ecological civilization construction in Balikun, Xinjiang.

Case: Facilitated the grid connection of the first indoor industrial and commercial energy storage project in Zhejiang Province

In August 2024, the 2 MW/4.176 MWh energy storage system project in Qiantang District, Hangzhou City, Zhejiang Province was officially connected to the grid and operated. This project is the first industrial and commercial energy storage project on the user side of Qiantang District, Hangzhou City, Zhejiang Province to complete grid connection according to the full process of the power grid, and it is also the first indoor industrial and commercial energy storage project in Zhejiang Province.

Sixteen CESS-M261 energy storage integrated cabinets from the CRRC Zhuzhou Institute Comprehensive Energy Business Unit are adopted for this project, with a unit volume energy density of 94.1 kWh/m^3. The total area of the project is only 43 m^2, achieving greater energy capacity in a smaller space. The Comprehensive Energy Business Unit's fully autonomous EMS system and cloud platform used for this project can effectively reduce power grid fluctuations, improve power quality, and maximize the utilization of energy assets.

The successful grid connection of this project marks a solid step for the company to make technological breakthroughs in the field of industrial and commercial energy storage, which will strongly promote the green transformation of the local energy structure.

The Business Unit provides "source-grid-load-storage-control" integrated solutions for application scenarios such as large energy bases and industrial parks. Combined with

distributed energy, energy storage systems, hydrogen energy conversion and intelligent control technologies, it builds a clean energy system with multi-energy complementarity and flexible regulation to achieve the goals of improving energy efficiency, reducing energy costs and carbon emissions.

Case: Assisted in the Zero-carbon Construction Site Project in Inner Mongolia to be put into operation
In June 2024, the off-grid PV energy storage system of Huateng Zero-carbon Construction Site built by CRRC Zhuzhou Institute in Tengger Desert, Inner Mongolia was officially put into operation. The project is located in an area far from the municipal power grid and originally relied on long-distance transmission of the power grid to supply power to the construction site load. The off-grid PV energy storage system put into operation is mainly composed of a PV system, an energy storage system and an EMS. The PV system includes a total of 2,000 pieces of 580 Wp PV modules, which are connected to 9 sets of 110 kW PV inverters after stringing. The energy storage system consists of 12 sets of 125 kW/261 kWh liquid-cooled energy storage integrated cabinets, which converge with the PV system through 400V buses to provide green and clean energy for construction site loads. The entire system dispatches energy for PV, energy storage and loads through EMS, realizing fully automatic unattended off-grid operation. The off-grid PV storage microgrid system established for the project improves the energy utilization value, solves the energy supply problem during the construction of large bases, and has a demonstration significance for large-scale promotion in

application scenarios such as desert, gobi and wilderness construction sites, industrial parks, etc.

3.2 Environmental management

The Comprehensive Energy Business Unit strictly abides by various national and local ecological and environmental protection policies and regulations, establishes and improves the enterprise environmental management system, and continuously optimizes the environmental management process. It takes multiple measures to reduce pollutant emission, actively reduces the negative impact of business activities on the environment, and helps improve regional environmental quality and green and low-carbon development of the industry.

3.2.1 Environmental management system

The Comprehensive Energy Business Unit strictly follows the internal systems such as the *Management Measures for Energy Conservation and Ecological Environment Protection of CRRC Zhuzhou Institute*, and formulates multi-level internal management documents including management manuals, procedure documents, management measures and execution forms in combination with the actual needs of establishing and effectively operating the Business Unit's environmental management system, clarifying specific requirements in many aspects such as environmental

management policies and objectives, division of responsibilities, management measures, assessment, rewards and punishments.

Promoting standardization of full-process environmental management	
Formulate and decompose environmental management objectives	• Set three environmental management objectives at the Business Unit level: 0 environmental pollution accidents, 100% pollutant emission compliance rate and 100% waste classification and disposal. • The Business Unit signs Responsibility Letter of Objectives with each center and each department signs Responsibility Letter of Objectives with employees. Assessment management is implemented for safety, environmental protection and other work within the scope of responsibility from the aspects of key indicator assessment and annual key tasks. The assessment results are linked to the incentive mechanism. • During the reporting period, no major environmental pollution accidents occurred in the Business Unit, and all annual environmental management objectives have been achieved.
Improve the organizational structure of environmental management	• Establish Safety Management Committee and Safety and Environmental Protection Office at the Business Unit level; make sure each manufacturing base has an environmental protection manager; and clarify the environmental protection responsibilities of leaders at all levels, various posts, subsidiaries and branches, and

	centers/departments at all levels to ensure that EHS requirements are properly implemented in various business activities. • The Safety Management Committee is headed by the Business Unit's General Manager and the leaders of each center/department are members of this committee. The safety management committee meeting is held once a quarter.
Continue to increase investment in environmental protection	• The Business Unit continues to increase investment in environmental protection and configures pollution control processes that meet the requirements for all projects to adapt to environmental protection situation changes and environmental protection standards. • During the reporting period, the Business Unit invested a total of RMB 322,000 in environmental protection.
Implement environmental management measures	• Promote the construction of environmental management system. As of the end of the reporting period, the Business Unit's Haitian Base and Green Power to Hydrogen Equipment Production & Test Center have passed ISO 14001 environmental management system certification. • Continuously carry out environmental audits. The Business Unit hires a third-party agency to conduct an environmental management system audit every year, and conducts an internal audit at least once a year to ensure the effectiveness, compliance,

	and suitability of the environmental management system and identify opportunities for improvement. During the reporting period, the Business Unit conducted internal audits of the environmental management system for certified production bases, and 100% of non-conformities were rectified. • Strengthen the investigation and rectification of environmental hazards. The Business Unit incorporates environmental hazards into the safety inspection and hazard management work, requiring each base to establish a hazard ledger every week and implements closed-loop management. The annual hazard investigation and rectification rate is 100%. In response to the problems raised by local ecological and environmental authorities and the Energy and Environmental Protection Office of CRRC Zhuzhou Institute during the environmental protection inspection, clarify the responsible departments, formulate rectification plans, and solidly promote the closed-loop rectification of feedback problems. • Strengthen environmental emergency management. The Business Unit entrusted a professional technical service agency to prepare the *Emergency Plan for Environmental Emergencies* and established an emergency system for environmental emergencies. Each production base carries out environmental emergency drills at least once a year.

	• During the reporting period, no administrative penalties were imposed on the Business Unit due to environmental issues.
Improve environmental awareness for all employees	• The Business Unit promotes the improvement of environmental awareness among the Management and employees through a combination of internal and external environmental training. • During the reporting period, the Business Unit invited external experts to carry out special training on environmental protection for the Business Unit's management personnel. The Business Unit's environmental protection supervisor participated in the environmental protection training organized by the Group Company and each production base carried out special training for key personnel in environmental protection management around topics such as environmental compliance management and hazardous waste management.

 CRCC ZHUZHOU INSTITUTE COMPREHENSIVE ENERGY BUSINESS UNIT ISO 14001:2015 Bureau Veritas Certification		
ISO 14001 Environmental Management System Certificate	Hazardous Waste Emergency Drill	Special Training on Environmental Protection

3.2.2 Pollutant and waste management

The Comprehensive Energy Business Unit's production base mainly has two types of assembly projects: production of energy storage battery PACK and energy storage system integration. Without high energy consumption, high pollution or heavy metal emissions, the production process has a minor impact on the environment. During the reporting period, the pollution prevention and control facilities of each production base operated normally, and the generation and emission of waste gas, wastewater and solid waste in production operations were strictly controlled; the Comprehensive Energy Business Unit's Haitian Base, which was included in the simplified management of pollutant discharge permits, discharged pollutants with certificates in accordance with the law.

Waste gas management

The Business Unit strictly abides by the requirements of laws and regulations such as the *Atmospheric Pollution Prevention and Control Law of the People's Republic of China*, and continues to strengthen waste gas management to ensures that waste gas is discharged in compliance with regulations.

The main waste gas pollutants produced by the Business Unit include non-methane hydrocarbons generated by the gluing process during the production process, and smoke and dust generated by laser coding, laser welding and other processes. Among them, the waste gas from glue coating is collected under negative pressure and then discharged to the standard based on the activated carbon adsorption technology; the smoke and dust are discharged after being treated by a mobile smoke purifier. In addition, the Business Unit regularly entrusts a qualified third-party environmental monitoring agency to carry out self-monitoring.

Test Results of Organized Waste Gas from Haitian Base

Main pollutant	Actual emission concentration limit (mg/m^3)	Permitted emission concentration limit (mg/m^3)
Non-methane hydrocarbons	1.40	50

Case: Using environmentally friendly materials to significantly reduce VOCs emissions
The Haitian base uses a more environmentally friendly two-component thermal conductive gel in the gluing process of the energy storage battery PACK production line, and the VOCs emission of the adhesive is only 7.98 kg/year. Compared with before the transformation, the total generation of adhesive VOCs decreased by 599.52 kg/year, and the total emission decreased by 137.52 kg/year. The impact of waste gas from glue coating on the environment has been greatly reduced.

Wastewater management

The Business Unit strictly abides by the requirements of laws and regulations, such as the *Water Pollution Prevention and Control Law of the People's Republic of China*, implements rainwater and sewage diversion, and ensures that wastewater is discharged in compliance with standards.

The Business Unit’s production process does not involve industrial wastewater discharge, only domestic sewage discharge from employees' living water. The domestic sewage from each operating area is pre-treated in a septic tank to meet the collection standard, and then connected to the regional urban sewage treatment plant for centralized disposal.

Waste management

The Business Unit strictly abides by the requirements of laws and regulations such as the *Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste*, strengthens the solid waste control throughout the process, and realizes source reduction, resource utilization during processing, and harmless treatment at the end stage.

Hazardous waste management. The Business Unit has formulated the *Hazardous Waste Management Measures* to standardize and strengthen the management of hazardous waste throughout the process. During the reporting period, the hazardous waste generated by the Business Unit mainly includes waste rubber barrels, waste activated carbon, waste mineral oil, waste rubber, waste rags and gloves, etc. Hazardous wastes are collected uniformly and stored in the temporary storage room for hazardous wastes by classification and partition. The storage process strictly conforms to the relevant requirements of the *Standard for Pollution Control on Hazardous Waste Storage,* and qualified units are entrusted regularly to carry out safe disposal.

