

(a joint stock limited liability company incorporated in the People's Republic of China)
Stock Code: 3369



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ABOUT THIS REPORT

This is the Corporate Social Responsibility Report (or Sustainability Report) published by Qinhuangdao Port Co., Ltd. for the seventh consecutive year to communicate with stakeholders about the Company's social responsibility concepts, work initiatives and performance, and to respond to their needs.

1. REPORT PERIOD

From 1 January 2022 to 31 December 2022, the coverage of certain statements and data may go beyond the aforesaid period.

2. SCOPE OF REPORTING

The report covers the headquarters, internal departments and all branches and subsidiaries of Qinhuangdao Port Co., Ltd.

3. SOURCE OF DATA

The financial data in the report were extracted from the 2022 financial report of Qinhuangdao Port Co., Ltd. which was independently audited by Ernst & Young Hua Ming LLP; other data were derived from relevant systematic statistics of the Company.

4. REFERENCES OF PREPARATION

The report has been prepared in accordance with Appendix 27 "Environmental, Social and Governance Reporting Guide" of the Rules Governing the Listing of Securities (the "Listing Rules") of The Stock Exchange of Hong Kong Limited (the "HKEx") and the Guidelines on Environmental Information Disclosure by Companies Listed on the Shanghai Stock Exchange.

5. RESPONSE TO THE PRINCIPLES OF THE ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORTING GUIDE

Materiality: In order to prepare this report, the Company conducted a materiality assessment procedure to determine the truthfulness and accuracy of the contents disclosed in this report as well as the contents of each subject area. Material analysis results for 2022 are presented in the "Materiality Assessment" section.

Quantitative: Quantitative data were disclosed in the report for both environmental and social categories to demonstrate indicators and performance.

Balance: This report objectively discloses positive and negative information to ensure the balance of the contents.

Consistency: The indicators disclosed in this report disclose as much as possible the comparative data for two consecutive years based on actual management, helping readers to better understand the trend of indicators. Unless otherwise stated, the data disclosed in this report are based on the unified information collection process and working mechanism established by the Company to ensure that the data are comparable year after year.

6. DESCRIPTION OF KEY TERMS

For the convenience of expression, "Qinhuangdao Port Co., Ltd." is also referred to as "QHD Port" and "the Company".

7. ACCESS TO THE REPORT

You may browse or download the Chinese version of this report from the website of the Shanghai Stock Exchange, or the Chinese and English versions from the website of the Hong Kong Stock Exchange.

CHAIRMAN'S STATEMENT

The year 2022 was of great importance to the development of the Communist Party of China (CPC) and the country. Qinhuangdao Port resolutely implemented the CPC Central Committee's goal of "carbon peak" and "carbon neutrality" by unswervingly building the model of green development in essence, adhering to innovation-driven development strategies and firmly following the principle of ensuring the Company's safety in all respects, which provided robust support for the high-quality development of the Company. With the goal of building itself as a world-class dry bulk cargo port enterprise, the Company quickly seized the development opportunities brought by Hebei's integration of port resources, and through improving its top-level design, optimizing its business development model and proactively responding to various risks and challenges, it achieved steady growth in operating performance, and its ability to preserve and increase value was significantly enhanced. The Company recorded revenue of RMB6.919 billion during the whole year, representing a year-on-year increase of 4.92%. This effectively boosted investors' confidence and demonstrated the Company's responsibility as a state-owned enterprise. In 2022, Qinhuangdao Port won the titles of "Model Enterprise of Corporate Governance of State-owned Enterprises" by the State-owned Assets Supervision and Administration Commission of the State Council, "AAAAAA Level Standardized Good Behavior Enterprise" and "Asia-Pacific Green Port".

Qinhuangdao Port remains true to its original aspiration and takes sustainable development as the core value of its business operations. The Company has incorporated environmental, social and governance (ESG) into its corporate strategy, and continuously implemented ESG management and fulfilled its social responsibility in an effective way. Regarding environmental protection as the lifeline of corporate development, the Company has constantly improved its ecological environment protection mechanism and insisted on a green, low-carbon and circular development path featuring advanced technologies and low resource consumption. According to the framework and recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), the Company actively engaged in climate change governance. It has established an environmental management and climate governance structure with the Board as the highest decision-making body, to comprehensively coordinate and supervise the identification, evaluation and response to climate risks, and enhance its ability to cope with climate change risks. The Company has implemented precise control over the environmental conditions of port areas by deepening the governance of mobile sources and increasing the proportion of new energy equipment in application; furthermore, it has also properly formulated carbon reduction targets and pathways to serve the low-carbon development of society.

Qinhuangdao Port is always committed to enhancing its comprehensive competitiveness and soft power. We are engaged in cooperation for mutual benefit to achieve our social value. With the focus on our main business, we have benchmarked ourselves against first-class enterprises, striving to become a top company with professional capacities. We kept the "Top Priorities of the Country" in mind, ensuring the adequate and stable supply of energy for all of society. We have played an active role in cooperation among enterprises in the industry to share win-win results with industry partners. We always regard safety production as of the greatest welfare for employees in the coordination of development and safety. We have attached importance to and created conditions for employees' development, and earnestly enhanced employees' sense of gain, happiness and belonging. We have demonstrated our care for the national economy and people's livelihoods by participating in rural revitalization initiatives to contribute to the sustainable development of local economies. We insist on serving the people and are devoted to building a volunteer service brand with port characteristics to benefit local communities.

In 2023, Qinhuangdao Port will aim to become a "world-class dry bulk cargo port enterprise". On the basis of high-quality development, we will continue to vigorously implement our operation and management model featuring green and low-carbon, technological innovation, safety and controllability, and quality improvement and efficiency enhancement. We will fully grasp significant opportunities such as construction of Xiong'an New Area and coordinated development of the Beijing-Tianjin-Hebei region, forging ahead with enterprise and fortitude. We will take the initiative to participate in port construction in Hebei following the Chinese path to modernization, promoting the province's development in marine economy, building it into a marine power, and contributing to an economically strong and beautiful Hebei.

Zhang Xiaoqiang

Party Committee Secretary and Chairman of Qinhuangdao Port Co., Ltd.

STATEMENT OF THE BOARD

QHD Port highly appreciates the importance of environment, society and governance (ESG) to the Company's long-term and stable operation, and has established an effective ESG management mechanism and governance mechanism. As the highest decision-making body on the Company's ESG issues, the Board is responsible for considering and approving the Company's sustainable development strategy, policies, objectives and risks, and reviewing the progress of ESG objectives to realize more independent, efficient and professional ESG management, ensuring the integration of its ESG concepts with the Company's policies, and exploring a new sustainable development model combining ESG issues with the Company's business operations. The ESG Working Group is composed of key responsible persons from all departments of the Company and regularly reports annual ESG related matters to the Board, and the Board bears full responsibility for the Company's ESG-related matters. The Company has arranged contact persons at the headquarters and all departments of branches and subsidiaries. Led by the Party Committee Work Department, it has established the ESG Implementation Group to specifically implement concrete work in areas of ESG or social responsibilities to promote the ESG management of the Company.

The Company attaches importance to the material impact that ESG risks may have on the Company. Based on the external social and economic macro environment and the Company's development strategy, it regularly conducts the evaluation of important ESG issues and submits the same to the Board for review. The Board discusses and determines the Company's ESG risks and opportunities, regards management and promotion of important issues as the key focus of ESG work, incorporates them into the overall strategy of the Company, and supervises the issue management work and related performance. In 2022, the Company initially identified the risks and opportunities that climate change brought to the Company, and took actions to respond to such risks and opportunities. In the future, the Company will continue to strengthen its ability to manage climate risks and opportunities with active responses.

This report discloses in detail the progress and effectiveness of ESG work of QHD Port in 2022, which was considered and approved by the Board on 29 March 2023. The Board and all directors of the Company guarantee that there are no false records, misleading statements or major omissions in the content of this report, and assume individual and joint responsibility for the truthfulness, accuracy and completeness of the content.

1. CONTINUOUSLY PROMOTING SUSTAINABLE DEVELOPMENT

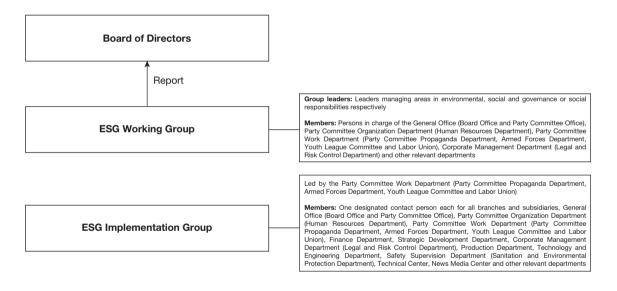
1. CONTINUOUSLY PROMOTING SUSTAINABLE DEVELOPMENT

With the vision of "building a world-class dry bulk port enterprise" and to ensure unimpeded global trade and logistics, QHD Port constructs "smart ports, green ports and safe ports" with high efficiency and quality, always practices the concept of green development and actively integrates internal and external advantageous resources to contribute to rural revitalization and give back to society with practical actions, demonstrating its social responsibility and the patriotism of being for the country and the people as a state-owned enterprise.

1.1 Structure of Social Responsibility Management

Adhering to the corporate values of "contributing to the country, developing the enterprise, creating value for customers and fulfilling responsibilities for employees", QHD Port actively fulfills its social responsibility and strives to practice the concept of green and low-carbon development. The Company perseveres in improving ESG governance structures and operational mechanisms, and continuously enhances its sustainable development capability by strengthening internal management and improving service level.

The ESG governance structure of the environmental, social and governance (ESG) group of QHD Port: the ESG Working Group, which is composed of key responsible persons from all departments of the Company, regularly reports annual ESG-related matters to the Board. The Board bears full responsibility for the Company's ESG-related matters. The Company arranges for contact persons at the headquarters and all departments of branches and subsidiaries. Led by the Party Committee Work Department, it has established the ESG Implementation Group specifically implementing concrete work in areas of ESG or social responsibilities to effectively give stakeholders an understanding of the impact of the Company's operations on society and the environment and the effectiveness of the Company's internal governance.



1. CONTINUOUSLY PROMOTING SUSTAINABLE DEVELOPMENT

1.2 Communication with Stakeholders

QHD Port attaches great importance to communicating with stakeholders, fully listens to the opinions of all stakeholders, and actively communicates and exchanges with relevant institutions to continuously improve the quality of information disclosure, make targeted improvements in ESG performance of the Company and respond effectively to the requirements of all parties.

Stakeholders	Requirements and Expectations	Communication and Response
Government	Compliance with laws and regulations Payment of taxes according to law Support for economic development	 Conducting business in compliance with relevant laws and regulations Paying taxes according to law
Investors	 Return on investment Growth of business and earnings Risk management Information disclosure 	 Regular disclosure of operational information General shareholders' meeting Results conference, roadshows Investor summits
Customers	 Provision of quality products and services Meeting customers' diversified needs Creation of value for customers 	 Assurance of service quality Protection of customer information Survey of customer satisfaction
Employees	 Protection of employee interests Sound development paths Protection of occupational health Work and life balance 	 Provision of good remuneration and welfare Improvement of career development paths Implementation of employee training
Partners	Open, fair and equitable purchase Compliance with contracts	 Performance of contracts according to law Open tendering Project cooperation
Environment	 Energy savings and emission reduction Protection of ecological environment Response to climate change 	 Managing emissions Increasing efficiency of resources and energy used Participation in environmental protection welfare
Society and the Public	Engagement in community development Support for public welfare	Public welfare charityVolunteer servicesRural revitalization

1. CONTINUOUSLY PROMOTING SUSTAINABLE DEVELOPMENT

1.3 Materiality Assessment

In 2022, QHD Port strictly complied with the requirements of the Environmental, Social and Governance Reporting Guide issued by the Stock Exchange, maintained positive interaction and communication with stakeholders through various channels to understand their concerns and identified 17 social responsibility issues covering governance, society and the environment with reference to international ESG initiatives and standards and industry ESG issues generally concerned. After the material issues matrix is prepared and determined, it will be submitted to the Board for consideration and approval.

Based on the assessment of all social responsibility issues by stakeholders and senior management of the Company, the material issues matrix for the Company's 2022 social responsibilities was determined as shown below:

Medium-level material issues High-level material issues Safe production Occupational health Emission management Corporate governance Importance to stakeholders Customer services Customer value creation Marine ecological protection Technology innovation Employees' rights and National and regional economic contribution interests and caring Energy utilization management Water resources management Low-level material issues Governance issue Employment and labor standards Training and development Social issue Social development and public welfare Environment issue

ESG-related Material Issues Matrix of QHD Port in 2022

Importance to QHD Port

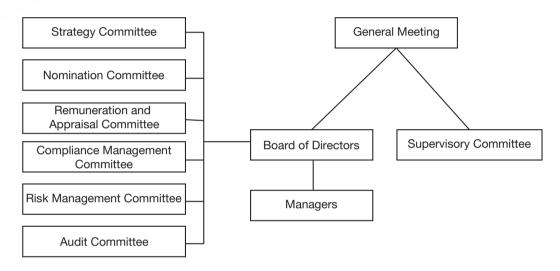
2. PERSISTENTLY STRIVING TOWARDS COMPLIANT OPERATION

2. PERSISTENTLY STRIVING TOWARDS COMPLIANT OPERATION

QHD Port has established a scientific and standardized management system according to modern enterprise system requirements to continuously improve the corporate governance structure, strengthen the corporate governance system and build a power operation mechanism with scientific decision-making, firm execution and strong supervision. It also operates in compliance with regulations and strengthens supervision to effectively build a modern enterprise with high-efficiency and high-quality operation.

2.1 Deeply Focusing on Corporate Governance

QHD Port has strictly complied with the Company Law of the People's Republic of China and other laws and regulations and regulatory requirements of the places where it is listed, and has continuously improved the governance frame of the Company. The General Meeting, Board of Directors and its special committee, the Supervisory Committee, and the management structure of manager responsibility have clear division of rights and responsibilities and are efficient, ensuring the stable operation of the Company.



Governance Structure of QHD Port

General Meeting

The General Meeting is the Company's supreme authority. The articles of association, meeting rules and other requirements of the Company set forth the rules of procedure for the general meeting, clarify the Company's supreme authority and its functions, provide legal guarantee for its operation in accordance with the law, and fully ensure that all shareholders are entailed equal status and can exercise their rights to know, participate, inquire and vote. In 2022, the Company convened an annual general meeting, with all 12 proposed resolutions being passed.

Board of Directors

The Board of Directors is the permanent decision-making body of the Company and is responsible to the General Meeting. The directors abide by the principles of diligence, integrity and pragmatism in favor of all shareholders, and fulfill duties conscientiously. In 2022, the Company convened a total of 10 Board meetings, considered a total of 46 resolutions including the annual report and ensured that the Company's work was carried out in an orderly manner.