General industrial solid waste management. The general industrial solid waste generated by the Business Unit mainly includes unqualified parts identified during workpiece testing and inspection, smoke and dust collected by the dust removal system, and discarded packaging materials (plastic bags, cartons, etc.) of purchased parts. Among them, unqualified parts are collected and transported back to the manufacturer for recycling, smoke and dust are collected and outsourced for resource recovery, and discarded packaging materials are collected and temporarily stored before being sold for comprehensive utilization.

3.2.3 Biodiversity protection

The Comprehensive Energy Business Unit strictly abides by the laws and regulations related to biodiversity protection and the requirements of ecological protection red lines. It scientifically evaluates the ecological and environmental impacts of its own business activities to minimize the intervention of project construction and operation on the ecological environment.

During the reporting period, the land used for the Business Unit projects was all industrial land, and there were no production bases or operating points located within natural reserves or in regions with rich biodiversity outside the reserves. No significant impact on biodiversity has been found in the Business Unit's production and operation activities.

3.3 Resource management

The Comprehensive Energy Business Unit abides by the relevant laws and regulations on national resource management, and stays committed to the resource concept of saving, intensive and recycling. With resource efficiency and recycling as the core, it actively explores and practices, striving to reduce the use of resources in production and operation.

3.3.1 Water resources management

The Comprehensive Energy Business Unit strictly abides by the *Water Law of the People's Republic of China*, the *Water Pollution Prevention and Control Law of the People's Republic of China* and other relevant laws and regulations on water intake, use

and discharge in operation areas to standardize the use of water resources during production and operation.

The Business Unit's water comes from the municipal water supply, primarily used for domestic and office purposes, as well as fire emergencies, and does not involve production water. The Business Unit promotes each production base and operation point to strengthen the maintenance and management of water facilities to avoid leakage, dripping, etc., and advocates the concept and behavior of saving water among them. During the reporting period, the Business Unit did not have any violations of laws and regulations related to water resources management.

During the reporting period, the Comprehensive Energy Business Unit
Total water consumption[1] **5,825.80** tonnes

3.3.2 Material management

The Comprehensive Energy Business Unit sets hazardous substance restriction requirements for suppliers' incoming materials to ensure compliance with relevant requirements such as the EU RoHS Directive and REACH regulations. The Business Unit incorporates the development of recycled material recycling technology, the development of battery recycling material suppliers, and the improvement of the recycling rate of materials in products into the low-carbon energy storage product development plan. During the reporting period, the Business Unit developed battery recycling material suppliers to promote the recycling and reuse of major components

1 The statistical caliber includes the Business Unit headquarters and production bases (Liyu Base, Haitian Base) located in Zhuzhou, Hunan.

and reduce carbon emissions in the product value chain.

The Business Unit takes control measures such as strictly controlling slow-moving materials, establishing overdue material warning mechanism, optimizing storage layout, and optimizing picking strategies to strengthen material storage and transportation management.

3.3.3 Packaging material management

The Comprehensive Energy Business Unit has set a goal of reusing packaging materials no less than 5 times, promoting the recycling and reuse of major packaging materials such as wooden boxes, effectively reducing packaging material costs, and promoting resource conservation. During the reporting period, the Business Unit promoted the number of wooden box reuses from 3 times to 4.95 times by strengthening the management of existing wooden box packaging. In the future, the Business Unit will continue to promote circular packaging services and expand the application of circular shared packaging in various manufacturing bases.

3.4 Energy management

With energy management as a key approach to green and low-carbon manufacturing, the Comprehensive Energy Business Unit promotes efficient use of energy by establishing and improving the management system and implementing energy-saving and technical transformation, thereby advancing towards more sustainable development.

3.4.1 Energy management system

The Comprehensive Energy Business Unit strictly follows the requirements of laws and regulations such as the Energy Conservation Law of the People's Republic of China, Law of the People's Republic of China on Promotion of Cleaner Production and Circular Economy Promotion Law of the People's Republic of China, establishes an energy management system according to ISO 50001 and other standards, and formulates internal management systems and procedures including *Energy Management System Manual, Control Procedure for Energy Management Measures and Management Measures for Energy Conservation* to standardize energy management activities.

The Business Unit adheres to the energy policy of "complying with laws and regulations, saving energy and reducing consumption, improving energy efficiency, and continuous improvement", establishes an energy management team including an energy management leadership group and an energy management execution group, and clarifies the energy management responsibilities of the management and various departments.

The Business Unit continued to promote the construction of energy management system and completed an internal audit in November 2024. Combined with the energy performance evaluation, the Business Unit actively takes technical and management energy-saving measures to promote energy conservation and consumption reduction during the process of manufacturing and operating, continuously improving energy efficiency.

Implementation Progress of Important Energy-saving Projects at Haitian Base	
Technical energy saving	Installed 16 smart meters in the PACK production line and commissioning area to grasp the power consumption of the production line in real time, adjust abnormal 

	points in time, and optimize energy consumption management.
	Optimized the program start-stop logic of compressed air and vacuum generator in PACK production line. Through parameter difference setting, 2 air compressors can be started in a main and auxiliary configuration, thereby reducing the full-load operation time of auxiliary machines and saving 50 kWh of electricity per day. 
	Adjusted the PACK charge and discharge test ratio, which can save 100,000 kWh of power consumption per year for every 2 GWH output.
	From May 2023 to May 2024, the installation of energy-saving lamps in the factory building has been completed, which can save 38,900 kWh of electricity per year.
Energy saving management	Improved the regulations on the use of air conditioning and lighting in factory buildings, requiring the air conditioning temperature to be no lower than 26°C in summer and no higher than 20°C in winter. 
	Required to strengthen the standby management of office computers.
	Strengthened the publicity and implementation of energy conservation.

In addition, in order to enhance the energy management awareness and ability of employees in relevant posts, the Business Unit organized 4 external training sessions around topics such as "Energy Assessment Training" and "PV Storage and Charging

Technology Energy Saving Training", with a total of 35 participations and training time of 54 hours; and the Business Unit organized 2 internal training sessions around the energy system, with a total of 43 participations and training time of 3.5 hours.

3.4.2 Energy use

The energy used by the Comprehensive Energy Business Unit includes diesel and electricity. Among them, diesel is a direct energy source used for fire pumps and backup generators, with very little consumption; electricity is an indirect energy source used for production equipment, power equipment and office equipment, and is the main energy-consuming category. Charging and discharging test, cell stacking test and welding test are the main power consumption links.

During the reporting period, the Comprehensive Energy Business Unit
Total energy consumption[2] **13,741.16** GJ

3.5 Addressing climate change

Promoting high-quality development of new energy is an important path to achieve the "Carbon Peaking and Carbon Neutrality" goal. As an important enterprise in the field of clean energy equipment manufacturing, while providing carbon peaking and carbon neutrality solutions for society, the Comprehensive Energy Business Unit actively responds to the Group Company's carbon neutrality strategy, continues to

2 The statistical caliber includes the Business Unit headquarters and production bases (Liyu Base, Haitian Base) located in Zhuzhou, Hunan; during the reporting period, diesel consumption was very small and was not included in the statistics.

strengthen its capacity building to cope with climate change, and enhances the climate resilience of the Business Unit's operations.

3.5.1 Climate governance strategy

CRRC integrates climate change response into its business development, formulates the *Action Plan for Carbon Peaking and Carbon Neutrality*, and clearly puts forward the leading and challenging "35·50" carbon neutrality goals: strive to achieve operational carbon neutrality by 2035 and full-value-chain carbon neutrality by 2050.

As a key member enterprise of CRRC, the Comprehensive Energy Business Unit has actively aligned with deployments of the Group Company by prioritizing climate change response as a strategic task for achieving sustainable development. The Business Unit’s Management oversees climate-related work, and each relevant department assumes specific responsibilities to ensure efficient advancement from strategic planning to specific implementation.

To actively promote energy conservation and carbon reduction in operations and the value chain, the Business Unit plans to take actions including conducting carbon accounting, implementing renewable energy projects, and building a green and low-carbon supply chain:

- Conduct organization-level carbon emission accounting, and formulate and implement operational carbon emission reduction action plans tailored to the emission characteristics of each production base.
- Increase the proportion of clean energy use, achieving 100% renewable electricity use and operational carbon neutrality by 2035.

- Conduct carbon footprint accounting for key products, benchmark against the industry average and leading standards, and formulate and implement product-level carbon emission reduction action plans.
- Collaborate with suppliers to conduct carbon reduction actions, design and produce low-carbon and eco-friendly products, and achieve full value chain carbon neutrality by 2050.
- Promote the establishment of green factories in major production bases (Yibin Base, etc.).

3.5.2 Management of climate risks

The Comprehensive Energy Business Unit identifies potential climate risks and opportunities in business activities by adopting TCFD risk analysis framework, and formulates effective response measures. In addition, the Business Unit also integrates climate risks into the comprehensive risk management framework, organizes annual risk assessments, adopts targeted risk management strategies, and formulates tailored risk control measures.

Climate risk identification and response			
Risk types		Impact analysis	Response measures
Acute physical risks	The frequency and intensity of extreme weather events such as typhoons and	• The infrastructures/equipment in some operations and manufacturing sites are at risk of	• Formulate emergency plans and business interruption strategies, and regularly carry out extreme weather

	floods have increased	being damaged, potentially leading to increased facility maintenance costs and accelerated depreciation of fixed assets. • The Business Unit is exposed to production and logistics interruption risks that may affect the normal production and delivery for the Business Unit and suppliers, leading to revenue decrease.	emergency drills. • Achieve 100% multi-source supply of main products and improve the climate resilience of the supply chain.
Chronic physical risks	Long-term climate patterns change, such as persistent high-temperature	• Rising temperatures may lead to increased demand for refrigeration equipment and higher	• Improve equipment energy efficiency and promote digital management of energy conservation and carbon

	events.	maintenance costs, raising operating costs. • Certain energy-intensive suppliers may face electricity rationing due to extreme heat, resulting in delayed raw materials shipments, affecting normal delivery and reducing revenue.	reduction; • Refine the regulations on the use of energy-consuming equipment such as air conditioners and enhance employees' energy conservation awareness. • Achieve 100% multi-source supply of main products and improve the climate resilience of the supply chain.
Political and legal risks	Rise in carbon pricing, stricter requirements for carbon emissions and product carbon footprint	• As global carbon emission regulations become increasingly stringent, the Business Unit faces heightened compliance pressure, potentially leading to	• Pay close attention to "carbon peaking and carbon neutrality" regulations and policies, and implement targeted energy conservation and carbon reduction

	information disclosure, and implementation of carbon tariffs.	higher operating costs.	measures. • Conduct product carbon footprint accounting and organizational carbon emission audits to monitor carbon emissions in the entire value chain, including operations, raw material procurement, and logistics transportation. • Formulate green supply chain goals and management policies to drive carbon emission reduction actions among suppliers.
Technical Risk	Fail to promptly identify and adopt low-carbon technologies,	• With the continuous development of energy-saving equipment and technologies,	• Improve equipment utilization efficiency and production efficiency. • Establish and improve the energy management

	clean technologies, etc.	traditional high-energy-consuming equipment faces a trend of upgrades and replacements, exposing existing assets to the risk of premature scrapping. • The adoption of high-efficiency equipment, energy-saving technologies and process retrofits may drive increased capital expenditures across the Business Unit. • Increase investment in the research and development of innovative new energy products and	system and eliminate high-energy-consumption equipment. • Continuously intensify technology investment, promote low-carbon technology innovation, and develop green and low-carbon products.

		alternative technologies.	
Market risks	Customer behavior changes and raw material costs increase.	• Affected by the trend of climate change, some customers have shifted their purchasing preferences and put forward new demands, such as stringent carbon footprint standards. If the Business Unit's products fail to meet the market demand for green and low-carbon products, it may erode product competitiveness and adversely affect sales performance. • The Business Unit purchases low-carbon	• Continuously monitor market demand trends and proactively adjust business plans. • Take addressing climate change as an important topic, and comprehensively demonstrate the Business Unit's low-carbon transition measures and outcomes to stakeholders through ESG reports, stakeholder surveys and other channels. • Implement green supplier management, establish sustainable procurement principles

		raw materials and green power from suppliers, leading to increased procurement costs.	and continuously refine procurement standards and systems to promote the green transformation across the supply chain.
Reputational risks	Inadequate performance in climate change response and sustainability has triggered negative feedback from stakeholders.	• Stakeholders are increasingly concerned about the green and low-carbon performance of the Business Unit and its products. If the Business Unit fails to meet stakeholders' expectations in terms of climate information disclosure and climate actions, it may face reputational damage and financial underperformance.	• Take addressing climate change as an important topic, and comprehensively demonstrate the Business Unit's low-carbon transition measures and outcomes to stakeholders through ESG reports, stakeholder surveys and other channels. • Prioritize addressing climate change as an important strategic task to achieve sustainable development, actively

			fulfill social responsibility, and enhance the Business Unit's green credentials.

Climate opportunity identification and response			
Opportunity types		Impact analysis	Response measures
Resource efficiency	Improve resource and energy utilization efficiency	• An efficient resource and energy management system can effectively avoid waste, improve production efficiency and supply capacity, while reducing operating costs.	• Strengthen the management of water resources, materials, packaging materials, etc. with a focus on resource efficiency and recycling to reduce resource consumption in production and operation. • Actively take technical and management energy-saving measures to promote energy conservation and consumption reduction during the process of manufacturing and

			operating, continuously improving energy efficiency.
Products and services	Develop and provide low-carbon products and services	• In the context of the transition to a low-carbon economy, the social demand for low-carbon products and services may increase. The Business Unit's continuous R&D investment and product innovation in the fields of energy storage and hydrogen energy may bring room for the Business Unit to increase its operating revenue. Additionally, developing new energy products may unlock access to government	• Build an efficient R&D management system and continuously consolidate the technical foundation to promote product upgrading and the sustainable development of the new energy industry.

		incentives.	
Market opportunities	Enter new markets	• The global demand for low-carbon energy continues to grow, and the capacity of emerging markets is accelerating expansion. Strengthen the development of new energy emerging markets and provide more low-carbon products and services that meet market demands, fostering business growth and revenue generation for the Business Unit. • All industries will implement renewable energy substitution as a key measure for	• Actively promote the innovation incentive mechanism and increase R&D investment to provide customers with cleaner, low-carbon and efficient products. • Optimize products, supply chain, after-sales and other aspects to improve market competitiveness.

		low-carbon transition. Further expand market demand.	

3.5.3 Progress in climate action

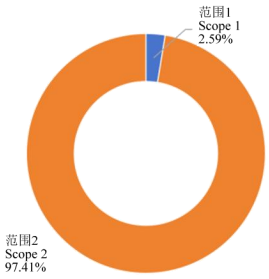
In order to actively cope with global climate change and respond to the national "carbon peaking and carbon neutrality" strategy, the Comprehensive Energy Business Unit is deeply engaged in the clean energy equipment manufacturing industry. While helping the global low-carbon transition with comprehensive clean energy solutions, it continues to promote the Business Unit's carbon emission management work and help CRRC achieve its "35·50" carbon neutrality goal.

Strengthen carbon emission accounting. The Business Unit took the initiative to carry out a thorough organizational level investigation of greenhouse gas emissions, and conducted a comprehensive audit of its energy utilization and carbon emissions in 2024. In addition, based on ISO 14064, the Business Unit has completed the carbon emission accounting of Scope 1, Scope 2 and Scope 3 of 1 production base and obtained the organization's greenhouse gas verification statement; based on ISO 14067, the Business Unit has completed the carbon footprint accounting of 1 typical product and obtained the product carbon footprint evaluation certificate issued by a third-party certification body.

During the reporting period, the Comprehensive Energy Business Unit
Total greenhouse gas (GHG) emissions[3]

3 The statistical caliber includes the Business Unit headquarters and production bases (Liyu Base, Haitian Base) located in Zhuzhou, Hunan; during the reporting period, diesel consumption was very

2,293.39 tonnes of CO_2e

GHG emissions composition	
Scope 1: Direct carbon emissions. In 2024, the Business Unit's direct GHG emissions were 59.35 tonnes, accounting for 2.59% of the total GHG emissions. They mainly came from refrigerants, fire extinguishers and septic tanks. Minimal diesel consumption was not included in the statistics.	 Emission composition (by emission source)
Scope 2: Indirect emissions from purchased electricity. In 2024, the GHG emissions from the Business Unit's purchased electricity were 2,234.04 tonnes, accounting for 97.41% of the total GHG emissions. The purchased electricity included electricity for production equipment, power equipment and office equipment.	

Implement low-carbon transition measures. The Business Unit has made positive progress in clean energy technology innovation, clean energy product and service

small and was not included in the statistics.

supply, resource and energy management, and green supplier management, etc. See the corresponding sections of the report for details.

4. Diversity and Inclusion, People-oriented Comprehensive Energy

The Comprehensive Energy Business Unit regards talent as the driving power and source of sustainable development. By providing fair employment opportunities, building a platform for employee growth, protecting employees' physical and mental health, and improving their well-being, it is committed to creating a diverse, equal and inclusive working environment. The Business Unit also effectively integrates social response, public welfare practice and its own business, joining hands with all parties to create a better life.

- Responding to material topics
  - ✓ Employee equality and diversity
  - ✓ Employee rights and benefits
  - ✓ Occupational health and safety
  - ✓ Good remuneration
  - ✓ Employee training and development
  - ✓ Supporting economic development
  - ✓ Supporting public welfare and charity
- Responding to the United Nations Sustainable Development Goals

4.1 Employee rights and benefits

The Comprehensive Energy Business Unit adheres to the people-oriented concept,

starting from core links such as compliant employment and salary and benefits management, continuously improving internal systems and management processes to create an inclusive working environment with equal opportunity, attracting and retaining diverse talents, and striving to become a value-creating, responsible and respected excellent employer.

4.1.1 Diversity and equal employment

The Comprehensive Energy Business Unit strictly abides by *the Labor Law of the People's Republic of China*, *the Labor Contract Law of the People's Republic of China* and other relevant laws and regulations and implements CRRC Zhuzhou Institute's internal systems such as *Employee Recruitment Management Measures* and Labor Employment Management Measures to build a compliant, equal, diverse and inclusive employment system. Matters related to employee rights and interests such as employee recruitment, salary and benefits, promotion and development, and resignation management are regulated by the Employee Manual of CRRC Zhuzhou Institute.

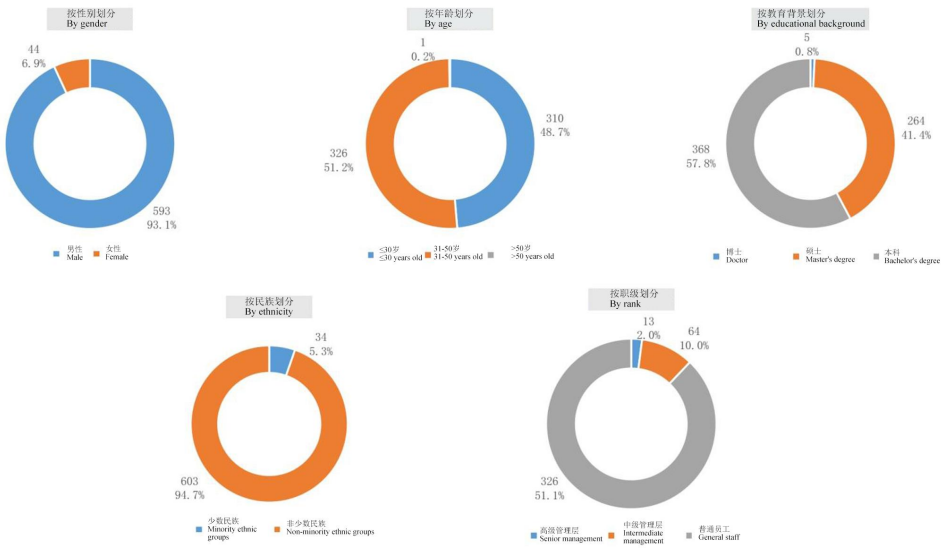
The Business Unit strictly implements *the Law of the People's Republic of China on Protection of Minors*, *Provisions on Prohibition of Using Child Labor* and other laws and regulations. In compliance with international human rights conventions and labor rights protection mechanisms such as the core conventions of the International Labour Organization (ILO) and *the Universal Declaration of Human Rights*, it prohibits the employment of child labor, forced labor and harassment, ensuring that employees are not treated differently due to factors such as gender, age, nationality, race, religious beliefs, cultural background, and physical and psychological defects. During the

reporting period, there were no illegal events such as hiring child labor and forcing people to labor in the Business Unit. In addition, the *Supplier Code of Conduct* of CRRC Zhuzhou Institute clearly requires suppliers to comply with basic requirements such as prohibiting forced labor and the employment of child labor, and respecting the basic human rights of employees.