2. PERSISTENTLY STRIVING TOWARDS COMPLIANT OPERATION

2.2 Strengthening Stable Operation

As a port enterprise with an important position in the national energy transportation, QHD Port actively implements the national energy supply and price stabilization policy and focuses on promoting the system reforms of "institutional optimization and integration, streamlining staff personnel, market-oriented employment, cutting over capacity and striving for healthy development" by closely sticking to the targets of "making breakthroughs in five aspects and strengthening the Party's leadership" in the "double-hundred action" of the reform of state-owned enterprises, to achieve the growth of total profit for three consecutive years. In 2022, QHD Port was awarded the honorary title of a "Model Enterprise of Corporate Governance of State-owned Enterprises" by the State-owned Assets Supervision and Administration Commission of the State Council.

The Company strictly abides by the "Regulations and Administrative Measures of Qinhuangdao Port Company Limited on Safety Production of Qinhuangdao Port Co., Ltd." and conscientiously carries out the "Three-year Action Plan for Special Rectification on Safety Production" to ensure safe and compliant production and operation of the Company. The Company enriches the means of safety operation, vigorously promotes the construction of "safe ports", actively explores the intelligent construction of safety production, established the "Safe Port Innovation Studio", and makes full use of technology and information to build the "QHD Port – dual-base and dual-control" safety and environmental management system platform to improve the efficiency and quality of safety management. In addition, the Company has integrated and installed additional on-site monitoring equipment to realize on-site visual monitoring and real-time monitoring of key operations and large-scale maintenance operations; it has drawn electronic maps of safety inspection areas and routes to monitor safety inspectors in real time and dynamically to create a model of safety operation with complete technical means.

The Company always insists on safeguarding the vital interests of customers, strives to improve the efficiency of responding to customers' concerns, enhances customer loyalty and recognition, realizes the interactive connection between customer service and intelligent operation through "five-in-one" intelligent centralized control, integrates digital technology into the existing customer service system and allows customers to participate in the process of intelligent upgrading, service improvement and brand promotion to continuously enhance customer satisfaction. In 2022, the Company held its first quarterly results briefings to actively introduce the Company's business performance and development strategy, and provided "meticulous, exquisite and ultimate" services through in-depth communication with investors, showing a good image of the Company and boosting confidence in the capital market.

2. PERSISTENTLY STRIVING TOWARDS COMPLIANT OPERATION

Business Management Related Awards Granted to QHD Port

Awards	Name of Program and Unit
"Model Enterprise of Corporate Governance of State- owned Enterprises" by the State-owned Assets Supervision and Administration Commission of the State Council	Qinhuangdao Port Co., Ltd.
AAAAA Level Standardized Good Behavior Enterprise	Qinhuangdao Port Co., Ltd.
May 4th Red Flag League Committee of Hebei Province in 2022	Youth League Committee of Qinhuangdao Port Co., Ltd.
Asia-Pacific Green Port Award in 2022	The Ninth Port Branch of Qinhuangdao Port Co., Ltd.
National Demonstration Site of Staff Library	Cultural and Sports Center, the First Port Branch, the Second Port Branch and the Sixth Port Branch of Qinhuangdao Port Co., Ltd.
Second Prize of Hebei Province Enterprise Management Modernization Innovation Achievement in 2022 (the 29th session)	Material Supply Center of Qinhuangdao Port Co., Ltd.
Third Prize of Hebei Province Quality Trustworthy Team Building Activity	Material Supply Center Warehousing Team III of Qinhuangdao Port Co., Ltd.

2.3 Compliant Operation in Accordance with Laws

QHD Port strictly abides by the Comprehensive Risk Management System of Qinhuangdao Port Co., Ltd., strengthens risk control internally and externally, and establishes a precise risk prevention and control system to improve the management level of the Company and the risk prevention awareness of each unit. In 2022, the Company continued to review, monitor and identify risks, evaluated risk matters, compiled the assessment results and control of major operational risks, and submitted a risk control report to the Board. During the reporting period, the Company did not have any significant risk matters.

In accordance with the provisions of "Compliance Management Guidelines for Enterprises Supervised by the Provincial SASAC (for Trial Implementation)", the Company comprehensively strengthens compliance management and realizes the compliance control mode of pre-supervision and monitoring in process to improve the overall compliance management level, and ensure that the approval rate of legal review of major decisions, rules and regulations and major contracts of the Company reaches 100%. In addition, the Company organizes law-related education and training internally to strengthen the law popularization and publicity and gradually establish the idea that everyone should actively abide by laws and regulations.

The Company strictly abides by all relevant national laws and regulations, formulates a sound system related to the construction of a clean Party and anti-corruption work, unswervingly follows the direction of the political construction of the Party, deeply strengthens political supervision, comprehensively promotes the construction of systems and mechanisms ensuring that officials do not dare, are not able, and ultimately have no desire to be corrupt, strengthens the construction of standardization, legalization and normalization, and provides strong guarantee for establishment of Chinese-style modernized ports in Hebei. In 2022, the Company's Party Committee implemented the requirements of the Group's Party Committee on the full and strict governance over the Party, and coordinated and refined 32 tasks related to the construction of a clean Party and anti-corruption; strictly carried out inner-party talks and the system of reporting on the performance of Party governance, and enhanced the inspection and assessment. In addition, the Company carried out special rectification of the "four malfeasances", work style and discipline, strengthened the publicity and education of a fine Party culture and a corruption-free Party, organized grass-roots employees to seriously study integrity reminder information, and the course of "disciplines and rules that Party members and cadres of state-owned enterprise should learn and know". The Company also published seven learning materials in the WeChat official account, LianYuTang (廉語堂) column, covering all cadres and employees. More than 7,000 people participated in the learning, building ideological lines of defense against corruption and change. During the reporting period, QHD Port did not have any major legal proceedings concerning such issues as embezzlement, bribery, extortion, fraud or money laundering.

3. PURSUING STEADY DEVELOPMENT AND STRIVING TO PROVIDE LONG-TERM SERVICES

Relying on the national "14th Five-year" Plan, QHD Port served the "Belt and Road" initiatives, developed multimodal transport to smooth trade channels, carried out the role of a pivot port and participated in the construction of Xiong'an New Area to demonstrate the undertakings of a state-owned enterprise. The Company has vigorously developed its principal business and improved service functions with digitalized technologies to upgrade customers' experience and continue to enhance the quality of port services.

3.1 Serving National Strategies

QHD Port has actively responded to national calls, studied and formulated the "14th Five-year" development plan of the Company, focused on the planning and construction of key projects, constantly innovated business development models and continuously optimized internal management.

In 2022, the Company focused on serving the "Belt and Road" initiatives and actively opened new routes, improved the functions of a large trading port and developed a convenient exit port in Xiong'an New Area, deeply participated in the development of adjacent industries and advanced the grains transportation pipeline at Qinhuangdao Port. Meanwhile, the Company continuously supported construction of the three-type port and focused on implementation of phase 3 coal for updating large machinery, windproof nets at the eastern stacking yards for phase 5 coal, automatic transformation of ship loaders at Caofeidian Coal Company as well as other projects. In addition, to implement the working requirements of the Ministry of Transport on the full coverage of shore power facilities at dry bulk cargo terminals by the end of 2023, the Company vigorously promoted the construction of shore power projects for dry bulk cargo terminals at Qinhuangdao Port.



Updated phase 3 of coal ship loaders under operation

Undertaking Responsibilities on Guaranteeing Smooth Energy Supply

QHD Port actively carried out work on ensuring the supply of coal, established the leading group on safeguarding coal transportation, formulated the Coal Transportation Support Plan During the Period of Stabilization of the Supply and the Price (《保供穩價時期煤炭運輸保障預案》), specified the duties and division of work of all departments and units, reviewed and refined specific tasks on stabilizing the supply of coal. Meanwhile, the Company further strengthened communication and collaboration with railways, maritime affairs, pilotage and upstream and downstream customers, established all-dimensional and full-process thermal coal transportation guarantee systems, and jointly developed the "6+N" coordination mechanism on guaranteeing thermal coal transportation. It enhanced the connection of all links of thermal coal transportation at mining areas, roads, ports and shipping, strengthened information exchanges and sharing, achieved rapid coordination and cooperation, reduced the impacts caused by weather factors and jointly ensured safe and smooth national energy channels, making active contributions to the steady development of the national economy.

Case: CCTV News: "6+N" mechanism of Qinhuangdao Port ensures efficient thermal coal transportation

As a major pivot port for transporting coal from the north to the south, Qinhuangdao Port has increasingly sped up the pace of thermal coal transportation since July. It has established the "6+N" rapid connection mechanism on transportation plus supply and demand to ensure efficient thermal coal transportation. It achieved the handling of all business procedures on online business platforms and reduced the time for customers to handle them on site. The time for completing procedures was shortened from the original 3 hours to the current less than 20 minutes, reducing the time by nearly 90% and improving the arrival, stevedoring and berthing efficiency by 20%. With implementation of the "6+N" mechanism, enhanced information sharing and connectivity of ports and railways, as well as the continuous improvement in fulfillment rate of customer plans and berth utilization rate, the advantages of the unique hoop shipping route of Qinhuangdao Port were fully displayed, achieving smooth turnover of coal at the port to the maximum extent. Since July, the daily shipping volume of coal at Qinhuangdao Port reached 500,000 tonnes, representing a year-on-year increase of 67,000 tonnes. Daily unloading increased by 40.1% year-on-year. As of 20 July, the yard storage at Qinhuangdao Port was 5.97 million tonnes, representing a year-on-year increase of 67.2%, and the yard storage was sufficient.



Serving the "Belt and Road" Initiatives

In 2022, QHD Port actively launched new shipping routes and conducted maiden voyages for two direct shipping routes, namely the "Qinhuangdao-Yantai-Quanzhou" line and the "Qinhuangdao-South China" line, reducing the additional time and logistics costs in goods transfer. In addition, the application of the "demonstration project on sea-rail multimodal container transportation with 'cross-border transportation at two ends, connection of three bureaus and linkage of four directions' in serving the 'Belt and Road' initiatives and the coordinated development of Beijing-Tianjin-Hebei by Qinhuangdao Port in Hebei" led by the Company was successfully approved and the "Shijiazhuang International Inland Port-Qinhuangdao Port-Incheon in South Korea" multimodal transport line on such basis was launched. The route will continuously improve modern logistics services for multimodal transport with Qinhuangdao Port as the pivot and facilitate the construction of modern comprehensive trade ports in Qinhuangdao.

Case: "Shijiazhuang International Inland Port-Qinhuangdao Port-Incheon in South Korea" multimodal transport line was launched

In December 2022, QHD Port launched a new sea-land channel for "Shijiazhuang-Qinhuangdao Port-Incheon". It provides inland enterprises in Hebei Province with a new shipping route starting from Shijiazhuang, Hebei, using Qinhuangdao Port as a transit base, and finally arriving at Incheon, South Korea, which demonstrates that green and efficient cross-border sea-rail multimodal transport in Qinhuangdao Port has reached a new level. The route smoothened export channels for goods from adjacent areas of Shijiazhuang, displayed the green and efficient advantages of railway transportation and low comprehensive costs of sea transport, solved the operational difficulties of SMEs, foreign trade enterprises in particular, in inland areas of Hebei Province with high logistics costs and low efficiency in change of transport models and preliminarily established a large domestic and international logistics channel "oriented domestically, radiating Japan and South Korea, covering Northeast, North and Northwest China, connecting Mongolia and Russia and reaching Europe".



Developing a Convenient Exit Port in Xiong'an New Area

In 2022, QHD Port strived to improve the comprehensive functions of Huanghua as an integrated trade port and develop a convenient exit port in Xiong'an New Area. It proposed to establish a specialized crude berth of 300,000 tonnes in Huanghua Port Zone, which has obtained the approval of the Hebei Development and Reform Commission and approval of the Ministry of Transport on coastal lines. The expansion project of Cangzhou Ore Phase I at Huanghua Port Zone has passed the acceptance on port opening and officially entered operation.

Deeply Participating in the Development of Adjacent industries

In 2022, QHD Port continued to promote the grains transport pipeline project in Qinhuangdao Port, optimized the collection and distribution system of the port, safeguarded national food security and served the development of adjacent industries. The project promoted the structural adjustment of adjacent industries at Qinhuangdao Port, vigorously propelled the integration of ports, industries and cities, provided key support to building the grain and oil processing industrial park and facilitated the development of grain and oil industries in Qinhuangdao.

3.2 Focusing on the Principal Business of Ports

As the world's leading operator of public ports for dry bulk cargoes, QHD Port mainly operates a total of 73 modern professional berths in Qinhuangdao Port, Tangshan Caofeidian Port Zone and Cangzhou Huanghua Port Zone and handles coal, metal ores, oil and liquefied chemicals, containers and general cargoes, and has established a port logistics chain with stevedoring, stacking, warehousing, transportation and other fundamental services as well as freight forwarding and multimodal transport.

Coal Transportation Business

QHD Port actively demonstrated the role of Qinhuangdao Port as a pivot port for energy transportation, gave play to the unified and coordinated dispatch command function of the dispatch command center, strictly implemented the centralized ship berthing plan and used the heavy load departure mode of 215 channel on a normalized basis. It focused on improving the use frequency of key vessel anchorage areas, fully displayed the organizational advantages of two-way loop transportation and continuously improved the berthing efficiency of vessels. In 2022, QHD Port's average port turnaround time of vessels decreased by 10.1% and the closure hours decreased by 23% as compared to last year. The Company regularly organized and carried out special inspections on the management of coal freight quality, promoted and publicized advanced experience in quality management, guided and urged all companies to rectify and improve problems, and continuously improved coal freight quality in the port. In 2022, the Company achieved a coal throughput of 224 million tonnes.

Case: Ninth Company of QHD Port significantly improves coal loading and unloading efficiency

As a major production company in coal loading, unloading and transportation, Ninth Company of QHD Port firstly established the "coordinated dispatch and planning office", a joint office platform, in the port and set up the information platform on "production deduction systems". Through specific measures such as focusing on stack clearing, coal allocation, efficiency, procedures, yard storage and problems, it achieved accurate control in the production process and significantly improved the loading and unloading efficiency. It gave full play to the role of customer managers and consolidated customers and sources of goods through the transfer of major types of coal and safeguarding orders on small types of coal. In 2022, Ninth Company of QHD Port effectively responded to the impacts and challenges of various risks and achieved a total coal throughput of over 61 million tonnes, completing all production targets for the whole year.



Figure: A thermal coal vessel at the terminal of Ninth Company of QHD Port for loading

Metal and Iron Ore Transportation Business

QHD Port has conducted metal and iron ore transportation business and strived to improve its efficiency and service level. The Company has deeply exploited the potential of port value-added services and continuously improved its service capabilities on bonded and coarse mixing and sorting. Meanwhile, it has intensified production and significantly reduced auxiliary work time for vessels through enhancing communication with governments and port departments. The average waiting time of vessels was reduced from 8 days to within 3 days, fully displaying the advantages of "quick turnover, less waiting time and fewer waiting fees for vessels" and attracting more ships to the port. In 2022, the Company achieved an ore throughput of over 117 million tonnes, representing a year-on-year increase of 4.32%.