With the adherence to the recruitment principles of demand orientation, professional counterparts, openness and fairness, and two-way selection, the Business Unit actively broadens talent selection channels, widely absorbs outstanding talents of different ages and experiences, and continuously optimizes the workforce structure.

As of the end of the reporting period, the Comprehensive Energy Business Unit		
Total number of employees **637** employees	New employees **358 employees**	Minority ethnic employees **34 employees**
Percentage of female managers **5.19**%	Employee turnover rate **4.24**%	

Number and Ratio of Employees by Categories in 2024



4.1.2 Salary and benefits management

The Comprehensive Energy Business Unit establishes and continuously improves the salary and welfare system to attract and retain outstanding talents, laying a solid foundation for the Business Unit's long-term development.

The Business Unit implements the principle of "equal pay for equal work", executes internal systems such as CRRC Zhuzhou Institute's *Management Measures for Leadership Compensation* and *Performance Management Measures for Non-Managerial Career Path Employees* to standardize the salary structure, salary level, growth strategy, and payment strategy, etc. of all employees. The Business Unit implements a "3+X" dual-broadband composite salary distribution mechanism to achieve an organic combination of the "three elements", namely job responsibilities, personal capabilities, and annual performance with salary distribution. At the same time, it establishes X types of timely incentive models such as efficiency enhancement rewards and special rewards to make the salary distribution system more flexible and targeted.

Comprehensive Energy Business Unit's salary distribution model	
Hierarchical incentive	• For professional managers, implement "dual-system and one-contract" management to establish an annual salary system and tenure-based incentive mechanism that are compatible with organizational performance, job responsibilities and individual contributions. • For the employees, establish a salary distribution mechanism where

	job grades determine pay grades, performance determines bonus, and hierarchy determines benefits. Employee bonus distribution, salary adjustment, etc. are closely linked to performance assessment.
Diversified incentives	• Establish incentive systems, including core talent rewards, subsidy incentives for young scientific and technological talents, major scientific research project appointment rewards, special scientific and technological achievements rewards, quality improvement project rewards, and management improvement project rewards.

The Business Unit strictly complies with the requirements of national and local laws and regulations, establishes statutory benefits including basic pension insurance, basic medical insurance (including mutual aid for serious illness), work-related injury insurance, maternity insurance, unemployment insurance and housing provident fund for all employees, and additionally provides independent benefits including enterprise annuity, supplementary medical insurance, food allowance, extreme weather allowance (summer/winter), health care allowance, physical examination, recuperation programs, mutual assistance, and commercial insurance. This integrated welfare system combines statutory protections with discretionary benefits, creating a diversified safety net that addresses employees' varied needs.

The Business Unit guarantees the rights of employees to take their statutory holidays such as weekends, official public holidays, marriage/bereavement leave, maternity leave, and parental leave, etc., strictly follows the relevant provisions of the *Regulations of Paid Annual Leave of Employees* and the *Implementation Measures for Paid Annual Leave for Employees of Enterprises*, standardizes the paid annual leave

system, and ensures that the legitimate rights and interests of employees are fully implemented.

During the reporting period, the Comprehensive Energy Business Unit		
Signing rate of labor contracts **100%**	Ratio of average employee wage to local minimum wage **9.24:1**	Gender pay ratio in the same position **1:1**

4.2 Employee communication and care

The Comprehensive Energy Business Unit actively listens to the demands of employees and continues to build an open, transparent and democratic communication mechanism; fully implements employee care policies to meet the diverse needs of employees; organizes colorful cultural and sports activities to create a harmonious and progressive organizational atmosphere.

4.2.1 Democratic management

CRRC Zhuzhou Institute strictly follows the principle of democratic centralism. In accordance with *the Trade Union Law of the People's Republic of China* and other laws and regulations, it has formulated internal systems such as the *Management Measures for Workers' Congress*, the *Management Measures for Trade Union Organizations*, and the *Management Measures for Collecting Proposals from Employee Representatives*, improved the democratic management system with the Workers' Congress as the core, built a diversified employee communication system, actively guaranteed the legitimate rights and interests of employees, and promoted the harmonious and stable development

of the company. The Comprehensive Energy Business Unit strictly implements the relevant requirements of democratic management of CRRC Zhuzhou Institute.

Important ways for democratic management of CRRC Zhuzhou Institute	
Workers' Congress	• The company strictly implements the system of Workers' Congress and guarantees the rights of employees to democratic management in accordance with the law. In 2024, the Workers' Congress collected nearly a hundred feedback on key areas such as market development, management improvement, deepening reform, employee welfare, cost reduction and efficiency improvement, talent flow and training, and industrial advancement, fully reflecting its important role in promoting enterprise development. • As the core operating body of the Workers' Congress, the trade union committee shoulders the important responsibility of democratic supervision and is committed to the fine management of employee relations and the fair handling of labor disputes. In 2024, the proportion of employees joining the trade union reached 100%.
Transparent factory affairs with democratic supervision	• The company has established a Factory Affairs Disclosure Leading Group and a Factory Affairs Disclosure Office to disclose the company's major production and operation matters, the integrity and self-discipline of leadership, and the disposal of significant assets through various forms such as the Party Committee

	meetings, Decision-making Committee, administrative and Party-mass regular meetings. • The company implements democratic supervision after disclosing factory affairs, and the forms of supervision include democratic deliberation, democratic consultation, letters and visits, and reporting. In 2024, employee representatives discussed documents such as the *Performance Management Measures for Receivables and Inventory Funds*, collected more than 40 feedback and suggestions, and communicated and coordinated with relevant departments to ensure that problems were fed back and handled in a timely manner.
Collective consultation system	• The company signed the Collective Contract and Special Collective Contract on the Protection of Female Employees' Rights and Interests with the trade union, covering all employees of the company. The contract covers salary guarantee, labor protection, occupational health and safety, female employee protection and other contents to fully protect the rights and interests of employees. • When facing major operational changes that affect the employment of employees (including contract modification), the company shall fully address employee redeployment matters in advance by formulating special plans, investigating employees' intentions, and soliciting their opinions. The finalization and dissemination of the

	plan comply with democratic processes, with all relevant process documentation properly archived.

In addition, the Comprehensive Energy Business Unit maintains open communication channels for employees by holding employee symposiums and democratic life meetings to solicit and address feedback, and fully mobilizes employees' enthusiasm for participating in the Business Unit’s construction. The scope of opinions and suggestions covers (but is not limited to) administrative operations, career development, salary and benefits, and logistics support, etc.

4.2.2 Employee care

The Trade Union of CRRC Zhuzhou Institute fully plays the role of bridge and link, establishes and improves a long-term mechanism for protecting employees' rights and interests and helping those in need, actively carries out employee care activities, enhances employees' sense of belonging and happiness, and creates a warm and heartwarming workplace environment.

The Trade Union conducts activities such as sending care in winter and summer for specific groups. It also extends support during festivals, assistance for employees in need, educational support in the autumn, and care for employees who are ill, including financial subsidies. In addition, the company has established an employee mutual assistance fund, which is organized by the Trade Union, and employees can participate voluntarily. Based on the fundraising status of the foundation and the level of difficulty encountered by employees, a certain amount of financial assistance will be provided.

Case: Comprehensive Energy Business Unit’s Health-preserving Activity - Traditional

Chinese Medicine for Health Care
From November 25 to 29, 2024, the Comprehensive Energy Business Unit's Trade Union and Youth League Committee organized a health outreach activity titled "Comprehensive Energy Business Unit's Health-preserving Activity - Traditional Chinese Medicine for Health Care" to provide free medical consultations for employees. The activity helps employees raise health awareness and understand their health status by inviting experienced traditional Chinese medicine experts to provide on-site consultations, health advice, and health care gift packages.

4.2.3 Colorful activities

The Comprehensive Energy Business Unit has always emphasized a balanced development between employees' work and personal lives. With a focus on employees' interests, the Business Unit meticulously plans and organizes a variety of cultural and sports activities, creating a challenging and enjoyable workplace environment. It helps employees appreciate the beauty of life while staying focused on their work, achieving a harmonious integration of professional growth and quality of life.

	
"Running CRRC, Charming Shifeng" 3rd Times Half Marathon of CRRC Zhuzhou Institute	The 12th Employee Mass Games of CRRC Zhuzhou Institute
	
CRRC Zhuzhou Institute Industry Tour Short Video: Climbing, Energizing Our Dreams	Themed Art Exhibition "Celebrating the 65th Anniversary and Accelerating towards the Forefront" of CRRC Zhuzhou Institute
	
The 13th Air Volleyball Competition of CRRC Zhuzhou Institute	2024 "Braving Rapids, Embracing Youth" Rafting Team-Building Activity for New Employees, Organized by Comprehensive

	Energy Business Unit
	
2024 Water Sports Games of the Comprehensive Energy Business Unit	2024 Running Activity of the Comprehensive Energy Business Unit

4.3 Occupational health and safety

The Comprehensive Energy Business Unit adheres to the safety management policy of "Safety first, prevention foremost, and comprehensive treatment". Based on strictly abiding by occupational health and safety laws and regulations such as the *Law of the People's Republic of China on Work Safety* and the *Law of the People's Republic of China on Prevention and Control of Occupational Diseases*, the Business Unit establishes and improves an occupational health and safety management system that involves all employees, promotes the standardization of work safety, provides employees with a healthy and safe working environment, and lays a solid safety foundation for the high-quality development of the enterprise.

4.3.1 Work safety management

The Comprehensive Energy Business Unit attaches great importance to the occupational health and safety of employees. In 2024, the Business Unit established top-level objectives of "zero major safety accidents, zero incidence of occupational diseases, and zero fire incidents". The Business Unit signed Responsibility Letter of

Objectives with each center and each department signed Responsibility Letter of Objectives with employees to link safety targets with performance evaluations, continuously improving the performance of work safety management. As of the end of the reporting period, the Business Unit had not received any administrative penalties related to occupational health and safety, and all annual work safety goals had been achieved.

The Business Unit continuously improves its work safety management system, focusing on aspects such as organizational structure construction, management system construction, risk identification and control, system certification and audit, emergency management, interested party management, and safety culture development. It rigorously implements work safety tasks and firmly upholds the Business Unit's safety development bottom line. During the reporting period, the Business Unit successfully applied for the provincial-level Healthy Enterprise designation.

Work Safety Management System	
Organizational structure construction	• Safety Management Committee is established as the Business Unit’s highest leadership and decision-making body in occupational health and safety management. The Business Unit’s General Manager serves as the director of the Safety Management Committee, other members of the management serve as deputy directors, and leaders of various centers/departments serve as members. The Safety Management Committee is responsible for auditing and issuing the Business Unit’s policies related to work

	safety and supervising their implementation, and making decisions on important matters in the field of work safety. The Business Unit holds a safety management committee meeting every quarter to analyze and judge the Business Unit's safety situation, as well as to deploy and advance key annual work tasks. • The Safety Management Committee has a Safety and Environmental Protection Office to organize specific matters in the field of work safety. As members of the Safety and Environmental Protection Office, safety officers from various departments promote the implementation of work safety management requirements in various business activities. • Each manufacturing base is equipped with a safety officer who is responsible for carrying out work safety education and training, hidden danger investigation, emergency drills, interested party management, dangerous operation management, and other works at the base, and fully implementing the Business Unit's various safety management requirements.
Management system construction	• The Comprehensive Energy Business Unit's *QES Three-System Manual* was issued in February 2023 as a programmatic document for occupational health and safety management, and revised and improved in May and September 2024. • The Business Unit has developed a series of management measures

	focused on the primary responsibility for work safety, safety management of "Four New" technologies, safety and environmental management at project sites, management of hazardous operations, work safety training, safety inspections and hazard remediation, management of work safety accidents, and interested party management. • During the reporting period, the Business Unit revised and improved 7 safety management-related systems, such as the *Special Equipment Management Measures* and *Facility Responsible Person Management Measures*, according to actual management needs.
Risk identification and control	• The Business Unit has established a dual control system manual for the manufacturing center PACK and the integration base. By establishing a hazard identification and risk evaluation form, the Business Unit systematically organizes internal hazards along with their risk levels, control measures, and responsible departments to create a list of major risks and their controls. • The Business Unit has established and improved a dual prevention mechanism, implementing grid management for the main risk points on site. Issues are promptly reported and closed looped. The status of corrective actions is communicated to all employees every week. Each month, typical problems are identified based on hazard inspection records, and a monthly safety meeting is organized to

	analyze and predict these issues, providing targeted and reasonable recommendations. During the reporting period, the Business Unit's hidden danger investigation and rectification rate was 100%. • The Business Unit has formulated the *Safety and Environmental Management Measures for Project Sites*, which stipulates the safety and environmental management requirements for each stage of the project. These measures ensure the health and safety of personnel (including interested parties) during the installation, commissioning, and troubleshooting processes of energy storage devices.
System certification and audit	• Promote the establishment of an occupational health and safety management system. As of the end of the reporting period, the Business Unit's Haitian Base and Green Power to Hydrogen Equipment Production & Test Center have passed the ISO 45001 occupational health and safety management system certification. The Business Unit hires a third-party agency to conduct an occupational health and safety management system audit every year and continuously ensures the effective operation of the system.

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ISO 45001 Occupational Health and Safety Management System Certificate

- Continue to carry out internal audits of the system. The Business Unit conducts an internal audit once a year to ensure the effectiveness, compliance and suitability of the occupational health and safety system and identify opportunities for improvement.

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<td>Safety and emergency management</td>
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- The Business Unit has formulated the *Emergency Preparedness and Response Control Procedure* to standardize and guide the Business Unit's emergency response, protect employees' safety to the greatest extent, and reduce property losses along with environmental and social impacts.
- Haitian Base and other production bases have formulated the *Emergency Plan for Work Safety Accidents*, which clarifies the composition and responsibilities of emergency agencies, general requirements and procedures for emergency response and

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	subsequent disposal, and also formulates special plans for fire and explosion accidents, special equipment accidents, and natural disasters. • The Business Unit organizes each production base to complete emergency drills and targeted emergency training every month to enhance employees' risk awareness and emergency response capabilities, so that every employee prioritizes safety and knows how to respond to emergencies.   Emergency Drills • The Business Unit has formulated the *Management Measures for Work Safety Accidents* to clarify the work safety accident classification standards and the management requirements for accident reporting, investigation, and handling.
Safety culture development	• The Business Unit has established a safety training system including full-staff training, department-level training, and specific job training. It regularly organizes work alertness and competency development, analyzes safety accident cases, analyzes the causes

	and lessons of accidents, and enhances the safety awareness of all employees. • The Business Unit regularly organizes promotional activities for Work Safety Month. Through diverse activities such as watching emergency science popularization videos, conducting safety knowledge competitions, posting safety slogans, and creating special fire safety promotional handbooks, it aims to foster a safety culture among all employees. • The Business Unit has established a training and assessment mechanism for job knowledge and competencies.  Safety Knowledge Competition in Haitian Base Safety Month  Weekly Safety Training of Haitian Base (Cardiopulmonary Resuscitation Training)
Interested party management	• For suppliers and contractors, the Business Unit has formulated internal systems such as the *Work Safety Management Measures for Interested Parties* to put forward safety management requirements in terms of interested party access qualifications, factory training, process management, and performance management. Suppliers

included in the potential resource pool are required to sign the Safety and Environmental Management Agreement for Interested Parties.

- The Business Unit categorizes interested parties into Class A and Class B for graded management controls. The safety management of Class A interested parties is included in the Business Unit's work safety management system, implementing an integrated approach to work safety management.

Safety Training for Interested Parties

During the reporting period, the Comprehensive Energy Business Unit		
Work safety input **RMB 4,557,500**	Total recorded accident rate **0**%	Coverage rate of work safety training **100**%

4.3.2 Occupational health management

The Comprehensive Energy Business Unit strictly abides by the *Law of the People's Republic of China on Prevention and Control of Occupational Diseases* and other relevant laws and regulations, formulates and implements internal systems such as

Management Measures for Occupational Health, *Management Measures for Labor Protection Articles,* and *Management Measures for Work Safety Training*, implements occupational health protection measures, strengthens the publicity and implementation of health and safety awareness, and effectively ensures the health and safety of employees.

Occupational Health Management Measures	
Source control	• The system promotes the application of "Four New" technologies, including but not limited to replacing traditional high-risk operations with intelligent robots, completely replacing traditional production lines with low-noise equipment and tools, using environmentally friendly thermal conductive gel to achieve process upgrades, and improving the level of intrinsic safety.
Process control	• Establish a full-chain management and control system for occupational health and safety, implement the responsibility mechanism for prevention and control of occupational diseases, and strictly implement the "Three Simultaneous" system of occupational diseases in construction projects, the monitoring and warning mechanism of occupational hazard factors, and the three-level safety education and training system.
Labor protection	• Provide employees with labor protection equipment that meets national standards. Safety officers carry out daily inspections to ensure that employees wear and use labor protection articles correctly

	when working.
Prevention and control of occupational diseases	• For employees exposed to occupational hazards, the Business Unit identifies and reports hazard factors, regularly monitors working conditions and conducts occupational disease examinations, provides personal protective equipment, and strives to reduce the impact of occupational hazards on employee health.
Health and safety education	• In line with business needs, weekly safety education and training sessions are organized for employees on various themes. • For high-risk items and accident-prone items, emergency drills are organized every month. • According to the annual plan, external experts, such as those from the Tianyuan District Health Commission, are invited to carry out training and lectures on occupational health and hygiene.

Haitian Base Organizes Health Knowledge Popularization and Training

During the reporting period, the Comprehensive Energy Business Unit	
Occupational health examination rate	Number of people with occupational

100%	diseases **0** persons

4.4 Talent training and development

The Comprehensive Energy Business Unit adheres to the talent development philosophy of "focusing on what individuals excel in, refining what they specialize in, achieving their aspirations, and ensuring they are valued". It facilitates clear career development pathways for employees, enabling orderly flow and reasonable allocation of human resources. The Business Unit improves its talent development system to enhance employees' business capabilities and professional qualities, thus laying a solid talent foundation for the Business Unit’s sustainable development.

4.4.1 Career development system

The Comprehensive Energy Business Unit implements a "乔" type diversified career development system and is committed to providing employees with fair and just promotion paths.

"乔" type career development system

The Business Unit effectively implements relevant systems such as the *Management Measures for Career Development Channels and Levels*, the *Management Measures for Qualification Standards*, the *Management Measures for Evaluation and Appointment of Employee Career Development Level*, and the *Management Measures for Conversion of Career Development Channel (Non-professional Manager)* issued by

CRRC Zhuzhou Institute, establishes a dual-channel promotion mechanism for managing career development and professional pathways for employees. It provides support for talent development and competitive compensation, effectively aiding employees' career planning and job transitions, and enhancing talent attraction.