Case: Phase 1 (expansion) project of Cangzhou Ore at Huanghua Port enters operation

In 2022, the expansion project of Cangzhou Ore Phase I at Huanghua Port Zone passed the acceptance on the opening of ports and was officially put into operation. With Huanghua Port as the base, QHD Port first implemented the "2+6" linked operation on berth shifting and perfectly integrated rapid unloading with high-quality services. The expansion project will further display the advantages of "various berths, rapid turnover and short waiting time of vessels". On the basis of the original "2+6" model, it officially initiated the more efficient "4+6" linked operation model, providing owners of goods and customers with more unloading solutions and bringing new and high-quality service experience. The Phase 1 expansion of metal ores terminal project of Huanghua Port further improved the functions of Huanghua Port, expanded the export channel in Xiong'an New Area and is of significance in building a world-class modern port for energy and raw materials.





Phase 1 expansion of metal ores terminal project of Huanghua Port

General Cargoes Transportation Business

QHD Port actively implements "one to one" service measures and pays attention to potential customer demand. It undertook the supply of steels for Anfeng Steel Mill, maltodextrin for Lihua Starch, ceramic balls, autogenous mills and flange forged ring components. Meanwhile, the Company actively participated in the coordination of China Grain Reserves, Yihai Kerry and other companies and promoted the application for designated sites for 304 imported grains. In 2022, the Company achieved a general cargoes throughput of 25.55 million tonnes, representing a year-on-year increase of 7.44%.

Container Transportation Business

QHD Port made strenuous efforts in developing its container transportation business by focusing on improving its service level to contribute to the development of the local economy and strived to make greater contributions to promoting the high-quality development of the coastal economic belt in the province. In 2022, the Company opened "Qinhuangdao-Yantai-Quanzhou", "Qinhuangdao-Nansha" and other new shipping routes and vigorously coordinated and cooperated with shipping companies in familiarizing the development of local sources of goods, customers and new goods to ensure the steady operation of shipping lines. In 2022, the Company achieved a container throughput of 1,599,400 TEU, representing a year-on-year increase of 6.99%.

The Company made full use of the advantages of a terminal directly connected to railways in collection and distribution at the port and continuously expanded the sea-rail multimodal transport business. The container sea-rail multimodal transport project in Qinhuangdao Port was included in the creation of national multimodal transport demonstration projects. In addition, Huanghua Port added 8 types of goods for export, including foam boards and corn husks. The original import of wood particles doubled and the new model of half-height aluminium oxide containers achieved breakthroughs.

Case: The sea-rail combined container transportation project in Qinhuangdao Port was included in national multimodal transport demonstration projects

In November 2022, the demonstration project on sea-rail combined container transportation with "cross-border transportation at two ends, connection of three bureaus and linkage of four directions" in serving the "Belt and Road" initiatives and the coordinated development of Beijing-Tianjin-Hebei by Qinhuangdao Port in Hebei was included in the creation of the fourth batch of demonstration projects on national multimodal transportation.

The demonstration project on sea-rail combined container transportation in Qinhuangdao Port was led by QHD Port. Leveraging three channels, namely the "big channel for international logistics between Asia and Europe, the big channel for energy transportation and export logistics and the channels for costal transportation", and with the integration of the "Push-To-Talk" intelligent port platform, it established the arterial channel network with four directions characterized by "dual cross-border" service brands, direct delivery to vehicles or ships "without landing", high-quality services of "Push-To-Talk", automatic smart terminals as well as green and ecological development, and developed a multimodal transport development model with "one platform, two pivots, three channels, four lines and five characteristics".

The demonstration project has a scientific layout. With Qinhuangdao Port as the pivot and connecting to 13 inland ports, including Baoding, Tangshan and Datong, as well as Ulan Bator in Mongolia, Inchon in South Korea, Tokyo in Japan, Ho Chi Minh City in Vietnam and other overseas cities, it achieved the coordinated development of the "seaports + inland ports system" and achieved the effects of expanding the scope of logistics services, enhancing radiation and driving capabilities and significantly reducing transportation costs. It will effectively promote regional flow of goods and economic and trade transactions, improve regional opening and facilitate the development of Hebei Province with the orientation to marine industry.



Container terminal in Qinhuangdao Port

3.3 Upgrading Customer Experience

QHD Port strictly complies with the Contract Law of the People's Republic of China 《中華人民共和國合同法》, the Railway Law of the People's Republic of China 《中華人民共和國鐵路法》, the Procedures for Railway Freight Transportation《鐵路貨物運輸規程》 and other relevant laws and regulations, constantly improves customer management and regulates services and quality standards to practically create value for customers. The Company enhances services, explores markets, flexibly changes operational strategies and promotes "one to one" service measures in the principle of "striving for sources of goods from strategic customers with firm determination, sources of goods from key customers with great efforts and sources of goods from other customers with enthusiasm". Meanwhile, the Company attaches great importance to customer privacy and information security. With the national laws and regulations and requirements of regulatory authorities as the orientation of information security and compliance, the Company practically safeguards customer data and privacy in the provision of services. In 2022, the weighted average customer service satisfaction rate of QHD Port's all-cargo operation companies was 98 points, and there were zero complaints on service quality. The Company has sped up the construction of smart ports, improved the smart production scheduling system of ports, developed visual platforms for production at ports, built smart logistics at ports and improved production management and information services. In 2022, the "port smart production scheduling system" of the Company achieved functions such as obtaining the data of Qinhuangdao Port Zone, Tangshan Caofeidian Port Zone and Cangzhou Huanghua Port Zone on a real-time basis and integrating and optimizing the statements of existing systems. Meanwhile, it added real-time and dynamic data collection and the multi-condition data inquiry and handling segment, and transformed the traditional port declaration model to port declaration via online business hall, which significantly improved the convenience of business handling by customers and allowed port services to practically facilitate and benefit the public.

Case: "Internet + Service" upgrade in all respects

In 2022, the Company constantly expanded and improved the functions of the "QinGang Online Business Hall" to improve the convenience of business handling for customers. At present, the online business hall has the capability for one-stop acceptance of port businesses, such as prepaid port fees document turnover, shipping operation entrustment, change of coal ownership, filing of waterway freight bills and goods information, approval of ownership confirmation letters, confirmation of vessel use fees and measurement and entrustment of vessel constants. In addition, customers can directly inquire of the statistical account of their stock coal and port charges via the online business hall interface. As of 31 December 2022, over 95% of vessel businesses and over 85% of ownership changes were handled online through the "QinGang Online Business Hall". It was widely recognized by customers for its complete functions and convenient services.



Interface of QinGang Online Business Hall

3.4 Strengthening Supply Chain Management

QHD Port continuously improves the supplier management system and optimizes systems and documents. It adopts dynamic management measures on suppliers in accordance with the Measures for Supplier Management 《供應商管理辦法》, strictly controls the selection, assessment and appraisal of suppliers, irregularly conducts all-dimensional reviews on suppliers, enters into letters of undertaking on integrity operation to guide suppliers to perform their contracts in good faith and establishes supplier management patterns with "loose access, strict management, openness and fairness". In addition, QHD Port actively implements green procurement, guides all companies to prioritize the use of energy-saving and environmental products and encourages suppliers to continuously improve the energy-saving and environmental performance of products supplied. The Company gives additional points to suppliers with authentication certificates under relevant systems in the access appraisals of suppliers. By the end of 2022, the Company had a total of 655 suppliers.

QHD Port's suppliers in 2022

Region	Hebei Province	Outside Hebei Province
Number	410	245

The Company distributes the Supplier Operation Handbook 《供應商操作手冊》) to new access suppliers and makes detailed explanations on access procedures, operation of platform-based businesses and rules on supplier appraisal to facilitate suppliers to understand business procedures and carry out work rapidly.

To enhance the management of supplier relationships, the Company smoothens channels for suppliers to provide feedback through WeChat and facilitate business handling by suppliers. The Company also improves the working mechanism on supplier appraisal, conducts in-depth analysis on business problems of suppliers and continuously improves the performance of suppliers through communication, feedback and appraisal to achieve a mutual beneficial and win-win partnership.

4. UPHOLDING FUNDAMENTAL PRINCIPLES AND BREAKING NEW GROUND IN CONSTRUCTION OF SMART PORTS

QHD Port has earnestly implemented the special action deployments of the provincial Party committee, the provincial government and the provincial SASAC on "unswervingly focusing on scientific and technological innovation and speeding up in developing new drivers to growth" as well as "stepping up to a new high in three years and enhancing the strength in five years" in R&D input of SOEs, integrated advantageous resources, boosted R&D inputs, accelerated R&D and promoted the construction of smart ports.

4.1 Development of Science and Technology Projects

Leveraging digitization and intelligence, QHD Port has carried out research on technological innovation. It actively has advanced the construction of smart ports and strived to solve difficulties such as safety, environmental protection, energy savings and emissions reduction, intelligent production and operation in frontline production in the port. In 2022, QHD Port distributed 7 batches of scientific research programs with a total of 128 items and a planned amount RMB50 million. 7 projects, including the "Research and Application of Intelligent Sprinkling System for Turning and Stacking Based on Dust Detection" (基於粉塵檢測的翻堆線智能灑水系統研究及應用), the "Research and Application of Smart Rectification System for Belt Conveyors under Group Control" (群控制帶式輸送機智能糾偏系統研究與應用) and the "Research and Practice in Big Data Visual Application for Large Bulk Cargoes at Ports" (大型散貨碼頭大數據可視化應用研究與實踐) passed the appraisal on scientific and technological results in Hebei Province and reached international advanced levels. 6 projects, including the "Research and Application of Remote Control System of Loaders" (裝載機遠程操控系統研究及應用), the "Automatic Rectification System on Ballast Water Data" (壓載水數據自動修正系統) and the "Intelligent Tallying System of Containers" reached domestic advanced levels.

Awards for QHD Port's projects

Project name	Award
Research and Application of Key Technology for Material Leakage Control and Dust Suppression of Stackers and Ship Loaders for Bulk Cargoes at Ports	Second Prize in Science and Technology Progress Award by China Ports & Harbours Association in 2022
Digital Stacker System for Large Dry Bulk Cargoes at Ports	Second Prize in Science and Technology Progress Award by China Ports & Harbours Association in 2022
Electronic Application and Practice of Group Documentation for Large Bulk Cargoes at Ports	Third Prize in Science and Technology Progress Award by China Ports & Harbours Association in 2022
Service System for Logistics Information Exchange and Business Coordination on Large Bulk Cargoes at Railway Ports	Third Prize in Science and Technology Progress Award by China Ports & Harbours Association in 2022
Research and Achievement of Energy-saving Strategies on Large Coal Terminals under the Background of Green Ports and Logistics	Third Prize for Excellent Projects by China Society of Logistics in 2022
Research on Electronic Application of Documentation for Large Bulk Cargoes at Ports	Third Prize for Excellent Projects by China Society of Logistics in 2022

Case: First unmanned loading and unloading operation of steel coil gantry cranes at ports in China

In 2022, QHD Port General Cargo Port Branch (秦港股份雜貨公司) completed the unmanned transformation of loading and unloading of 2 steel coil gantry cranes and achieved unmanned loading and unloading operation of steel coil gantry cranes for different transportation modes for the first time at domestic ports. The unmanned loading and unloading operation of steel coil gantry cranes included the renovation and construction of steel coil receiving and unloading ground, relevant equipment, dispatch command center, intelligent display room for unmanned operation and remote control room. Through laser sensing technology, positioning systems, automatic control, data management, video systems and other advanced technologies, it achieved intelligent loading and unloading, digital stacking yards and standard operation in the operational procedures from the steel coil entering stacking yards to loading for transport. It required no manual intervention in the whole operation process under normal conditions and accumulated precious experience into the construction of smart and modern ports.



Loading and unloading site of steel coil gantry cranes

4.2 Building Innovation Platforms

To support R&D and innovation and build an ecosystem of "innovation by all employees and smart popularization" in the Company, QHD Port has built one national-level innovation studio, 10 provincial innovation studios and eight municipal innovation studios. It has cultivated a large number of model workers and innovation teams, injecting new momentum into the high-quality development of the Company.

Case: Eastern Port Innovation Studio Alliance was established

In June 2022, the signing and awarding ceremony of the Eastern Port Innovation Studio Alliance in Qinhuangdao Port was held. Four innovation studios of Sixth Company of QHD Port, Seventh Company of QHD Port and Ninth Company of QHD Port jointly acted to achieve breakthroughs in the smart construction of ports and technological reform and innovation. After the establishment of the Eastern Port Innovation Studio Alliance, it will give full play to their respective advantages in resources and technologies, pay close attention to the smart construction of ports and constantly expand to cutting-edge sectors with the focus on solving difficulties restricting and affecting the production at the port to build channels for a multi-layered and all-dimensional cooperation alliance. It will enhance information exchanges and sharing among the three parties, jointly carry out technical breakthroughs and staff training, speed up conversion and application of technological results, and cultivate high-skilled talents for ports.

4.3 Carrying out Patent Management

QHD Port carries out innovation in products and services and strives to continuously create value for customers and society in accordance with the Patent Management Measures of Qinhuangdao Port Co., Ltd. 《秦皇島港股份有限公司專利管理辦法》, the Software Copyright Management Measures of Qinhuangdao Port Co., Ltd. 《秦皇島港股份有限公司軟件著作權管理辦法》, the Management Measures on Science and Technology Projects of Qinhuangdao Port Co., Ltd. 《秦皇島港股份有限公司科技項目管理辦法》, the Incentive Measures on Scientific Technology of Qinhuangdao Port Co., Ltd. 《秦皇島港股份有限公司科學技術獎勵辦法》) and other internal rules and regulations. In 2022, the Company obtained one software copyright, and was authorized with 13 patents, including one invention and 12 utility models.

Table: Patent authorizations obtained by QHD Port

No.	Name of patent	Date of authorization	Type of patent
1	An adjustment device on the range of high-pole lamps based on the principle of range quadrants	25 January 2022	Utility model
2	A detection device on preventing abnormal dumping and pull rod extension of empty carriages	25 January 2022	Utility model
3	A cleaning box for scraper and material cleaning conveyer belts	25 January 2022	Utility model
4	A material recycling device for returning conveyer belts of tail cars of ship loaders	22 February 2022	Utility model
5	An installment structure for running encoders of reclaimers	11 February 2022	Utility model
6	An automatic marine garbage collection device	22 March 2022	Utility model
7	A dispatching method for vessels in anchorage areas	19 April 2022	Invention
8	An anti-pulling device for hoisting equipment	26 April 2022	Utility model
9	A new anti-collision protection device for reclaimer arms	9 September 2022	Utility model
10	A new water supply system for reel anti-freezing cables	6 September 2022	Utility model
11	An intelligent dust suppression system for coal turning and stacking belts based on the detection of dust concentration	19 August 2022	Utility model
12	A new detection device for blanking putty	9 September 2022	Utility model
13	A braking device for trucks in repairing of port machinery	12 August 2022	Utility model

4.4 Demonstration of Outstanding Results

QHD Port enhances the independent R&D of technological projects and continuously improves the scientific research capability of enterprises to fully demonstrate its role as a state-owned enterprise. In 2022, Ninth Company of QHD Port completed the construction of intelligent "five-in-one" centralized control and carried out half-automatic no-load and heavy-load tests on the intelligent transformation of Phase 5 coal ship loaders. Sixth Company of QHD Port completed the centralized control transformation of Phase 3 coal ship loaders and unloaders and effectively improved the operational management of ports.

Case: "Five-in-one" intelligent centralized control of Ninth Company of QHD Port

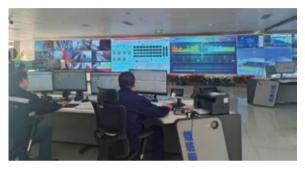
Ninth Company of QHD Port achieved "five-on-one" intelligent centralized control with the planning room, centralized control room, on-site tour inspection room, chief operator's room and customer remote observation room on centralized control projects. Construction of the "on-site tour inspection room" covered loading and unloading belt conveyors, tour inspection on transfer towers, on-site driver monitoring in turning control areas and monitoring of terminal areas. Through the interconnections and linkage of such five layouts, it promoted the unmanned progress of ports. The intelligent centralized control achieved the coordination and integration of management systems and operation systems, increased comprehensive management and control of loading, unloading and production, operational management on staff and safety, online and offline operation, operation and tour inspections, visual sense, online monitoring and safeguarding, and continuously advanced towards professionalism. It achieved the inter-locking and matching of intelligent monitoring and duties of positions. Managers played a leading role in displaying their own value and staff gradually shifted from operation to management. It achieved interactions and linkage of customer services and intelligent operation, integrated digital technology into the existing customer service systems and allowed customers to participate in intelligent upgrading, service perfection and brand promotion to constantly improve customer satisfaction and enhance the core competitiveness.



Centralized control room of Ninth Company of QHD Port

Case: Centralized control transformation of unloaders of Sixth Company of QHD Port

For the centralized control transformation of the Phase 3 coal ship unloaders of Sixth Company of QHD Port, it established remote operation stations and communication links, relocated the local operation platform of the turning control room to the centralized control room of the dispatch and command center and transmitted video monitoring signals to the centralized control room, achieving operation of the unloader systems via the centralized control room of the dispatch and command center. Implementation of the centralized control transformation allowed employees to manage all processes from coal unloading to loading through the remote centralized control operation system, which significantly improved production efficiency and promoted the unmanned and intelligent progress of loading and unloading equipment at ports.



Centralized control room of Sixth Company of QHD Port

5. BUILDING GREEN PORTS WITH ENERGY-SAVING AND ENVIRONMENTAL CONCEPT

Guided by the development concept of "Building Green Hubs and Sharing Clean Seas and Blue Skies", QHD Port has gradually improved its environmental management, integrated awareness of energy conservation and emission reduction into the port operation, controlled and reduced wastage of resources and energy, and contributed to the green development of the port. In 2022, QHD Port invested a total of RMB250 million in environmental protection in three ports.

5.1 Adhering to Low-Carbon Operation

QHD Port adheres to the concept of green development, promotes the low-carbon, energy-saving and resource-saving operation model in all dimensions, focuses on improving prominent environmental concerns, perfects ecological and environmental protection systems, and is committed to sustainable development.

Enhancing Top Design

QHD Port regards ecological and environmental protection as the lifeline of its transformation and development, and strictly abides by the Environmental Protection Law of the People's Republic of China. It formulated the Management Measures for Environmental Protection of Qinhuangdao Port Co., Ltd. 《秦皇島港股份有限公司環境保護管理辦法》》,established an Environmental Protection Committee and a Leading Group on Energy Conservation and Emission Reduction with the chairman as the responsible person, organized, coordinated and reviewed energy and water conservation, and promoted the improvement of environmental quality of the port.

The Company formulated the Emergency Plan for Environmental Emergencies of Qinhuangdao Port Co., Ltd. (《秦皇島港股份有限公司突發環境事件應急預案》) and the Implementation Plan for Emergency Response to Heavy Pollution Weather of Qinhuangdao Port Co., Ltd. (《秦皇島港股份有限公司重污染天氣應急響應實施方案》), and continuously carried out environmental monitoring on the atmospheric, water and soil environments. It outlined a map of environmental risk points based on the location of risk sources and set up corresponding emergency measures for various disaster scenarios. Meanwhile, it has set up emergency protection resources such as funds, supplies and medical treatment to gradually strengthen the orderly response to environmental emergencies. In 2022, QHD Port recorded no responsible environmental pollution incidents or violations under heavy pollution weather.

The Company continuously promoted environmental governance and achieved phased environmental improvement through remediation measures such as sewage treatment and the use of clean energy. The comprehensive index of air quality in Qinhuangdao Port area was 3.75 in 2022, representing a year-on-year decrease of 7.2% as compared to 2021. The average PM2.5 concentration was 21 mcg/m³, representing a decrease of 15.6% as compared to the same period last year.

Comparison of Environmental Quality in Qinhuangdao Port

Indicator	2021	2022	Increase or decrease
Comprehensive index of air quality	4.04	3.75	Decrease by 7.2%
Average PM2.5 concentration (mcg/m³)	25	21	Decrease by 15.6%
Number of days reaching the standard	312	328	Increase by 5.1%
Coastal water quality	Class-I water quality	Class-I water quality	-

Strengthening Precise Control

QHD Port actively implements Xi Jinping Thought on Ecological Conservation for a New Era, takes green development as the main line, focuses on key environmental protection work such as dust pollution control and energy transformation and upgrading, implements precise and scientific control, and strives to steadily promote the construction of the port environment.

In terms of dust control, the Company carried out precise dust control and undertook environmental protection responsibilities with monitoring data as the guidance and key areas as the core. In terms of port mobile source control, the Company sealed up non-compliant equipment in the port, increased the proportion of new energy equipment and ensured that all equipment in use met environmental control requirements. In 2022, the total soot emissions of the Company were 23,399 tonnes. Meanwhile, the Company paid attention to the use of shore power, boosted efforts in improving the utilization rate of shore power, strived to maximize the environmental protection benefits of shore power facilities and vigorously promoted green shipping. In 2022, QHD Port introduced 30 transshipment trams in the port and significantly reduced the emission of transshipment exhaust gas. It completed a total of 68 power connections to shore power facilities with 969 hours of power connection and a power supply of 283,000 kWh.

In order to ensure the smooth operation of various environmental governance work, the Company carried out a total of 312 internal supervisions and inspections and implemented special assessment on reward and punishment for health and environmental protection on a quarterly basis. At the same time, the Company formulated the List of Key Tasks for Green Port Construction in 2022 (《2022年綠色港口建設工作重點任務清單》), and conducted coal leakage control, non-point source pollution in the port area and transformation of sewage treatment systems, significantly improving the environmental management in the port.

Strengthening Energy Conservation and Consumption Reduction

In accordance with the Energy Conservation Law of the People's Republic of China, the Water Law of the People's Republic of China and other laws and regulations, QHD Port formulated the Management Measures for Energy and Water Conservation of Qinhuangdao Port Co., Ltd. 《秦皇島港股份有限公司節能節水管理辦法》) to promote the rational utilization of energy and water resources, penetrated the management of energy and water use into all aspects from production to management, and strived to coordinate annual work on energy and water conservation to reduce energy waste and water consumption. In 2022, the Company strengthened the optimization of the energy structure such as electricity, diesel, gasoline and steam through the transformation of energy-saving technologies and use of clean energy, and strived to improve energy use efficiency and reduce energy consumption to minimize greenhouse gas emissions. The total GHG volume of QHD Port in 2022 was 378,911.56 tonnes of carbon dioxide equivalent, with a density of 0.55 tonne of carbon dioxide equivalent/RMB10,000.

- The Company studied and formulated requirements on the review and evaluation of energy saving and carbon reduction in construction and renovation projects, implemented lifecycle energy-saving management on equipment and facilities, shifted the management focus of energy conservation and carbon reduction forward and realized the implantation of "green genes" from the source.
- For the use of energy without a fixed location, the Company adhered to the principles of source control, addressing both symptoms and root causes, taking comprehensive policies and joint prevention and control, facilitated the construction of new energy infrastructure, promoted energy-saving and environmentally-friendly port mobile source equipment and replaced heavy-duty diesel vehicles and other devices that cannot meet emissions standards. It stipulated that the air pollutants discharged by mobile sources shall not exceed national and local standards.
- In 2022, the Company implemented a series of source prevention and control measures, including procurement of new energy tugboats, transformation of electric locomotives, substitution of fuel-powered equipment with electricity-powered equipment for internal combustion engines, and transformation of large mobile machinery engines. QHD Port's GHG emissions (Scope 1)¹ were 20,006.02 tonnes of carbon dioxide equivalent.
- The Company conducted a series of energy-saving projects such as energy-saving control of belt conveyors, air source heat pumps, intelligent air conditioning, thermal reform, shore power construction and construction of charging piles for new energy mobile machinery to ensure energy-saving results.
- The Company implemented heat reform, carried out heat measurement and assessment, realized the refined
 management of "self-use and self-control", fully stimulated the subjective initiative of heat-using units,
 improved the efficiency of heat use and reduced energy consumption. In 2022, the Company reduced heat
 consumption by approximately 7% compared with previous years.
- The Company actively adjusted the energy structure of the port, carried out research on distributed photovoltaic power generation and wind power generation, and completed the first green power transaction. It successfully purchased 24 million kWh of green power shares, equivalent to the reduction of 19,800 tonnes of carbon dioxide, 11.28 tonnes of sulfur dioxide and 10.32 tonnes of nitrogen oxides, facilitating the green development of the port.
- QHD Port is committed to reducing the use of electricity and heat. In 2022, the Company's GHG emissions (Scope 2)² were 358,905.54 tonnes of carbon dioxide equivalent.

The GHG emissions (Scope 1) in 2022 were calculated according to the Guidelines on Accounting Methods and Reporting of Greenhouse Gas Emissions of Other Industrial Enterprises through the conversion from the consumption of gasoline and diesel;

The GHG emissions (Scope 2) in 2022 were calculated according to the average emission factor of national power grid of 0.5703t CO₂/MWh in 2022 in the Notice on the Management of Greenhouse Gas Emission Reporting for Enterprises in the Power Generation Industry from 2023 to 2025 and the Guidelines on Accounting Methods and Reporting of Greenhouse Gas Emissions of Other Industrial Enterprises proposed by the National Development and Reform Commission, through the conversion from consumption of purchased power and heat.

Case: Substitution of fuel-powered equipment with electricity-powered equipment for an internal combustion locomotive

In 2022, QHD Port transformed an idle internal combustion locomotive into a pure electric locomotive. It appointed a third-party institute with professional qualifications and licenses for railway locomotive design and manufacturing to disassemble, repair, design, transform and debug the vehicle. By the end of 2022, it had conducted pure electric transformation of the power and transmission system.



Power-driven locomotive under transformation

Case: QHD Port's intelligent energy-saving system for IoT air-conditioners achieves a saving rate of 30%

In 2022, QHD Port's intelligent energy-saving system for IoT air-conditioners was launched in the stacking yard electricity substation. Through remote monitoring of air-conditioning power consumption and indoor temperature and flexible energy-saving strategies such as temperature and timed controls, it automatically turns on upon meeting set requirements and turns off upon reaching the maximum temperature, achieving intelligent and orderly management of air-conditioners. It can reduce power consumption by 30% with significant energy-saving effects.

In 2022, the Company successfully completed the "dual-control" targets on energy consumption in 2022 issued by the Leading Group on Energy Conservation and Emission Reduction of Qinhuangdao City and steadily promoted energy conservation and emission reduction.

Completion of the "Dual-Control" Targets³ in 2022

Indicator	Target for 2022	Actual value in 2022	Compared to the target
Total energy consumption (Tonnes of standard coal)	61,132	58,843.16	Decrease by 3.74%
Energy consumption density (Tonnes of standard coal/RMB10,000)	0.14	0.1393	Decrease by 0.50%

The Company continues to promote daily water conservation management, conducts routine inspection and maintenance of water facilities and equipment and key water-consuming parts, promotes the use of water-saving technologies and equipment, actively carries out sewage recycling and recycled water utilization projects, and continuously advances a water-saving production and lifestyle. In 2022, the Company reduced water fees by approximately RMB1.06 million and reduced its use of tap water by approximately 140,000 tonnes by reasonably expanding the scope and amount of water used from the Tanghe River to replace tap water.

The target value is issued by Qinhuangdao City. According to the principle of local management and for QHD Port, only Qinhuangdao Port area is required, and the statistical caliber does not include Caofeidian Port Zone in Tangshan and Huanghua Port Zone in Cangzhou.

In addition to the implementation of energy and water conservation actions, the Company strengthened the incentive and restraint mechanism on energy and water conservation, enhanced the initiative of employees in energy conservation and facilitated the saving of resources through various measures. In 2022, QHD Port released the Notice of Qinhuangdao Port Co., Ltd. on the Issuance of the Measurement and Assessment Indicators for Energy and Water Conservation in 2022 《秦皇島港股份有限公司關於下達2022年度節能、節水、計量考核指標的通知》 and the Management Measures of Qinhuangdao Port Co., Ltd. on Energy Saving Award 《秦皇島港股份有限公司節能獎管理辦法》, set up a special award for energy and water conservation, and carried out assessment and reward for completion of energy and water targets by all departments and units.

Strengthening Environmental Monitoring

QHD Port continues to promote special work on monitoring large air particle pollutants. Through scientific and professional technical methods, it measures the physical and chemical indicators of the port environment, judges the current situation and the trend of changes in environmental quality in the region through real-time monitoring on the port environment, and transmits real-time environmental data to provincial and municipal platforms to realize the disclosure of self-monitoring information, thereby facilitating a wider range of ecological and environmental monitoring.

The Company has established 2 environmental monitoring platforms in Qinhuangdao Port, including the Qinhuangdao Grid-based Precision Monitoring Platform and the Qinhuangdao Operation Area Video Monitoring and PM10 Monitoring Platform. The Qinhuangdao Port Ambient Air Quality Monitoring Station includes 2 points with monitoring indicators such as PM2.5, PM10, CO and O³. The Qinhuangdao Operation Area Video Monitoring and PM10 Monitoring Platform has 22 monitoring points at the professional coal terminals in eastern port area with monitoring indicators such as PM2.5, PM10, TSP and temperature.

Use of Resources by QHD Port in 2022

	Indicator	Unit	2022
	Total power consumption	10,000 kWh	55,478
	Consumption of municipal water supply	Tonne	2,445,658
	Reclaimed water consumption	Tonne	4,807,646
	Total water consumption	Tonne	7,253,304.00
	Water consumption density	Tonne/RMB10,000	10.48
Use of resources	Gasoline consumption	Tonne	185.00
	Diesel consumption	Tonne	6,182.00
	Steam	Tonne	88,881.00
	Closed-circuit supply of hot water	GJ	149,649.00
	Comprehensive energy consumption ⁴	10,000 tonnes of standard coal	9.06
	Comprehensive energy consumption per RMB10,000 output value	Tonnes of standard coal/RMB10,000	0.13

The calculation of the comprehensive energy consumption referred to the GBT2589-2020 General Principles for Calculation of the Comprehensive Energy Consumption.