The Business Unit has established a career development system including 5 channels, 7 levels and 9 ranks. Based on professional sequences such as operation and management, specialized management, engineering technology, marketing and trade, and skilled craftsman, the career development levels are divided into 7 levels, with these levels linked to employee benefits. For the professional sequences of engineering technology, marketing, supply chain management, specialized management, and skilled craftsman, 9 job levels, including engineer, expert, and scientist, are defined according to the size of job responsibilities and the difficulty of work, with these levels linked to employee salaries. For different career development channels, a differentiated assessment and evaluation system is designed to fully tap the potential of employees and promote the organic unity of employee professional growth and Business Unit's development goals.

Five career development channels

The Business Unit regularly organizes career development level evaluation and appointment work every year to ensure that outstanding talents can be identified and achieve personal professional growth. The Business Unit also provides promotion or job change opportunities for employees of CRRC Zhuzhou Institute and its main units through internal competition and other means. The Business Unit respects and supports employees' choice of their own career

development pathway, and encourages employees to actively apply for internal transfer or participate in internal competition based on their own interests and development plans.

4.4.2 Employee training system

The Comprehensive Energy Business Unit strictly implements the relevant systems such as CRRC Zhuzhou Institute's *Management Measures for Employee Education Fund*, *Management Measures for Training System*, *Internal Lecturer Management Measures of Era Training and Development Center*, and *Course System Management Measures*. It relies on the Era Training and Development Center to carry out employee training and build a categorized, hierarchical, and tiered training system that covers the entire career development cycle of talent. This effectively enhances employees' knowledge levels and business capabilities, supporting the achievement of the Business Unit 's business and strategic goals.

The Business Unit’s employee training system consists of four core training modules: leadership, professional skills, cultural awareness, and general competency. It advances talent development by focusing on leadership capabilities for advanced training, tools and methods for intermediate training, and the execution of systems and processes for foundational training. The training formats include new employee onboarding training, pre-job training, specialized training, on-the-job coaching, online learning, and external field visits.

Training Curriculum

Course positioning	Training participants	Training content

Leadership course	Professional managers and their reserve talents	Knowledge, skills, mindset, and vision required for management or leadership tasks
Professional skill course	Employees in the project management channel, specialized management channel, engineering technology channel, marketing and trade channel, and skilled craftsman channel	Job knowledge and competencies, individual professional capabilities, systems (processes), methods, and tool usage required for business development
Cultural awareness course	All employees and external individuals	Culture, spirit and concept of CRRC Zhuzhou Institute
General competency course	All employees	General cognitive thinking, tools and methods, workplace etiquette, etc.

	
"Embrace AI, Pursue Dreams" Technical	Business Unit’s New Employee

Seminar	Onboarding Training

Business Unit's "Weekly Learning" Special Training (Comprehensive Energy System Solutions for Low-Carbon Parks)

To promote the effective transfer of knowledge and skills, CRRC Zhuzhou Institute has established and improved the internal lecturer management and incentive system. The Company forms a team of experienced, high-quality, and efficiently structured internal lecturers by comprehensively assessing the lecturers' qualifications, course material development skills, and teaching skills. Additionally, it provides lecture fees and stipends based on the level of the lecturers and the number of teaching hours.

During the reporting period, the Comprehensive Energy Business Unit	
Investment in employee training	Types of training courses
RMB **1,807,200**	**81** types

4.5 Contribution to social value

As an important force in the manufacturing of clean energy equipment in China, the Comprehensive Energy Business Unit will integrate social responsibility deeply into its business development strategy. This will be achieved by promoting local employment and economic development through investments in plant construction and

by carrying out public welfare projects to drive the collaborative creation of social value.

4.5.1 Responding to national strategies

The Comprehensive Energy Business Unit implements the national energy safety strategy. It established new production bases in Yibin (Sichuan), Changji (Xinjiang), Xilin Gol League (Inner Mongolia), and Jixi (Heilongjiang) in 2024. It advanced clean energy equipment projects in key regions, created a model for central-local cooperation, and supported regional collaborative development.

Case: Yibin Base unveiled, with the 500th energy storage DC compartment rolling off the production line
Yibin CRRC Times New Energy Co., Ltd. of CRRC Zhuzhou Institute was officially unveiled on October 30, 2024, and the 500th energy storage DC compartment of Yibin Base successfully rolled off the production line on the same day. As the major energy storage base of CRRC Zhuzhou Institute Comprehensive Energy Business Unit, the Yibin Base achieved operational status within just ten months and rapidly scaled manufacturing capacity for energy storage battery packs and system integration products, generating significant output value and tax contributions while creating over 500 local jobs. In the future, CRRC Zhuzhou Institute will join hands with Yibin City to jointly promote the clean energy sector—rooted in Yibin, extending throughout China, and embracing global opportunities—thereby accelerating high-quality development of clean energy in Yibin and even globally.

Yibin Company Unveiling

4.5.2 Supporting public welfare and charity

In 2024, CRRC Zhuzhou Institute carried out public welfare volunteer services centered around four main themes: corporate services, community welfare, educational support, and environmental protection. Various levels of youth organizations collectively carried out more than 30 practical activities. The Company's volunteer service team added 325 new members, with a total volunteer service duration exceeding 1,740 hours. The Comprehensive Energy Business Unit actively participated in various public welfare activities organized by CRRC Zhuzhou Institute to enhance the social responsibility of its employees and demonstrate its responsibility as a central enterprise with practical actions.

Case: A 3,000 km journey of caring for education from Zhuzhou to Shannan
On the occasion of the 30th anniversary of targeted aid to Xizang, the Youth League Committee of CRRC Zhuzhou Institute, in collaboration with the Youth League Committee of Zhuzhou Municipal Committee, the Mass Work Department of Zhanang County in Shannan City, Xizang, and the Zhanang County Education Bureau, launched the "Love Across Mountains and Seas, Volunteering to Spread the Spring Breeze" assistance and education activity in Xizang.

CRRC Zhuzhou Institute mobilized the "CRRC Zhuzhou Institute Youth Volunteers" to carry out activities such as promoting the spirit of aiding Xizang, selling "Charity mystery boxes," and donating materials to raise funds and materials. It donated educational and cultural and sports supplies to Azawan Primary School in Zhanang County, built a Young Pioneer room, and established a comic wall focused on science and technology industries.

CRRC Zhuzhou Institute also organized young lecturers to carry out industry science popularization classes for the children, using "youthful language" to disseminate industry knowledge, inspire scientific interest, cultivate innovative thinking, and instill the ideal of dedicating oneself to the country through technology.

"Charity Mystery Box" Sale Event

Industry Science Popularization Class

Key Performance Table[4]

❖ Economic performance

Indicator	Unit	2022	2023	2024
Total assets	RMB 100 million	28.60	35.48	89.89
Operating revenue	RMB 100 million	10.51	57.63	70.85
Operating cost	RMB 100 million	10.47	56.75	70.07
Total tax payment	RMB 100 million	0.20	1.03	1.48

❖ Environmental Performance

Indicator	Unit	2022	2023	2024
Sustainable product supply				
Shipment volume of energy storage system	GWh	/	5.04	14.16
Grid connection	GWh	/	/	9.1

4 Some performance indicators were not included in the statistics for 2022 and 2023, denoted by "/".

capacity of energy storage system				
Environmental management				
Number of production bases certified by ISO 14001	Nr.	0	0	2
Investment in environmental protection	RMB 10,000	/	61.57	32.20
Major environmental pollution accidents	Nr.	0	0	0
Number of incidents punished for violating environmental protection laws and regulations	Nr.	0	0	0
Waste gas management				
Up-to-standard emission rate of industrial waste gas	%	/	/	100
Resource and energy management				

Water resources management [5]				
Total water consumption [6]	Tonne	419.60	1,533.50	5,825.80
Energy management[7]				
Total energy consumption [8]	GJ	308.32	3,353.67	13,741.16
Purchased electricity	kWh	85,563.60	931,074.30	3,814,959.37
Addressing climate change				
Total GHG emissions[9]	Tonnes of CO_2e	/	/	2,293.39
By emission source:				
Scope 1[10]	Tonnes of CO_2e	/	/	59.35
Scope 2[11]	Tonnes of CO_2e	48.8	530.99	2,234.04

5 The statistical caliber includes the Business Unit headquarters and production bases (Liyu Base, Haitian Base) located in Zhuzhou, Hunan.
6 The main reasons for the increased water consumption in 2024 are the commissioning of new production bases, capacity enhancement, and the operation of water storage in fire pools.
7 The statistical caliber includes the Business Unit headquarters and production bases（Liyu Base，Haitian Base）located in Zhuzhou，Hunan.
8 The main reasons for the increased energy consumption in 2024 are the commissioning of new production bases and capacity improvement. During the reporting period, diesel consumption was very small and was not included in statistics.
9 The statistical caliber includes the Business Unit headquarters and production bases（Liyu Base，Haitian Base）located in Zhuzhou，Hunan；during the reporting period，diesel consumption was very small and was not included in the statistics.
10 The emission factors of Scope 1 are from IPCC 2006 and IPCC 2021.
11 The electricity emission factor of Scope 2 is from the *Announcement on the Release of Carbon Dioxide Emission Factors for Electricity in 2022* (Announcement No. 33 [2024]) issued by the Ministry of Ecology and Environment and the National Bureau of Statistics.