5.2 Building Green Ports

QHD Port adheres to the development concept of "building green and ecological ports", actively strengthens the management of pollutants and waste, improves the green scene in the port area, strives to create a green port environment and promotes the construction of green ports. In 2022, berths 1 and 2 of Cangzhou Ore Terminal of QHD Port were awarded "three-star" green ports. The Sixth Company, Seventh Company and Ninth Company of QHD Port were awarded as "four-star" green ports by China Ports & Harbours Association. Coal Terminal Phase 5 operated by the Ninth Company was awarded as the "Green Port in Asia-Pacific".

Prevention and Control of Exhaust Gas Pollution

The Company complies with the laws and regulations such as the Environmental Protection Law of the People's Republic of China 《中華人民共和國環境保護法》) and the Law of the People's Republic of China on Prevention and Control of Air Pollution 《中華人民共和國大氣污染防治法》), and has standardized the management of mobile pollution sources and dust pollution by formulating systems such as the Measures of Qinhuangdao Port Co., Ltd. for the Prevention and Control of Mobile Source Pollution 《秦皇島港股份有限公司移動源污染防治管理辦法》) and the Measures of Qinhuangdao Port Co., Ltd. for the Prevention and Control of Dust Pollution 《秦皇島港股份有限公司楊塵污染防治管理辨法》) to reduce the impact of exhaust gas generated during production and construction on the surrounding environment. In 2022, the total exhaust emissions of the Company were 862.47 million cubic meters.

For dust pollution, the Company carries out analysis of dust pollution nodes and establishes a list, and formulates corresponding operation procedures for production, maintenance and construction involving pollution nodes, including material loading and unloading, road sweeping and dust cover use procedures, so as to achieve the effect of dust prevention and control.

Waste Management

QHD Port complies with the 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 《中華人民共和國固體廢物污染環境防治法》 and the Management Measures for the Transfer of Hazardous Waste 《危險廢物轉移管理辦法》 and has formulated internal systems such as the Management Measures of Qinhuangdao Port Co., Ltd. for the Prevention and Control of Hazardous Waste Pollution 《秦皇島港股份有限公司危險廢物污染防治管理辦法》. It carries out corresponding management according to the type of waste by adhering to the harmless and reduced disposal methods. In 2022, the waste of QHD Port mainly includes production waste, domestic waste and various types of hazardous waste. The total amount of hazardous waste was 180.37 tonnes and the density of hazardous waste was 0.003 tonnes/RMB10,000. The total amount of non-hazardous waste was 26,000 tonnes and the density of non-hazardous waste was 0.04 tonnes/RMB10,000.

Disposal Methods for Different Types of Waste

Type of waste	Disposal method
Production waste	Independently handled and transferred by third parties or construction units
Domestic waste	Transferred to municipal waste transfer stations after centralized collection
Hazardous waste	Transferred to professional hazardous waste reception units in a timely manner

QHD Port continues to standardize the whole process of hazardous waste disposal and is committed to ensuring environmental safety and harmlessness. It strictly implements the requirements of the Management Measures for the Prevention and Control of Hazardous Waste Pollution 《危險廢物污染防治管理辦法》), prepares and reports the hazardous waste management plan every year, and adopts pollution prevention and control measures to reduce hazardous waste. It also implements the Management Measures for the Transfer of Hazardous Waste 《危險廢物轉移管理辦法》) to store, transfer and dispose of hazardous waste at the port in a compliant manner to ensure environmental safety.

Improving Landscaping

QHD Port is committed to creating a beautiful environment in the port area by implementing green renovation, roadside greening enhancement and other landscaping improvement work. In 2022, the Company invested over RMB3.6 million in the greening and landscaping renovation of key areas, completed the greening and landscape renovation of over 14,000 square meters and placed more than 45,000 seasonal flowers in key areas.

The Company strengthened the implementation of measures on water pollution prevention and control, enhanced the management of sewage collection, disposal and reuse, standardized the operation records of sewage treatment facilities, and eliminated all kinds of sewage and pollutants from entering the sea during all oil containment boom operations. At the same time, the Company strengthened the concept of local management, enhanced shore patrol inspections, carried out port basin salvage and cleaning work, and strived to maintain a clean and tidy environment in port basin waters. In 2022, QHD Port dispatched a total of 809 salvage vessels and collected 211.7 tonnes of floating garbage from the port basin.

Case: Autonomous garbage collection vessel

In 2022, QHD Port designed an autonomous garbage collection vessel based on marine garbage cans to collect marine garbage in designated waters. After several sea trials and functional improvements, it is now ready for use.



Autonomous garbage collection vessel

Construction of a Green Culture

In order to enhance employees' awareness of and public enthusiasm for environmental protection, QHD Port continues to build a green culture system, cultivates a green production and lifestyle with a green culture through strengthening ecological and environmental education and holding various green culture activities, and promotes the endogenous power of sustainable development. In 2022, the Company organized training activities on emergency management of environmental emergencies, hazardous waste and soil environmental management and environmental protection laws and regulations. A total of 303 employees participated in the training and 4 issues of learning materials on environmental protection were published.

Case: QHD Port's publicity activities on "5 June Environment Day"

In 2022, with the theme of "Building a Clean and Beautiful World Together", the Company launched the "5 June Environment Day" publicity activity and organized a knowledge quiz with a total of 1,384 participants to enhance their understanding of environmental protection knowledge. In addition, the Company arranged for over 70 volunteers to distribute over 500 copies of publicity materials and carried out environmental and public welfare activities such as cleaning up beach garbage and maintaining community hygiene with an aim to set an example in environmental protection through personal practice.



Activities on "5 June Environment Day"

5.3 Responding to Climate Change

Facing the trend of global warming and the continuous occurrence of extreme climate events, QHD Port is fully aware of the essential role of responding to climate change for the sustainable development of the Company and gradually considers the short-term and long-term impacts of climate change on the Company's business. In combination with national policies and industry development trends, it identifies climate change risks and opportunities, sets environmental goals, integrates issues on climate change into the Company's long-term development planning, and takes measures to address climate change to mitigate and adapt to the potential impacts of climate change.

Governance

QHD Port incorporates climate change-related issues such as scenario analysis, risk identification and opportunity management into the scope of supervision by the Board of Directors. The Company continues to improve its governance structure on climate change and identify potential impacts of climate change on operations, investments and other activity scenarios to ensure the orderly implementation of climate risk governance measures.

Governance Structure on Climate Change

Climate change management department	Responsibilities		
The Board of Directors	Responsible for the Company's response to climate change-related issues and managing the disclosure and release of climate change work.		
Environmental Protection Committee	 Implementing guidelines, policies, laws, regulations and standards on ecological and environmental protection as well as requirements of superior authorities on ecological and environmental protection; 		
	2. Organizing the formulation of the Company's development strategy and work policy on ecological and environmental protection;		
	 Reviewing and approving the Company's management systems and work plans on ecological and environmental protection; 		
	4. Determining the management functions of relevant departments on ecological and environmental protection;		
	 Studying and solving major issues on ecological and environmental protection and making decisions; 		
	 Reviewing and approving emergency plans on environmental emergencies and organizing the establishment of emergency response systems; 		
	 Reviewing and approving the Company's annual advanced selection results on ecological and environmental protection; 		
	8. Reviewing and approving the handling and punishment decisions on environmental pollution accidents (incidents).		
Leading Group on Energy Conservation and Emission Reduction	Cooperating with all departments to carry out energy conservation and emission reduction and striving to achieve indicators and targets gradually.		

To ensure that senior management and all business teams keep abreast of the development trend of climate-related issues, QHD Port carries out training on climate change based on needs, organizes publicity and study of the latest environmental policies and regulatory knowledge, and consults external experts when necessary to ensure the professionalism and reliability of management measures on climate-related strategies, risks and opportunities.

Climate Risks and Opportunities

Based on the geographical location and business characteristics of the port, QHD Port identifies possible risks on the Company as a result of climate change from two dimensions, including physical risks and transition risks, and proposes a series of response strategies to help reduce the impact of climate change on the Company.

Climate Risk Identification of QHD Port

Type of risks		Impacts of risks	Response measures
	Typhoon (Short-term)	Damaging unreinforced or high port structures, such as metal warehouses and port equipment with light weight and large surface area, reducing port capacity and increasing equipment maintenance costs.	 Maintain close contact with all departments and promptly organize and arrange typhoon prevention measures after receiving the typhoon warning in weather forecast according to the Special Emergency Plan on the Prevention of Typhoons ((防颱風專項應急預案)); Set up sufficient anchoring devices and mooring cables near large equipment and take effective renovation and upgrading measures for facilities without typhoon prevention capabilities; Prepare typhoon prevention materials such as ropes and generator sets.
Physical risks	Extreme precipitation (Short-term)	 Slowing down the loading and unloading of goods vulnerable to humidity such as grains and reducing the overall work efficiency; Due to transportation safety issues, the goods cannot leave the port on time, resulting in the stacking of goods at the port, affecting the delivery date and increasing the cost of payment with liquidated damages; Some of the goods packaged in cartons or wooden boxes are damaged due to moisture, such as mildewing, rusting and oxidation, resulting in increases in the cost of claims; Heavy rainfall causes siltation in the waterway and delays cargo transportation, increasing additional dredging and transportation costs. 	 Set up emergency plans for extreme precipitation weather; Pay attention to the weather forecast and actively communicate with the consignees and suppliers to coordinate the time, increase manpower input before the extreme weather occurs, and complete the loading and unloading of goods in advance; Ensure that containers are tightly sealed, and inspect doors, walls and floors for obvious cracks or damage when exporting goods to ensure that containers are clean and dry; Manage goods against rain damage and moisture damage, use desiccant to absorb moisture in the air, and increase the amount of desiccant as appropriate for the goods packaged with wooden boxes, cartons and other moisture-prone packaging; Conduct daily maintenance of the waterways prone to siltation, regular scale, removal and dredging of waste and silt to ensure the smoothness of the waterways.

Type of risks	Impacts of risks	Response measures
Flood (Short-term)	 Causing damages to infrastructure, buildings and equipment, suspension of substations due to short circuits and increasing maintenance costs; Flushing containers and other goods in open storage areas and affecting the basic needs of customers; Interrupting ground traffic and affecting steady operation. 	 Alarm or monitor the arrival of floods in a timely manner, respond in an orderly manner and adopt appropriate emergency strategies according to the Special Emergency Plan on the Prevention of Floods 《防汛專項應急預案》); Carry out flood control drills to enhance response capabilities in case of disaster; Promote the construction of flood prevention infrastructure, such as flood control dams and drainage network planning, and clean drainage pipes on a daily basis to maintain smooth drainage; Prepare sandbags, shovels and other materials to combat floods.
Extreme heat (Short-term)	 Coal and other dangerous goods are affected by high temperature, resulting in explosions, fires and other accidents, affecting port safety; Affecting temperature-sensitive metal equipment, such as cranes, warehouses and other metal-made terminal equipment, reducing the service life of equipment. 	 Equip with fire-fighting equipment, formulate pollution prevention plans, immediately stop operation and report to relevant departments in case of accidents and take appropriate measures; Add cooling devices for the equipment, working or warehousing environment and suspend the use immediately if any abnormality is identified.
Extreme cold (Short-term)	Low temperatures cause freezing, sedimentation or failure of liquid goods, increasing the cost of goods claims; Increasing load on the grid and equipment maintenance costs due to the failure or suspension of operation of some equipment caused by icing or insufficient power supply; The icy sea surface causes traffic control on ships and disrupts outbound shipments, affecting downstream users' replenishment needs and increasing the cost of compensation on delayed goods; Road icing affects road traffic safety and reduces transportation efficiency.	 Study the law of sea ice and improve emergency plans for sea ice disasters; Carry out strict thermal insulation treatment for liquid goods, such as making storage space airtight and isolating the external cold air from the internal air convection; Spray antifreeze on key parts of pipelines and equipment under operation in advance and keep them warm; Transport important goods out before the sea freeze and carry out research and development work to gradually improve the ice-breaking capacity of ships; Strengthen weather warning and preparation of emergency supplies, and pile up sandbags, snow-melting agent and other emergency supplies in advance in key ice-prone road sections to enhance the de-icing efficiency.
Seal level rise (Long-term)	 Long-term impact of seawater corrodes shore-side metal devices and reduces the service life of devices; Passive relocation of business locations based on rising sea levels and increasing operating costs. 	 Build floodgates to keep the tide out; Use anti-corrosive materials or coatings in the buildings or equipment manufacturing; Carry out sponge city construction, such as rain gardens and ecological wetlands.
Climate warming (Long-term)	 Increasing probabilities of heat waves and fires, resulting in increased loss of goods and money; Mechanical equipment and control systems cannot work normally due to high temperatures, affecting operational efficiency and increasing operating costs; Possible changes in operating procedures and operating modes to ensure the safety of workers, increasing business uncertainties and resulting in unstable operating costs. 	 Set greenhouse gas emission targets, promote the transformation of energy structure, carry out energy-saving measures and accelerate the use of clean energy to reduce greenhouse gas emissions from various business activities; Call on upstream and downstream suppliers to carry out energy conservation and emission reduction measures, incorporate environment-related issues into the whole process management of suppliers, thereby driving carbon reduction in the whole chain.

Type of risks		Impacts of risks	Response measures
	Policy and regulatory risks	 In order to achieve the targets under the Paris Agreement, governments and relevant regulatory agencies have released environmental policies, such as canceling preferential policies for high energy-consuming industries and increasing the use of clean energy, to facilitate in promoting green and low-carbon transformation of all industries; QHD Port needs to pay additional costs to meet the impacts of the transformation of energy policies, such as the costs caused by write-off and scrapping of high energy-consuming equipment, energy-saving transformation of equipment, energy price fluctuations and the transformation of the energy structure; Under the background of increasingly improved carbon trading market, if some operations with high energy consumption and high emissions fail to achieve rapid transformation, their business activities will incur substantial emission costs; In response to the requirements on the disclosure of environmental data in the capital market, the cost of data monitoring and information disclosure risks such as "greenwashing". 	 Pay attention to the introduction and revision of environmental policies, laws and regulations, and adjust its businesses based on them, and increase attention and financing to green projects such as energy-saving transformation and replacement of energy-consuming equipment; Actively adjust the energy structure of the port, promote the application and trading of green power, and gradually participate in and adapt to the operation of the trading market while increasing the proportion of green power; Follow updates of the guidance and requirements of stock exchanges to meet compliance requirements.
Transition risks	Technology risks	Energy structure transformation is the main path to respond to climate change, and its process is affected by clean energy, energy storage equipment development, carbon capture and other new technologies. It requires certain investment in human and material resources and the development costs are relatively high.	 Employ professionals to carry out technological upgrades to meet the growing demand for technology; Explore ways to balance between technological development and cost, minimize costs while steadily innovating technology.
	Market risks	Under the background of increasing awareness of customers on energy conservation and environmental protection, QHD Port's business volume in the supply of fossil energy such as oil and coal will gradually decline, resulting in a decrease in revenue sources; For products or projects that are not supported by the government during the low-carbon transformation period, it may increase the financing cost and affect the attractiveness of the capital market.	Expand business types, tap into its own location and technological advantages, and transform towards other businesses with focus on low- carbon and environmental protection.
	Reputational risks	 Under the background of the low-carbon economic transformation, if the Company's business has a great impact on the climate, such as water pollution, air pollution and other problems, it may lead to negative evaluation on the Company by stakeholders and affect the Company's market reputation; Capital market rating directly reflects the Company's performance related to climate change, and the rating results affect stakeholders' evaluation on the Company. 	 Establish a responsible corporate image, strengthen communication with stakeholders, focus on satisfying demands in business activities and information disclosure and reduce the occurrence of environmental hazards through its own management; Actively respond to the requirements of the capital market and implement measures on responding to climate change.

QHD Port actively responds to national climate-related policies, explores opportunities in business development and service innovation brought by climate change, integrates climate change into business development strategies and strives to adapt to the climate development trend and promote the Company's green development through low-carbon actions, pollution control and other measures.

Type of opportunities	Impact of opportunities	Response measures
Investment opportunities	 Under the background with increasing emphasis on responsible investment and climate change issues, investors tend to invest in green and low- carbon assets. 	government's efforts in developing green
		 Promote the construction of green ports and carry out research on clean energy projects such as distributed photovoltaic power generation and wind power generation.
Operational opportunities	Develop green ports and improve energy efficiency.	 Improve the energy consumption structure of ports, enhance the shore-based power supply capacity of ports and increase the utilization rate of shore power;
		 Carry out the replacement of fuel-powered machinery and vehicles with new energy alternatives.

Indicators and Targets

QHD Port implements relevant national, provincial and municipal requirements and actively carries out "carbon peak and carbon neutrality" work, conducts thorough investigations on the emissions of the port and formulates action plans on "carbon peak" and "carbon neutrality". It has issued the Action Plan for Fully Implementing the New Development Concept and Promoting the Construction of Green and Low-carbon Port and proposed carbon emission reduction targets. Guided by the following targets, the Company continues to promote the adjustment of energy consumption structure and energy structure and strives to reduce greenhouse gas emissions.

By 2025

- To preliminarily develop an economic system with green, low-carbon and circular development and make breakthroughs in energy conservation and consumption reduction, green power application, environmental protection and other aspects;
- To reduce CO₂ emissions per 10,000 tonnes of cargo throughput by no less than 30% as compared to that of 2020;
- To achieve peak carbon.

6. SAFEGUARDING A SAFE PORT WITH SAFETY IN MIND

Adhering to the concept of "safety is of the greatest welfare of our employees", QHD Port actively attaches enormous importance to production safety, continuously promotes system construction and strengthens the performance of production safety functions and risk management on port safety. Meanwhile, it attaches great importance to the protection of employees, provides a safe working environment for employees, facilitates the implementation of responsibilities on production safety and strives to build a solid safety barrier to safeguard the stable development of the port.

6.1 Deepening Safety Management

With its safety responsibility bearing in mind, QHD Port has gradually improved the construction of its safety management system and unremittingly safeguards port safety. The Company strictly abides by the Work Safety Law of the People's Republic of China 《中華人民共和國安全生產法》,the Law of the People's Republic of China on Ports 《中華人民共和國港口法》,the Road Traffic Safety Law of the People's Republic of China 《中華人民共和國道路交通安全法》,the Fire Protection Law of the People's Republic of China 《中華人民共和國道路交通安全法》,the Fire Protection Law of the People's Republic of China 《中華人民共和國消防法》 and other laws and regulations, has formulated rules and regulations such as the Production Safety Accountability System 《安全生產責任制》,the Management Measures for the Standardization of Production Safety 《安全生產標準化管理辦法》,and gradually strengthens the construction of safety systems to fill the blind zones for responsibility. In 2022, the Company supplemented and improved 15 regulations on the Production Safety Accountability System 《安全生產責任制》,and released the Management Measures for Responsible Liaison Cadres on Production Safety 《安全生產領導幹部包聯管理辦法》 to further fulfill the safety supervision responsibilities of the leading team. The Company has established the Production Safety Committee to supervise and manage production safety. The Committee is responsible for implementing the work requirements of superior departments, coordinating the formulation of annual work plans, holding regular production safety meetings to discuss significant safety matters and make decisions as well as conducting safety management from top to bottom.

Case: QHD Port continues to promote the smart construction of safety management platform

In 2022, QHD Port promoted construction of the "dual-base and dual-control management platform on safety and environmental protection" to facilitate safety management through safety information collection and feedback. The Company developed the "QHD Port Dual-control" mobile APP under operation to upload hidden problems from time to time. Through inspections and rectifications, feedback, acceptance and evaluation, it is committed to gradually achieving full participation, listing supervision and closed-loop management. In 2022, the Company completed the construction of the first phase of the "dual-base and dual-control management platform on safety and environmental protection" with a total of 6,684 registrants. All grass-roots units uploaded a total of 6,766 items of rectification information on various hidden problems through the "QHD Port Dual-control" platform.



Home of "QHD Port - Dual-base and Dual-control Supervision" mobile client

6.2 Adhering to Safety Operation

2022 is the closing year of the "Three-year Action Plan on Specialized Rectifications on National Production Safety". QHD Port adheres to safety operation and complies with rules and regulations such as the Guidance for Risk Management and Control on Safety Production of Qinhuangdao Port Co., Ltd. 《秦皇島港股份有限公司安全生產風險管控工作指南》 and the Management Measures for Safety Inspection, Investigation and Handling of Hidden Accidents of Qinhuangdao Port Co., Ltd. 《秦皇島港股份有限公司安全檢查、事故隱患排查治理管理辦法》. It continues to strengthen risk control and management of hidden dangers, conducts supervisory inspections in key areas, key regions and key periods, implements risk identification in key areas such as production operation and hazardous cargo operation, and strives to maintain a stable safety situation. As of 31 December 2022, QHD Port had recorded no personal safety accidents at the general level or above, zero workdays lost due to work-related injuries and no work-related fatalities in each of the past three years related to production safety.

In order to enhance employees' safety awareness and improve safety skills and knowledge, the Company follows the Management Measures for Safety Education and Training of Qinhuangdao Port Co., Ltd. 《秦皇島港股份有限公司安全教育培訓管理辦法》 and actively conducts safety education and training, which covers various aspects such as laws and regulations as well as emergency response plans. While conducting offline training, the Company set up an online daily safety learning platform "Craftsman Academy in Ports" (河港工匠學苑) with training and examination functions. In 2022, the "Craftsman Academy in Ports" recorded a total of 50,700 users in QHD Port and a total of 62,492 participants in safety training.

The Company adheres to the construction of safety culture, actively carries out various activities such as the "Safety Team Tour" competition, invests funds to stimulate the enthusiasm of the participant teams, and motivates innovation and benefits creation with the safety culture among grass-roots teams. In 2022, a total of 321 teams participated in the competition. They carried out 61 innovative cultural activities on safety, implemented 170 minor rectifications and 43 innovative management measures, among which, 406 team members with outstanding contributions were awarded a total amount of RMB314,000.

Case: QHD Port's training on the Work Safety Law

In 2022, in order to thoroughly implement the important remarks by General Secretary Xi Jinping on work safety and the new Work Safety Law, QHD Port carried out training on the Work Safety Law to further strengthen the subject responsibility on production safety. Training experts conducted safety education from production safety, accident costs and other aspects. They clarified the subject responsibility requirements on work safety and straight-line responsibility on work safety within the enterprise to employees at all levels in combination with the analysis of typical cases under the background of the implementation of the new Work Safety Law to promote implementation of the work safety responsibility system among all employees.



Training session on the Work Safety Law

Case: QHD Port's emergency plan drills for special equipment accidents

In 2022, QHD Port carried out emergency plan drills for special equipment accidents, including reporting danger level by level, dispatching and suspending relevant production operations, reporting to the emergency command, carrying out emergency repairs and closing the accident site. The drills aimed to identify the vulnerabilities of emergency plans through actual scenarios, enhance the scientificity and operability of the plans and make full preparations for dealing with safety emergencies.



Emergency plan drills for special equipment accidents

Fire Prevention and Road Traffic Safety

In terms of guaranteeing fire safety, QHD Port strictly abides by the Fire Protection Law of the People's Republic of China 《中華人民共和國消防法》, the Regulations on Fire Prevention for Governmental Departments, Entities, Enterprises and Institutions (《機關、團體、企業、事業單位消防安全管理規定》) and other relevant laws and regulations, and has formulated the Supervision and Management Measures for Fire Prevention of Qinhuangdao Port Co., Ltd. 《秦皇島港股份有限公司消防安全監督管理辦法》). With "focusing on prevention and combining prevention and elimination measures" as its working principle, the Company implements fire safety management in fire prevention, safety responsibilities and fire management. QHD Port continues to carry out special rectifications on fire safety, devotes to comprehensive identification of fire risks and makes every effort to create an excellent fire safety environment.

The Company coordinates and promotes the separation of fire prevention and rescue functions, reviews the systems, responsibilities and personnel allocation of fire rescue teams of the enterprise, and establishes and improves management mechanisms and processes. With the "Safety Production Month" and "119 Fire Prevention Month" as opportunities, the Company organizes fire emergency drills and strengthens the construction of fire teams to fully improve emergency response capabilities. In 2022, 3 fire brigades were established in the East and West Port Zones of Qinhuangdao Port with 11 fire vehicles and 72 fire fighters to help provide a solid barrier on fire safety.

Case: QHD Port's fire emergency drills

In 2022, QHD Port organized the "Comprehensive Emergency Drills on Production Safety Accidents and Environmental Emergencies". It simulated an accidental fire caused by crude oil leakage during the production and operation of vessels. The Company launched comprehensive emergency plans and arranged fire rescue teams to put out the fire under the coordination of the emergency command. Ganghang Public Security Bureau of Qinhuangdao Municipal Public Security Bureau, the Municipal Fire Rescue Detachment and the Emergency Management Bureau participated in the drills and provided on-site guidance.





Fire prevention drills

The Company strictly abides by the Road Traffic Safety Law of the People's Republic of China 《中華人民共和國道路交通安全法》,the Regulations of the People's Republic of China on the Implementation of Road Traffic Safety《中華人民共和國道路交通安全實施條例》 and other laws and regulations,and has formulated the Supervision and Management Measures for Traffic Safety of Qinhuangdao Port Co., Ltd. 《秦皇島港股份有限公司交通安全監督管理辦法》。It manages traffic signal facilities in strict accordance with the Road Traffic Signs and Markings 《道路交通標誌和標線》) and other standards and sets safety warning signs at prominent locations. Meanwhile, it implements safety inspections on its vehicles and sets up archives on traffic safety. In 2022, the Company actively organized the planning and design on improvement of roads and traffic facilities in the East and West Port Zones of Qinhuangdao Port to minimize mobile machinery driving outside the storage yard and eliminate external traffic interference and potential safety hazards.

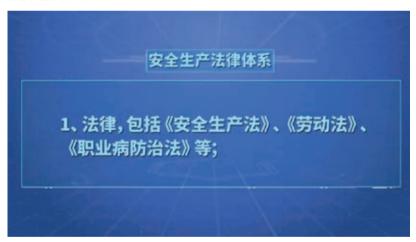
6.3 Safeguarding Occupational Health

QHD Port attaches great importance to creating a healthy working environment for employees. In strict compliance with the Law of the People's Republic of China on the Prevention and Control of Occupational Diseases《中華人民共和國職業病防治法》,the Administrative Regulations on Employers' Protective Equipment of Labor《用人單位勞動防護用品管理規範》,the Provisions on the Supervision and Administration of Occupational Health at Work Sites《工作場所職業衛生監督管理規定》,and other laws and regulations, it has formulated the Administrative Measures for Occupational Health Protection of Qinhuangdao Port Co., Ltd.《秦皇島港股份有限公司職業健康監護管理辦法》,the Administrative Measures for Workplace's Occupational Health Supervision of Labor of Qinhuangdao Port Co., Ltd.《秦皇島港股份有限公司工作場所職業衛生監督管理辦法》,the Management Measures for Occupational Health Archives of Qinhuangdao Port Co., Ltd.《秦皇島港股份有限公司職業衛生檔案管理辦法》 and other management systems on occupational health to establish an effective health management system, improve the service capability and security of occupational diseases, and reduce the impact of occupational factors on the health of workers.

The Company has set up occupational monitoring archives and occupational health management standing book for employees exposed to occupational diseases to keep detailed records of the health conditions and the process of occupational disease prevention and control of employees. It organized occupational health training and medical checkups on occupational disease for employees to enhance their awareness on occupational disease prevention and fully protect the health rights and interests of all employees. In 2022, a total of 1,443 employees participated in training on occupational health, 354 employees obtained various safety certificates, and the occupational health examination rate of employees exposed to occupational diseases was 100%.

Case: QHD Port carries out training on occupational health and safety

In 2022, QHD Port organized online training on occupational health and safety for employees, popularized the Work Safety Law 《安全生產法》, the Labor Law 《勞動法》, the Law on the Prevention and Control of Occupational Diseases 《職業病防治法》 and other laws related to work safety to employees to help improve the safety quality of employees and prevent production accidents, thereby reducing the occurrence of occupational hazard accidents.



Online education on occupational health and safety

7. CREATING LONG-TERM BENEFITS WITH AN EMPLOYEE-ORIENTED APPROACH

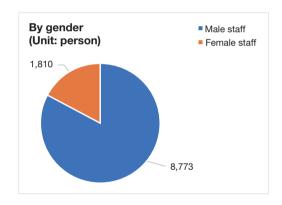
QHD Port complies with laws and regulations, adheres to the people-oriented core concept, deeply implements the safeguarding of employees' rights and interests, and actively carries out staff training and care activities with the purpose of enhancing the sense of honor, accomplishment and belonging of employees to achieve long-term common development.

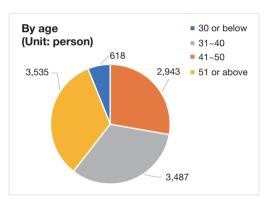
7.1 Safeguarding Employees' Rights and Interests

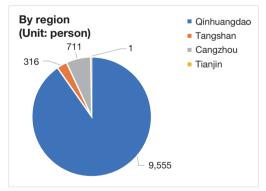
In strict compliance with the Labor Law of the People's Republic of China 《中華人民共和國勞動法》, the Labor Contract Law of the People's Republic of China 《中華人民共和國勞動合同法》 and other laws and regulations, QHD Port has strictly implemented and formulated the Personnel Management Measures of Qinhuangdao Port Co., Ltd. 《秦皇島港股份有限公司人事管理辦法》, the Management Regulation for Staff Attendance of Qinhuangdao Port Co., Ltd. 《秦皇島港股份有限公司員工考勤管理規定》, the Management Measures for Staff Secondments of Qinhuangdao Port Co., Ltd. 《秦皇島港股份有限公司員工借調管理辦法》, the Management Measures for Staff Award and Punishment of Qinhuangdao Port Co., Ltd. 《秦皇島港股份有限公司員工獎懲管理辦法》, the Management Measures for Staff Archives of Qinhuangdao Port Co., Ltd. 《秦皇島港股份有限公司員工獎懲管理辦法》 and other systems to safeguard employees' rights and interests.

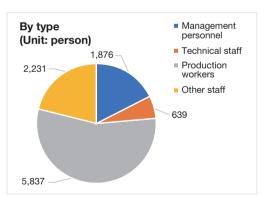
Following the principles of "legality and fairness, equality and willingness, negotiation, honesty and trustworthiness", the Company establishes relationships with its employees through the Employment Contract and specifies the responsibilities and obligations of the Company and employees during the term of the contract. It resolutely prohibits the employment of child labor and forced labor and guarantees the rights and interests of the Company and employees in two ways.

The Company follows the principles of "openness and equality, selecting the best through competition and matching positions" in the employment and appointment of talents. The Company strictly prohibits any discrimination against gender, region, age, ethnic group, religion and cultural background, and vicious competition and ensures the legality of staff employment and appointment and staff diversity. As of the end of 2022, QHD Port had a total of 10,583 employees, all of which were in Mainland China. The number of staff turnover was 15 in total with details as follows:

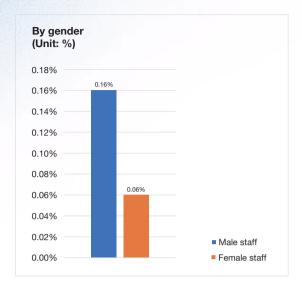


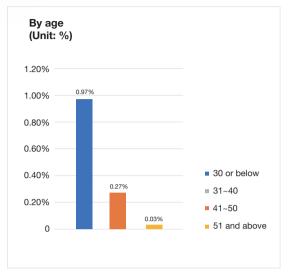


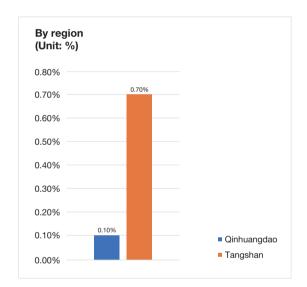


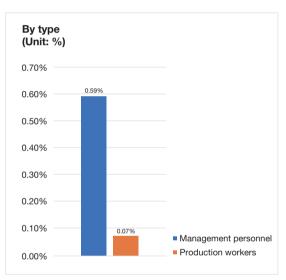


Number of employees by type of QHD Port in 2022









Staff turnover rate by type of QHD Port in 2022

7.2 Supporting Career Development

With "Studying the Spirit of the 20th National Congress of the CPC, Always Following the Leadership of the Party and Forging Ahead on a New Journey" as the principal line, QHD Port focused on the career development of employees, guided employees to enhance their ideological awareness and the awareness on autonomous learning, and expanded the teams on talent development. The Company has established the Employee Job Evaluation Committee and further improved safeguarding measures on education and training. In 2022, the Company initiated the talent development plan on the Youth Sailing Project, covering pilotage with ideological and political education, navigation with contributions on positions, escort with organizational construction and endurance with youth and vigor.

Pilotage with ideological and political education

 Organizing education activities and implementing the spirit of the 20th National Congress of the CPC to enhance employees' cohesiveness.

Navigation with contributions on positions

 Establishing platforms for innovation and benefit creation, communication on skills and selection of young models to develop employees' creativity.

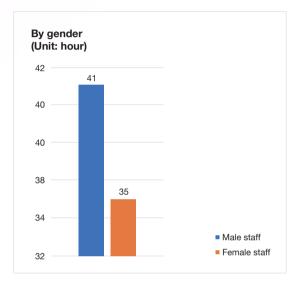
Escort with organizational construction

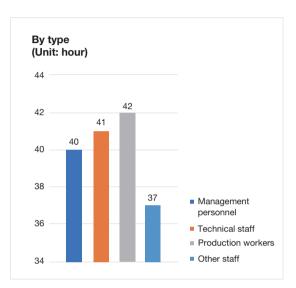
 Standardizing organizational construction and promoting the construction of League organizations to consolidate employees' cohesiveness.

Endurance with youth and vigor

 Setting up a new media matrix, conducting diversified activities and organizing voluntary services to stimulate employees' enthusiasm.

With theoretical study as the basis and special activities as carriers, the Company enhanced the building of vocational skills of employees, carried out training on innovation and benefits creation, electrical engineering and new media and fully integrated training on staff skills with corporate construction. Through the model of promoting study with contests, the Company arranged for employees to participate in various skill competitions and encouraged employees to actively conduct discussions on scientific research and innovation to stimulate their enthusiasm in scientific research and innovation. In 2022, the Company participated in 6 programs and won awards, including special competitions in the 17th "Revitalization Cup" National Youth Vocational Skills Contest, the special competitions in "Hebei Youth" position innovation and development in Hebei Province and the competitions on innovation and benefits creation by youth in Qinhuangdao City. As of 31 December 2022, over 25,700 attendances were recorded in learning with an annual coverage rate of 100% in staff training and an average of 40 training hours for each employee, details of which are as follows:





Average training hours of all types of employees in 2022

Туре	Unit	2022
Male staff	%	100
Female staff	%	100

Percentage of trained employees by gender of QHD Port in 2022

Туре	Unit	2022
Management personnel	%	100
Technical staff	%	100
Production workers	%	100
Service staff	%	100
Other staff	%	100

Percentage of trained employees by type of QHD Port in 2022



Training on youth innovation and benefits creation



Youth training on electrical topics



Staff training on new media

7.3 Caring for Employees

QHD Port always cares for employees, satisfies their demands, cares about their work and life and implements human-based management. The Company carries out various activities, such as offering coolness in summer and warmth in winter, education assistance in autumn and visiting frontline staff, to practically safeguard employees' benefits, offer care to them and create a working environment with safety, warmth and happiness.

Case: "Bringing coolness" on hot days

In 2022, QHD Port carried out the activity of "bringing coolness on hot days" to fully implement staff care. The Company brought heatstroke prevention beverages to frontline employees and implemented safety production in each link to practically safeguard the work safety of frontline employees subject to high temperatures. The Company spent over RMB660,000 on heatstroke prevention items.

To enhance the sense of belonging of employees, the Company provides female employees with exclusive services. In 2022, the Company carried out activities with the theme of "Making Contributions and Displaying the Charm of Female Employees". It organized thematic reading activities, optimized the construction of rooms for mothers and held psychological decompression training. It attached great importance to and cared about the health of female employees.

Case: Physical and mental empowerment to improve enthusiasm – psychological decompression training for female employees

In 2022, the trade union of QHD Port organized exclusive psychological decompression training for female employees. Instructors guided employees to share their personal experience through engaging methods. Close communication among female employees helped each other reduce working and life pressures. With decompression courses and under the active guidance of instructors, female workers achieved psychological decompression and self-empowerment.



Psychological decompression training for female employees

8. JOINTLY BUILDING INTEGRATED COMMUNITIES WITH DIVERSIFIED GOVERNANCE

In 2022, the 20th National Congress of the CPC was successfully convened. General Secretary Xi Jinping charted a clear direction and set out guidelines for advancing the cause of the Party and the country in the new journey of the new era and achieving the second centenary goal in the report to the 20th National Congress of the CPC. In face of new situations and new tasks, the Party Committee of the Company adhered to the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, made concerted efforts and forged ahead in unity in coordinating and promoting the Party building, rural revitalization, cultural and ethical advancement and voluntary services, fulfilling its role as a SOE and achieving common development of the enterprise and public benefits.

8.1 Fulfilling its Role as a SOE

QHD Port focused on the primary task on studying, publicizing and implementing the spirit of the 20th National Congress of the CPC and organized multi-layered study and education, concentrated training and publicity with various forms and full coverage to promote the publicity of the spirit of the 20th National Congress of the CPC at the grass-roots level and among the public. It focused on central tasks in the reform and development of the Company, established the "integrated matrix" of production and operation with Party building and the "empowerment system" of reform and development led by Party building and improved the mechanism on the parallel operation of the setting of Party organizations and the corporate structure. Centering on three-year actions for the reform of SOEs, scientific and technological innovation, the construction of the "three-type port" and other key tasks, the Company developed over 20 project-based results and achieved comprehensive improvement and upgrading of the brand of "high-value Party building".

Adhering to the principles of attaching equal importance to selection and cultivation with the combination of management and appointment, the Company boosted efforts in job rotation and communication among middle-level leaders, and established the "pair-up assistance" system on young and middle-level leaders and tutors. It introduced promotion channels for frontline technical talents and injected new momentum into the reform and development of the Company with high-quality and professional cadres and talent teams.

Case: Study and implement the spirit of the 20th National Congress of the CPC

In 2022, QHD Port focused on the primary political task on studying, publicizing and implementing the spirit of the 20th National Congress of the CPC and carried out study, publicity, education and practice activities with the theme of "celebrating the congress with one heart, building undertakings with loyalty and creating outstanding results through transformation". After the conclusion of the 20th National Congress of the CPC, the Company strengthened systematic deployment and planning, immediately formulated plans on studying and implementing the spirit of the 20th National Congress of the CPC and developed a strong momentum with a high starting point, high-level planning and high efficiency in advancing. As of the end of 2022, the Company released 5 issues of "Special Learning Materials on the Spirit of the 20th National Congress of the CPC". Party organizations at all levels organized over 4,000 centralized studies in the form of central group study, first agenda, thematic publicity, theoretical interpretation, seminars and communication. It achieved the full coverage of all employees in studying, publicizing and implementing the spirit of the 20th National Congress of the CPC, vigorously promoted the conversion of the innovative theories of the Party into working measures in forging ahead on a new journey and making contributions in the new era and practical results in solving bottlenecks in the development of the enterprise.



Thematic publicity of the spirit of report on the 20th National Congress of the CPC

The Company actively carried out the establishment of models in cultural and ethical advancement, publicized the deeds of advanced models and carried out revolutionary poetry recitation, short video contests, songs performance, calligraphy, art and photography shows and other cultural activities to enhance mainstream values and cultivate new cadres in the era.

Case: Thematic Party-day activities

In 2022, QHD Port carried out thematic Party-day activities with various themes in diversified forms to consolidate the confidence and determination in the outstanding development of the Company under the guidance of the spirit of the 20th National Congress of the CPC. Through centralized study, symposiums, voluntary services, oath review, collective recitation and other various forms of activities, the Company actively guided Party members to carry forward the spirit and styles of the Party and enhanced the sense of mission of Party members in undertaking the tasks in the transformation and development of the Company.



Party-day activities with the theme of "Forging Ahead on a New Journey and Making Contributions in the New Era"



Party-day activities with the theme of "Embracing the 20th National Congress of the CPC and Making Contributions in the New Era" on revolutionary study and research



Grass-roots Party sub-branches carry out Party-day activities with the theme of "Sharing My Opinions with the Party"

8.2 Advancing Rural Revitalization

In 2022, QHD Port met the relevant requirements of the Administrative Measures for Selecting and Dispatching Carders to Villages in Rural Revitalization in Hebei Province and the Implementation Opinions on Comprehensively Promoting Key Work in Rural Revitalization in 2022 to steadily carry out rural revitalization. QHD Port formulated the Work Arrangement on Key Assistance to Consolidating the Results of Poverty Alleviation and Rural Revitalization in 2022 and the List of Assistance Tasks for 2022 to comprehensively clarify, in detail, and accomplish the tasks related to rural revitalization. In 2022, the Company organized the micro-factory reconstruction for villages in need of assistance, and invested a total amount of RMB2,921,532 through industrial assistance, consumption assistance, love supermarket and other assistance projects to help 140 people find jobs and increase villagers' income by RMB2,000 per person.

Case: Assisting micro-factory reconstruction and expansion in Shimenzi Village, Guanchang Township, Qinglong Manchu Autonomous County, Qinhuangdao City, Hebei Province

In 2022, QHD Port enhanced communication with the government of Guanchang Township, Qinglong Manchu Autonomous County, Qinhuangdao City, Hebei Province and the Party committee of the township and officially initiated the assistance in micro-factory reconstruction and expansion with the fundamental purpose of facilitating the sustainable development in rural construction. It transformed the original poverty assistance workshop (a micro factory for rural revitalization of Shimenzi Village, Guanchang Township, Qinglong Manchu Autonomous County, Qinhuangdao City, Hebei Province) into raw material storage area, processing area, steaming area and waiting area for employees, and established a quick-freezing warehouse, refrigerated warehouse, office rooms and other processing workshops for agricultural products to improve efficiency, laying a solid foundation for rural revitalization. On 28 September 2022, the microfactory reconstruction and expansion project successfully completed acceptance. It is expected that the processing capability will reach 420 tonnes and net profit will amount to RMB92,000.



Acceptance meeting of the micro-factory reconstruction and expansion project

Case: QHD Port - industrial and employment assistance

In 2022, QHD Port continued to consolidate the achievements in poverty alleviation. Focusing on the principle of "not worrying about two things and ensuring three things", it implemented the construction of one product for one village and one industry for one township, developed contract farming and processing industry, promoted regional economic development with local resources and labors as advantages, and eliminated risk of returning to poverty.

QHD Port tapped into raw material advantages of villages with assistance and facilitated the cooperation between Shimenzi Village, Guanchang Township, Qinglong Manchu Autonomous County, Qinhuangdao City, Hebei Province and Qinglong Manchu Autonomous County Shuanghesheng Ecology Agricultural Products Co. Ltd. They entered into the Cooperation Agreement on Pumpkin Planting and Purchase and the Agreement on Pumpkin Planting and Purchase to achieve mutual complementation of advantages in industrial chains. In addition, the Company established a cooperation mechanism with Qinhuangdao Taohuaquan Mountain Spring Water Company, donated to the establishment of micro-factory agricultural products processing and offered positions for honey canning in the processing workshop, which expanded industrial models and assisted the employment of villagers in Shimenzi Village, Guanchang Township, Qinglong Manchu Autonomous County, Qinhuangdao City, Hebei Province. In 2022, QHD Port arranged and assisted 20 villagers in employment with Qinhuangdao Taohuaquan Mountain Spring Water Company, 25 villagers in the micro-factory and 10 villagers in the honey canning workshop.



Villagers in Shimenzi conduct processing and steaming of agricultural products

Case: Love supermarket

In June 2022, QHD Port assisted the village Party branch and the villagers' committee of Shimenzi Village, Guanchang Township, Qinglong Manchu Autonomous County, Qinhuangdao City, Hebei Province in improving the Implementation Plan of Moral Bank and Love Supermarket of Shimenzi Village. Adhering to the concept of "depositing virtue and withdrawing benefits", it established the love supermarket. The Company set up a voluntary service team to raise materials and donate articles, proposed the concept of "love credits", simultaneously achieved the spiritual construction of "strengthening spirit and enriching thinking" and fulfilled its role as a responsible state-owned enterprise with undertakings in the new era. As of the end of 2022, the construction of the love supermarket was completed in the village to alleviate poverty with the assistance of the Company, and it has received donations of 7,000 soaps and 390 buckets of liquid detergents. A total of 30 persons received their needs through exchange of "love credits".

Case: QHD Port-consumption assistance

In 2022, QHD Port continuously promoted consumption assistance programs and carried out a total of five activities in connection with production and sales:

- In January 2022, the Company organized the spring festival fair in the special area for sales exhibition under consumption assistance at Qinhuangdao Port;
- In March 2022, the Company conducted the booking of products for consumption assistance in 2022 and obtained orders for honey and the planting of 70,000 kilograms of pumpkin in Shimenzi Village, Guanchang Township, Qinglong Manchu Autonomous County, Qinhuangdao City, Hebei Province;
- In July 2022, the Company carried out the recommendation and accreditation of products for consumption assistance and published the directory of the first batch of products for consumption assistance on 18 August, which is an important measure to match the production and sales online and offline, deeply advance consumption assistance and contribute to the rural industry revitalization;
- In December 2022, the Company organized voluntary service activities on consumption assistance
 on the International Volunteer Day and recommended "Zaiqi" bean buns and coarse cereal foods of
 Qinglong County as well as honey, pumpkin seeds, apples and other products of Shimenzi Village,
 Guanchang Township, Qinglong Manchu Autonomous County, Qinhuangdao City, Hebei Province to
 citizens;
- The Company established "Port Benefits" (港口惠) online commerce for helping farmers, introduced 3 featured agricultural products from Qinglong Manchu Autonomous County, Qinhuangdao City, Hebei Province and put it into trial operation within the Group.

In 2022, the Company purchased agricultural products with RMB2,559,500 from Qinglong Manchu Autonomous County, Qinhuangdao City, Hebei Province and assisted with the sale of agricultural and sideline products with a total amount of RMB70,800 through the exhibition platform for agricultural and sideline products.



Exhibition of agricultural and sideline products under consumption assistance

8.3 Practicing Social and Public Welfare Activities

Under the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, QHD Port has established and improved the mechanisms on practice and voluntary services, expanded voluntary service teams, continuously developed voluntary services and practiced the undertakings of an SOE with regulated, professional and scientific standards in combination with its resources and advantages.

In 2022, the Company set up 234 voluntary service teams with a total of 13,500 employees participating in voluntary services. 4 voluntary service teams were awarded advanced voluntary service organizations in Qinhuangdao City and 14 voluntary service programs were awarded in the civilization system of Qinhuangdao City. The Company won 1 gold prize, 2 silver prizes and 3 bronze prizes in the national voluntary service contests in the port industry.

Case: Construction of voluntary services by the Company

QHD Port continuously advanced the building of voluntary service teams and accurately satisfied local demands. It carried out voluntary service activities with the themes of "Embracing the 20th National Congress of the CPC and Pioneering in Voluntary Activities" and "Youthful Voluntary Activities and Making Contributions to the Homeland". It organized over 200 voluntary service activities on caring for the elderly and children during the year with over 800 participants and contributed over 4,000 hours of voluntary services. 20 voluntary service models were awarded by the All-China Youth Federation and in the port industry and municipal civilization systems.



Activities themed "Youthful Voluntary Activities and Making Contributions to the Homeland"

Case: Voluntary services in creation of a civilized city

On 17 August 2022, QHD Port arranged the voluntary service team on civilized practice in the new era and carried out voluntary service activities in the creation of a civilized city. They cleaned advertisements and painted walls in Qingyunli Community and Workers Nanli Community. Through centralized cleaning, the voluntary service team made contributions to the creation of a civilized city and cleaning the community environment with practical actions.

Case: Love library program

In 2022, the voluntary service team of QHD Port considered caring for children as the primary service program, provided the love library program to repair school infrastructure through the organic integration of education assistance and poverty alleviation, and initiated charity sales in communities and online platform-based fundraising and other activities to offer art courses. It promoted the balanced development of compulsory education with diversified and comprehensive measures. As of the end of 2022, it carried out over 20 education assistance activities in poor mountainous areas. Among them, the "Love Library Program for Children" was awarded the national bronze prize in the Sixth China Young Volunteer Service Project.



Education assistance with love

Case: Caring about and assisting the elderly and bringing love to people

In 2022, QHD Port continued to carry out activities on caring about and assisting the elderly with the theme of bringing love to people. The volunteer team carried out service activities in nursing homes, medical care centers, service stations for retired staff, community squares and other places with the elderly. They provided free health diagnosis, household appliance repairs, hair-cuts and other public welfare services and created an atmosphere of respecting and loving the elderly with practical actions. As of the end of 2022, the Company had conducted 8 campaigns on respecting the elderly with love.



Campaign on respecting the elderly with love

Case: Carrying forward the spirit of Comrade Lei Feng and carrying out joint actions on voluntary services

On 3 March 2022, QHD Port and other units organized public welfare activities on learning from Lei Feng with the theme of "Carrying forward the spirit of Comrade Lei Feng and Practicing Voluntary Services in the New Era". The voluntary team of the Company publicized knowledge on preventing telecommunication fraud and common safety knowledge to community residents through the public welfare activities under learning from Lei Feng. They provided blood measurement, electrocardiogram, ultrasonic testing and other free medical examination services and carried forward the spirit of Lei Feng with practical actions.



Public welfare activities on "Learning from Lei Feng and Practicing Voluntary Services"

9. OUTLOOK

9. OUTLOOK

Looking back to 2022, QHD Port earnestly implemented the spirit of the 20th National Congress of the CPC and the decisions and deployments of the provincial Party committee, the provincial government and the provincial SASAC. Based on the unified arrangement of the members of the Group, it firmly focused on the port production and operation as the center, maintained steady and orderly production, vigorously promoted scientific and technological innovation, constantly deepened reform of the enterprise and significantly improved operational quality and efficiency, achieving progress and improvement while maintaining stability.

2023 is the first year for comprehensively implementing the spirit of the 20th National Congress of the CPC as well as a crucial year in the implementation of the "14th Five-year" Plan. QHD Port will adhere to the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, completely, accurately and comprehensively implementing the new development concept. With the orientation of following and serving national key strategies and comprehensively improving the operation performance of the enterprise, the Company will continue to optimize and improve the functional layout of the port, adhere to the guidance of scientific and technological innovation and strengthen its key role as a major national energy pivot port and continuously improve the comprehensive competitiveness of the enterprise to achieve steady operation and stable development. It will advocate for all employees to forge ahead with high-spirited efforts and ensure the completion of all working tasks of the Company for the year to make new contributions to building a super-huge, comprehensive and modern world-class port of Hebei Port Group.

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	Environme	ent, Society and Governance Indicators	Where the disclosure is made
	A1 Emission	General disclosure: in relation to air and greenhouse gas emissions, sewage to water and land, hazardous and non-hazardous waste generation: (a) Policy; and (b) Information on compliance with relevant laws and regulations that have a significant impact on the issuer	V. BUILDING GREEN PORTS WITH THE ENERGY-SAVING AND ENVIRONMENTAL CONCEPTS
		A1.1 The types of emissions and respective emissions data	5.1 Adhering to Low-Carbon Operation 5.2 Building Green Ports
		A1.2 Direct (Scope 1) and energy indirect (Scope 2) greenhouse gas emissions in total (in tonnes) and where appropriate, intensity (e.g. per unit of production volume, per facility)	5.1 Adhering to Low-Carbon Operation
		A1.3 Total hazardous waste produced (in tonnes) and where appropriate, intensity (e.g. per unit of production volume, per facility)	5.2 Building Green Ports
		A1.4 Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility)	5.2 Building Green Ports
		A1.5 Description of emissions target(s) set and steps taken to achieve them	5.1 Adhering to Low-Carbon Operation
Environment		A1.6 Description of how hazardous and non-hazardous wastes are handled, and a description of reduction target(s) set and steps taken to achieve them	5.2 Building Green Ports
	A2 Use of Resources	General disclosure: Policy in relation to use of resource (including energy, water and other raw materials) efficiently	V. BUILDING GREEN PORTS WITH THE ENERGY-SAVING AND ENVIRONMENTAL CONCEPTS
		A2.1 Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility)	5.1 Adhering to Low-Carbon Operation
		A2.2 Water consumption in total and intensity (e.g. per unit of production volume, per facility)	5.1 Adhering to Low-Carbon Operation
		A2.3 Description of energy use efficiency target(s) set and steps taken to achieve them	5.2 Building Green Ports
		A2.4 Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency target(s) set and steps taken to achieve them	5.2 Building Green Ports
		A2.5 Total packaging materials used for finished products (in tonnes) and, if applicable, with reference to per unit produced	N/A
	A3 Environment and Natural Resources	General disclosure: Policy in relation to minimizing the issuer's significant impact on environment and natural resources	V. BUILDING GREEN PORTS WITH THE ENERGY-SAVING AND ENVIRONMENTAL CONCEPT
		A3.1 Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them	5.3 Responding to Climate Change
	Aspect A4 Climate Change	General disclosure: Policies on identification and mitigation of significant climate-related issues which have impacted, and those which may impact, the issuer.	V. BUILDING GREEN PORTS WITH THE ENERGY-SAVING AND ENVIRONMENTAL CONCEPT
		A4.1 Description of the significant climate-related issues which have impacted, or those which may impact, the issuer, and the actions taken to manage them.	5.3 Responding to Climate Change

ANNEX

	Environme	ent, Society and Governance Indicators	Where the disclosure is made
	B1 Employment	General disclosure: in relation to compensation and dismissal, recruitment and promotion, working hours, holiday, equal opportunity, diversity, anti-discrimination and other treatment and benefits: (a) Policy; and (b) Information on compliance with relevant laws and regulations that have a significant impact on the issuer	VII. CREATING LONG-TERM BENEFITS WITH AN EMPLOYEE-ORIENTED APPROACH
	B1.1 Total workforce by gender, employment type, age group and geographical region	7.1 Safeguarding Employees' Rights and Interests	
		B1.2 Employee turnover rate by gender, age group and geographical region	7.1 Safeguarding Employees' Rights and Interests
		General disclosure: in relation to providing safe working environment and protect employees from occupational hazards: (a) Policy; and (b) Information on compliance with relevant laws and regulations that have a significant impact on the issuer	VI. SAFEGUARDING A SAFE PORT WITH SAFETY IN MIND
	B2 Health and Safety	B2.1 Number and rate of work-related fatalities occurred in each of the past three years including the reporting year	6.2 Adhering to Safety Operation
		B2.2 Lost days due to work injury	6.2 Adhering to Safety Operation
		B2.3 Description of occupational health and safety measures adopted, how they are implemented and monitored	6.3 Safeguarding Occupational Health
Society B3 Development ar Training		General disclosure: Policy in relation to improve the knowledge and skill of employees in fulfilling work duties. Describe training activities.	7.2 Supporting Career Development
	B3 Development and Training	B3.1 The percentage of employees trained by gender and employee category (e.g. senior management, middle management)	7.2 Supporting Career Development
		B3.2 The average training hours completed per employee by gender and employee category	7.2 Supporting Career Development
		General disclosure: in relation to avoid child or forced labor:	
B5 Supply Chain	B4 Labor Standard	(a) Policy; and (b) Information on compliance with relevant laws and regulations that have a significant impact on the issuer	7.1 Safeguarding Employees' Rights and Interests
		B4.1 Description of measures to review employment practices to avoid child and forced labor	7.1 Safeguarding Employees' Rights and Interests
		B4.2 Description of steps taken to eliminate such practices when discovered	7.1 Safeguarding Employees Rights and Interests
		General disclosure: Environment and social risks policy for managing of supply chain	3.4 Strengthening Supply Chains Management
		B5.1 Number of suppliers by geographical region	3.4 Strengthening Supply Chains Management
	B5 Supply Chain Management	B5.2 Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, and how they are implemented and monitored	3.4 Strengthening Supply Chains Management
	Management	B5.3 Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored	3.4 Strengthening Supply Chains Management
		B5.4 Description of practices used to promote environmentally preferable products and services when selecting suppliers, and how they are implemented and monitored	3.4 Strengthening Supply Chains Management

	Environme	ent, Society and Governance Indicators	Where the disclosure is made
		General disclosure: in relation to health and safety, advertisement, labels and privacy matters for product and services provided as well as remedies	III. PURSUING STEADY DEVELOPMENT AND STRIVING TO PROVIDE LONG-TERM SERVICES
		(a) Policy; and (b) Information on compliance with relevant laws and regulations that have a significant impact on the issuer	IV. UPHOLDING FUNDAMENTAL PRINCIPLES AND BREAKING NEW GROUND IN CONSTRUCTION OF SMART PORTS
	B6 Product Responsibility	B6.1 Percentage of total products sold or shipped subject to recalls for safety and health reasons	N/A
		B6.2 Number of products and services related complaints received and how they are dealt with	3.3 Upgrading Customer Experience
		B6.3 Description of practices relating to observing and protecting intellectual property rights	4.3 Carrying out Patent Management
		B6.4 Description of quality assurance process and recall procedures	N/A
		B6.5 Description of consumer data protection and privacy policies, how they are implemented and monitored	3.3 Upgrading Customer Experience
Society		General disclosure: in relation to the prevention bribery, extortion, fraud and laundering:	
		(a) Policy; and	II. PERSISTENTLY STRIVING FOR COMPLIANT OPERATION
		(b) In compliance with relevant laws and regulations that have a significant impact on the issuer	
B8 C	B7 Anti-corruption	B7.1 Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees	2.3 Compliance Operation in Accordance with Laws
		B7.2 Description of preventive measures and whistle-blowing procedures, how they are implemented and monitored	2.3 Compliance Operation in Accordance with Laws
		B7.3 Description of anti-corruption training provided to directors and staff.	2.3 Compliance Operation in Accordance with Laws
	B8 Community Investment	General disclosure: Policy in relation to understanding the need of the community where it operates via community participation and ensure that the interests of the community will be considered in its business activity	VIII. JOINTLY BUILDING INTEGRATED COMMUNITIES WITH DIVERSIFIED GOVERNANCE
		B8.1 Focus areas of contribution (e.g. education, environmental concerns, labor needs, health, culture, sport)	VIII. JOINTLY BUILDING INTEGRATED COMMUNITIES WITH DIVERSIFIED GOVERNANCE
		B8.2 Resources contributed (e.g. money or time) to the focus area	8.3 Practicing Social and Public Welfare Activities

ANNEX

FEEDBACK QUESTIONNAIRE

Dear readers,

Hello! We are very grateful for you to read the 2022 Corporate Social Responsibility Report of Qinhuangdao Port Co., Ltd. The Company places great emphasis on and is expected to hear your feedback about sustainability management, practices and disclosures of QHD Port. Your advice and suggestions are an important basis for the Company to continuously promote the management and practice of sustainability. Looking forward to your reply!

Selective question (please tick the appropriate place)

00.00	are question (product for appropriate place)	
1.	Do you think whether this report can reflect the QHD Port's significant impact on economy, society and environment or not?	
	Yes □ Average □ No □	
2.	Do you think whether stakeholders identified in this report and the analysis on relationship between them and QHD Port are accurate and comprehensive or not?	
	Yes □ Average □ No □	
3.	Do you think whether the information provided in this report is comprehensive or not?	
	Yes □ Average □ No □	
4.	Do you think whether the information provided in this report is readable or not?	
	Yes □ Average □ No □	
5.	Open-ended question: Other advice and suggestions from you on the 2022 Corporate Social Responsibility Report of Qinhuangdao Port Co., Ltd. are welcome.	
	Your Contact Details	
	Name:	
	Employer:	
	Telephone:	
	Fmail:	