❖ Social Performance

Indicator	Unit	2022	2023	2024
Employee rights and benefits				
Diversity and equal employment				
Total number of employees	Person(s)	/	307	637
Staff composition				
Male employees	Person(s)	/	283	593
Female employees	Person(s)	/	24	44
Employees aged ≤30	Person(s)	/	113	310
Employees aged 31-50	Person(s)	/	192	326
Employees aged >50	Person(s)	/	2	1
Staff with doctoral degree or above	Person(s)	/	0	5
Staff with master's degree	Person(s)	/	93	264
Staff with bachelor's degree	Person(s)	/	214	368
Staff with junior college degree or below	Person(s)	/	0	0

Minority ethnic employees	Person(s)	/	17	34
Grass-roots staff	Person(s)	/	243	560
Intermediate management staff	Person(s)	/	56	64
Senior management staff	Person(s)	/	8	13
Percentage of female employees in the Management[12]	%	/	6.25	5.19
Number of new employees	Person(s)	/	/	358
Number of resigned employees	Person(s)	/	/	27
Employee turnover rate[13]	%	/	/	4.24
Salary and benefits management				
Signing rate of labor contracts	%	100	100	100
Total salary of employees	RMB 100 million	0.20	0.60	1.56

12 Proportion of middle-level and above female managers in management staff
13 Employee turnover rate = number of resigned employees in the year/total number of employees at the end of the period

Ratio of average employee wage to local minimum wage	–	6.77:1	6.94:1	9.24:1
Gender pay ratio in the same position	–	1:1	1:1	1:1
Occupational health and safety				
Number of production bases certified by ISO 45001	Nr.	0	0	2
Work safety input	RMB 10,000	/	234	455.75
Work safety accident				
Number of employees suffering work-related injuries	Person(s)	/	/	0
Number of employees suffering work-related deaths	Person(s)	0	0	0
Number of working days lost due to work-related injuries	Day(s)	/	/	0
Total recorded accident rate	%	/	/	0

Death rate per million working hour	%	0	0	0
Number of traffic accidents	Case(s)	/	/	0
Work safety training				
Hours of work safety training	Hours/person	/	60	108
Times of work safety training	Time(s)	/	/	219
Participations for work safety training	Participation	/	/	12,000
Coverage rate of work safety training	%	/	/	100
Occupational health management				
Coverage of employee physical examination	%	/	100	100
Number of employees in occupational disease risk positions	Person(s)	/	/	10
Occupational health examination rate	%	/	/	100
Number of people with	Person(s)	0	0	0

occupational diseases				
Coverage rate of occupational injury insurance for employees	%	/	/	100
Talent training and development				
Investment in employee training	RMB 10,000	20	89	180.72
Types of training courses	Type	12	34	81
Product R&D and innovation				
R&D investment	RMB 100 million	0.267	0.792	1.57
Proportion of R&D investment in operating revenue	%	2.54	1.37	2.20
Number of R&D personnel	Person(s)	57	159	252
Growth rate of R&D personnel	%	/	178.95	58.49
Number of cutting-edge talents	Person(s)	/	/	5

such as doctors				
Intellectual property protection[14]				
Patents applied for	Nr.	7	23	77
Authorized patents	Nr.	3	4	18
Cumulative valid patents	Nr.	3	7	25
Number of valid patents per RMB 1 million in revenue	Nr.	0.006	0.001	0.004
Number of software copyrights held	Nr.	/	/	5
Number of software copyrights per RMB 1 million in revenue	Nr.	/	/	0.001
Product quality and safety				
Number of production bases certified by ISO 9001	Nr.	0	0	2
Qualification rate of self-developed battery	%	/	97.5	98.40

14 The statistical caliber of intellectual property-related indicators in 2022 and 2023 is the patent applications and authorizations in related fields such as energy storage of CRRC Zhuzhou Institute. This year, the scope of data statistics was improved, and the statistical caliber was adjusted to the application and authorization with the Comprehensive Energy Business Unit as the main body. To facilitate comparison, the data for 2022 and 2023 were adjusted retrospectively.

pack products				
Closed-loop rate of quality problems	%	100	100	100
Number of quality liability accidents	Time(s)	0	0	0
Number of occurrences of serious impact on delivery date, user complaints, rejections and recalls due to product quality problems	Time(s)	0	0	0
Customer services				
Customer satisfaction	%	94	98.53	95.33
Supply chain management				
Total number of suppliers	Unit(s)	/	346	380
Percentage of new suppliers evaluated in terms of environment, labor and ethics during the reporting period	%	100	100	100

Industry cooperation and development				
Formulation of technical standards				
International standards	Nr.	/	/	1
National standards	Nr.	/	/	3
Association standards	Nr.	/	/	15

Annex

GRI Indicator Index

Instructions for use	The Comprehensive Energy Business Unit prepares the report with reference to GRI standards, and the reporting period is from January 1, 2024 to December 31, 2024.
GRI 1 used	GRI 1: Foundation 2021
Applicable GRI industry standards	No applicable industry standard

GRI standards/other resources	Disclosures	Chapter index
General disclosure		
GRI 2: General Disclosures 2021	2-1 Organization details	About Us
	2-2 Entities included in the organization's sustainability reporting	About the Report
	2-3 Reporting period, frequency and contact point	About the Report
	2-4 Restatements of information	Key Performance Table
	2-5 External assurance	Independent Assurance Statement
	2-6 Activities, value chain and other business relationships	About Us Supply chain management
	2-7 Employees	Employee rights and benefits
	2-9 Governance structure and composition	Corporate governance ESG management
	2-10 Nomination and selection of the highest	Corporate governance

GRI standards/other resources	Disclosures	Chapter index
	governance body	
	2-11 Chair of the highest governance body	Corporate governance
	2-12 Role of the highest governance body in overseeing the management of impacts	Corporate governance ESG management
	2-13 Delegation of responsibility for managing impacts	Corporate governance ESG management
	2-14 Role of the highest governance body in sustainability reporting	Corporate governance ESG management
	2-15 Conflicts of interest	Corporate governance
	2-16 Communication of critical concerns	Corporate governance ESG management
	2-17 Collective knowledge of the highest governance body	Compliance Foundation, Responsible Comprehensive Energy
	2-18 Evaluation of the performance of the highest governance body	Corporate governance
	2-19 Remuneration policies	Corporate governance
	2-20 Process to determine remuneration	Omitted disclosure due to confidentiality restrictions
	2-21 Annual total remuneration ratio	Omitted disclosure due to confidentiality restrictions
	2-22 Statement on sustainable development strategy	General Manager's Speech
	2-23 Policy commitment	Anti-corruption and

GRI standards/other resources	Disclosures	Chapter index
		Business Ethics Employee rights and benefits
	2-24 Embedding policy commitments	Anti-corruption and Business Ethics Employee rights and benefits
	2-25 Processes to remediate negative impacts	Anti-corruption and Business Ethics Customer services Employee Communication and Care
	2-26 Mechanisms for seeking advice and raising concerns	Anti-corruption and Business Ethics Employee Communication and Care
	2-27 Compliance with laws and regulations	See each chapter of the report for details
	2-28 Membership associations	Industry cooperation and development
	2-29 Approach to stakeholder engagement	ESG management
	2-30 Collective bargaining agreements	Employee Communication and Care
Material issues		

GRI standards/other resources	Disclosures	Chapter index
GRI 3: Material Topics 2021	3-1 Process to determine material topics	ESG management
	3-2 List of material topics	ESG management
Economic performance		
GRI 3: Material Topics 2021	3-3 Management of material topics	ESG management
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	Key Performance Table
	201-2 Financial implications and other risks and opportunities due to climate change	Addressing climate change
Indirect economic impacts		
GRI 3: Material Topics 2021	3-3 Management of material topics	ESG management Contribution to Social Value
GRI 203: Indirect Economic Impacts 2016	203-2 Significant indirect economic impacts	Contribution to Social Value
Anti-corruption		
GRI 3: Material Topics 2021	3-3 Management of material topics	Anti-corruption and Business Ethics
GRI 205: Anti-corruption 2016	205-2 Communication and training about anti-corruption policies and procedures	Anti-corruption and Business Ethics
	205-3 Confirmed incidents of corruption and actions taken	No occurrence during the reporting period
Anti-competitive behavior		
GRI 3: Material Topics 2021	3-3 Management of material topics	Anti-corruption and Business Ethics
GRI 206:	206-1 Legal actions for anti-competitive behavior,	No occurrence during

GRI standards/other resources	Disclosures	Chapter index
Anti-competitive Behavior 2016	anti-trust, and monopoly practices	the reporting period
Energy		
GRI 3: Material Topics 2021	3-3 Management of material topics	Energy management
GRI 302: Energy 2016	302-1 Energy consumption within the organization	Energy management
	302-4 Reduction of energy consumption	Energy management
Water and effluents		
GRI 3: Material Topics 2021	3-3 Management of material topics	Environmental management Resource management
GRI 303: Water and Effluents 2018	303-1 Interactions with water as a shared resource	Environmental management
	303-2 Management of water drainage-related impacts	Environmental management
	303-3 Water withdrawal	Resource management
	303-4 Water discharge	Environmental management
Biodiversity		
GRI 3: Material Topics 2021	3-3 Management of material topics	Environmental management
GRI 304: Biodiversity 2016	304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Environmental management
	304-2 Significant impacts of activities, products and services on biodiversity	Environmental management
Emissions		

GRI standards/other resources	Disclosures	Chapter index
GRI 3: Material Topics 2021	3-3 Management of material topics	Addressing climate change
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	Addressing climate change
	305-2 Energy indirect (Scope 2) GHG emissions	Addressing climate change
Waste		
GRI 3: Material Topics 2021	3-3 Management of material topics	Environmental management
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts	Environmental management
	306-2 Management of significant waste-related impacts	Environmental management
Supplier environmental assessment		
GRI 3: Material Topics 2021	3-3 Management of material topics	Supply chain management
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria	Key Performance Table
Employment		
GRI 3: Material Topics 2021	3-3 Management of material topics	Employee rights and benefits
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	Key Performance Table
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	Employee rights and benefits
Occupational health and safety		
GRI 3: Material	3-3 Management of material topics	Occupational health and

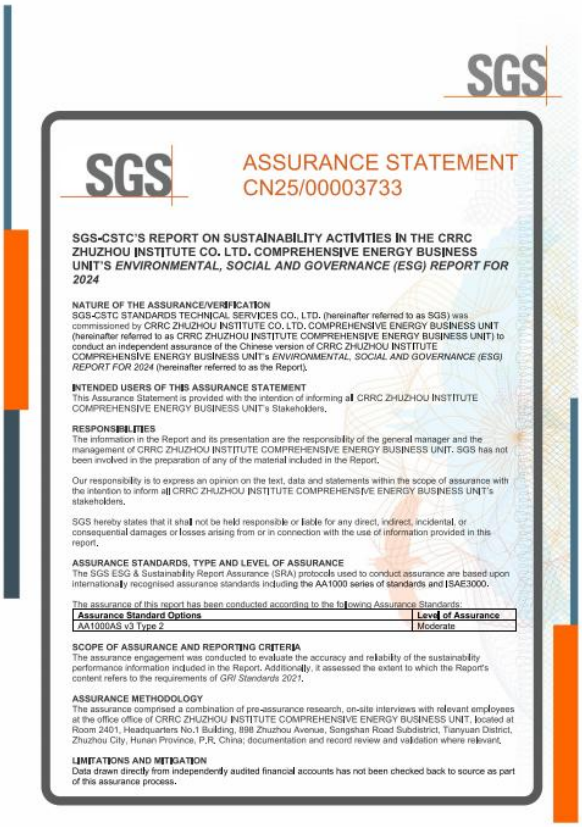
GRI standards/other resources	Disclosures	Chapter index
Topics 2021		safety
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system	Occupational health and safety
	403-2 Hazard identification, risk assessment and incident investigation	Occupational health and safety
	403-3 Occupational health services	Occupational health and safety
	403-4 Worker participation, consultation, and communication on occupational health and safety	Occupational health and safety
	403-5 Worker training on occupational health and safety	Occupational health and safety Key Performance Table
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Occupational health and safety
	403-8 Workers covered by an occupational health and safety management system	Occupational health and safety
	403-9 Work-related injuries	Key Performance Table
	403-10 Work-related ill health	Occupational health and safety
Training and education		
GRI 3: Material Topics 2021	3-3 Management of material topics	Talent training and development
GRI 404: Training and Education 2016	404-2 Programs for upgrading employee skills and transition assistance programs	Talent training and development
	404-3 Percentage of employees receiving regular performance and career development reviews	Talent training and development

GRI standards/other resources	Disclosures	Chapter index
Diversity and equal opportunity		
GRI 3: Material Topics 2021	3-3 Management of material topics	Employee rights and benefits
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	Employee rights and benefits Key Performance Table
Anti-discrimination		
GRI 3: Material Topics 2021	3-3 Management of material topics	Employee rights and benefits
GRI 406: Anti-discrimination 2016	406-1 Incidents of discrimination and corrective actions taken	No occurrence during the reporting period
Child labor		
GRI 3: Material Topics 2021	3-3 Management of material topics	Employee rights and benefits
GRI 408: Child Labor 2016	408-1 Operations and suppliers at significant risk for incidents of child labor	Employee rights and benefits
Forced or compulsory labor		
GRI 3: Material Topics 2021	3-3 Management of material topics	Employee rights and benefits
GRI 409: Forced or Compulsory Labor 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	Employee rights and benefits
Local communities		
GRI 3: Material Topics 2021	3-3 Management of material topics	Environmental management Contribution to Social

GRI standards/other resources	Disclosures	Chapter index
		Value
GRI 413: Local Communities 2016	413-2 Operations with significant actual and potential negative impacts on local communities	Environmental management Contribution to Social Value
Supplier social assessment		
GRI 3: Material Topics 2021	3-3 Management of material topics	Supply chain management
GRI 414: Supplier Social Assessment 2016	414-1 New suppliers that were screened using social criteria	Key Performance Table
Customer health and safety		
GRI 3: Material Topics 2021	3-3 Management of material topics	Product quality and safety
GRI 416: Customer Health and Safety 2016	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	No occurrence during the reporting period
Marketing and labeling		
GRI 3: Material Topics 2021	3-3 Management of material topics	Anti-corruption and Business Ethics
GRI 417: Marketing and Labeling 2016	417-2 Incidents of non-compliance concerning product and service information and labeling	No occurrence during the reporting period
	417-3 Incidents of non-compliance concerning marketing communications	No occurrence during the reporting period
Customer privacy		
GRI 3: Material Topics 2021	3-3 Management of material topics	Information and Privacy Security

GRI standards/other resources	Disclosures	Chapter index
GRI 418: Customer Privacy 2016	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	No occurrence during the reporting period

Independent Assurance Statement



SGS

SGS ASSURANCE STATEMENT
CN25/00003733

SGS-CSTC'S REPORT ON SUSTAINABILITY ACTIVITIES IN THE CRRC ZHUZHOU INSTITUTE CO. LTD. COMPREHENSIVE ENERGY BUSINESS UNIT'S *ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) REPORT FOR 2024*

NATURE OF THE ASSURANCE/VERIFICATION
SGS-CSTC STANDARDS TECHNICAL SERVICES CO., LTD. (hereinafter referred to as SGS) was commissioned by CRRC ZHUZHOU INSTITUTE CO. LTD. COMPREHENSIVE ENERGY BUSINESS UNIT (hereinafter referred to as CRRC ZHUZHOU INSTITUTE COMPREHENSIVE ENERGY BUSINESS UNIT) to conduct an independent assurance of the Chinese version of CRRC ZHUZHOU INSTITUTE COMPREHENSIVE ENERGY BUSINESS UNIT's *ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) REPORT FOR 2024* (hereinafter referred to as the Report).

INTENDED USERS OF THIS ASSURANCE STATEMENT
This Assurance Statement is provided with the intention of informing all CRRC ZHUZHOU INSTITUTE COMPREHENSIVE ENERGY BUSINESS UNIT's Stakeholders.

RESPONSIBILITIES
The information in the Report and its presentation are the responsibility of the general manager and the management of CRRC ZHUZHOU INSTITUTE COMPREHENSIVE ENERGY BUSINESS UNIT. SGS has not been involved in the preparation of any of the material included in the Report.

Our responsibility is to express an opinion on the text, data and statements within the scope of assurance with the intention to inform all CRRC ZHUZHOU INSTITUTE COMPREHENSIVE ENERGY BUSINESS UNIT's stakeholders.

SGS hereby states that it shall not be held responsible or liable for any direct, indirect, incidental, or consequential damages or losses arising from or in connection with the use of information provided in this report.

ASSURANCE STANDARDS, TYPE AND LEVEL OF ASSURANCE
The SGS ESG & Sustainability Report Assurance (SRA) protocols used to conduct assurance are based upon internationally recognised assurance standards including the AA1000 series of standards and ISAE3000.

The assurance of this report has been conducted according to the following Assurance Standards:

Assurance Standard Options	Level of Assurance
AA1000AS v3 Type 2	Moderate

SCOPE OF ASSURANCE AND REPORTING CRITERIA
The assurance engagement was conducted to evaluate the accuracy and reliability of the sustainability performance information included in the Report. Additionally, it assessed the extent to which the Report's content refers to the requirements of *GRI Standards 2021*.

ASSURANCE METHODOLOGY
The assurance comprised a combination of pre-assurance research, on-site interviews with relevant employees at the office office of CRRC ZHUZHOU INSTITUTE COMPREHENSIVE ENERGY BUSINESS UNIT, located at Room 2401, Headquarters No.1 Building, 898 Zhuzhou Avenue, Songshan Road Subdistrict, Tianyuan District, Zhuzhou City, Hunan Province, P.R. China; documentation and record review and validation where relevant.

LIMITATIONS AND MITIGATION
Data drawn directly from independently audited financial accounts has not been checked back to source as part of this assurance process.

SGS

The greenhouse gas emissions related data in the Report has not undergone verification by an independent third-party auditor. In the context of the present assurance engagement, our procedures were limited to sample-based validation.

This assurance engagement was restricted to the group level of CRRC ZHUZHOU INSTITUTE COMPREHENSIVE ENERGY BUSINESS UNIT and did not include traceability of original data from all subordinate institutions.

STATEMENT OF INDEPENDENCE AND COMPETENCE
The SGS Group of companies is the world leader in inspection, testing and certification, operating in multiple countries and providing services. SGS affirm our independence from CRRC ZHUZHOU INSTITUTE COMPREHENSIVE ENERGY BUSINESS UNIT, being free from bias and conflicts of interest with the organisation, its subsidiaries and stakeholders.

The assurance team was assembled based on their knowledge, experience and qualifications for this assignment.

FINDINGS AND CONCLUSIONS

ASSURANCE/VERIFICATION OPINION
On the basis of the methodology described and the assurance engagement performed, the specified performance information included in the scope of assurance is accurate, reliable, and has been fairly stated.

CONCLUSIONS, FINDINGS AND RECOMMENDATIONS BASED ON *GRI STANDARDS 2021*

The assurance team concludes that the Report has referred to the requirements of *GRI Standards 2021*.

FINDINGS AND RECOMMENDATIONS
All observations pertaining to commendable practices, sustainable development activities, and managerial recommendations identified throughout the assurance process have been thoroughly documented in the *Internal Management Report on Sustainability Reporting Assurance*. This report has been officially presented to the relevant management divisions of CRRC ZHUZHOU INSTITUTE COMPREHENSIVE ENERGY BUSINESS UNIT to serve as a reference for their ongoing efforts towards continuous improvement.

Signed:

For and on behalf of SGS-CSTC

David Xin
Sr. Director – Business Assurance
16/F Century Yuhui Mansion, No. 73, Fucheng Road, Beijing, P.R. China

June, 4th, 2025
WWW.SGS.COM

Reader Feedback

Dear readers,

Greetings!

Thank you very much for reading the 2024 *Environmental, Social and Governance (ESG) Report of CRRC Zhuzhou Institute Co., Ltd. Comprehensive Energy Business Unit*. To provide you and other stakeholders with more valuable information and promote the Business Unit to improve ESG management capabilities and levels, we sincerely welcome your comments and suggestions on the Report. Your feedback will be the driving force for our continuous improvement.

Feedback Questionnaire

1. Which of the following stakeholders do you belong to?

☐Government and regulatory agencies ☐Investors ☐Customers ☐Employees ☐Suppliers and partners ☐Industry associations ☐Media ☐Public and community ☐Others

2. How well do you think the Report reflects our significant economic, social and environmental impacts?

☐Excellent ☐Good ☐ General

3. How do you think we are doing in safeguarding the interests of interested parties?

☐Excellent ☐Good ☐ General

4. How do you rate the clarity, accuracy, and completeness of the information and data disclosed in the Report?

☐Excellent ☐Good ☐ General

5. What is your overall evaluation of the Report?

☐Excellent ☐Good ☐ General

6. Your opinions and suggestions on the Comprehensive Energy Business Unit's sustainable development management: