



2017

SOCIAL RESPONSIBILITY REPORT OF COMEC



中船海洋与防务装备股份有限公司
CSSC OFFSHORE & MARINE ENGINEERING(GROUP)COMPANY LIMITED

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RESPONSIBILITY 2017

> Key Performance



Total Assets
RMB **44,158** million



Operating Income
RMB **22,313** million



Total Profit
RMB **168** million



Value of Social Contribution Per Share
RMB **2.354**



Research and Development Expenses
RMB **637** million



Product Quality and Safety Assurance Expenses
RMB **229.16** million



Comprehensive Energy Consumption Per RMB10,000 of Output Value
0.0415
ton of standard coal/RMB10,000



Environment Protection Expenses
RMB **1,137,0600**



Number of Employees
17928



Percentage of Female Employees
11.81%

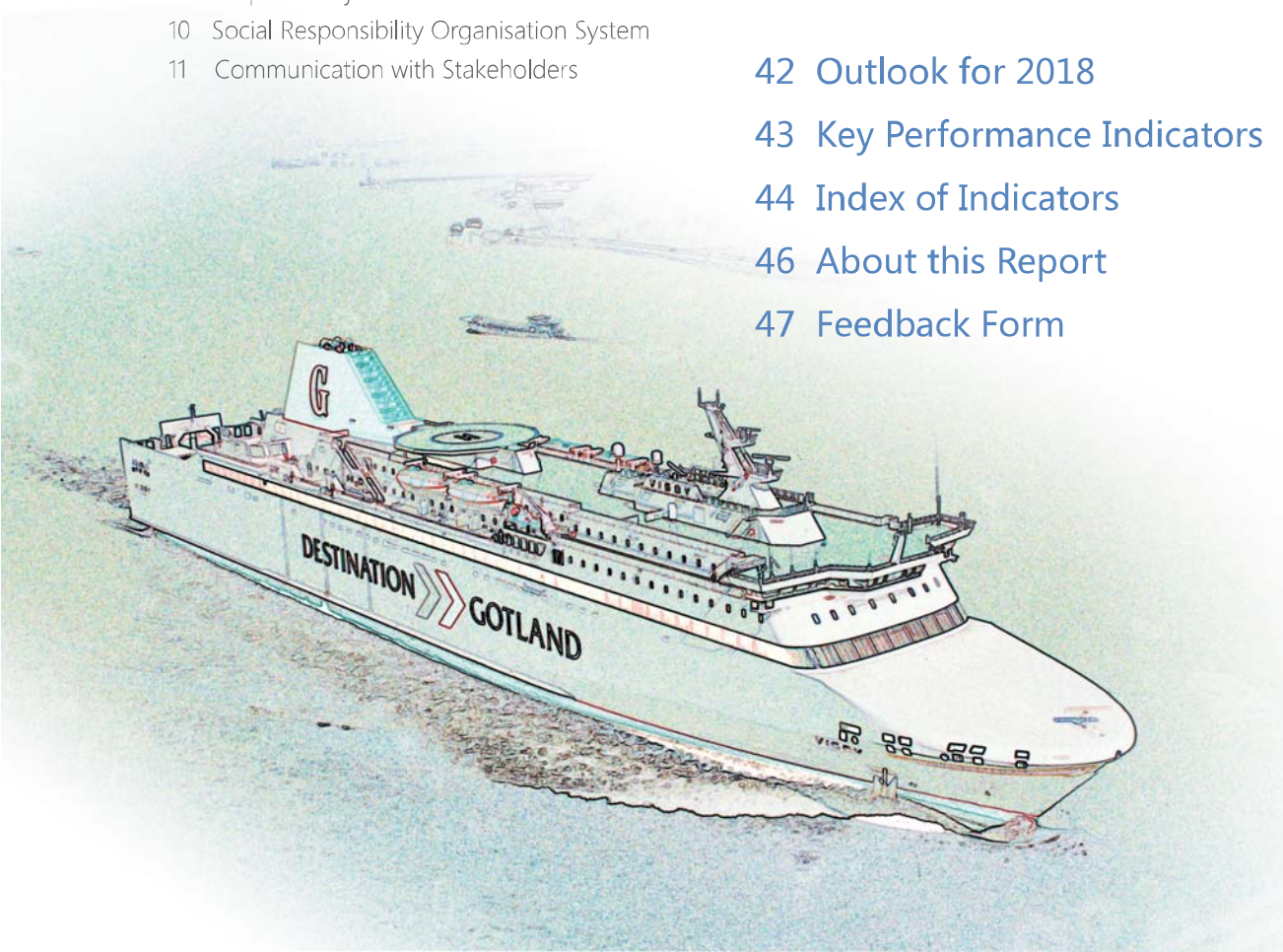


Total Number of Suppliers
2470



Total Charitable Donations
RMB **3,736,000**

> Major Honours



LETTER TO STAKEHOLDERS

Dear stakeholders:

It is my pleasure to share with you our efforts and achievements in economic growth, environmental protection and social responsibility in the past year.

As time marches on, the God rewards the diligent. As the comprehensive and in-depth state-owned enterprise reform enters the deep-water zone, COMEC ushered in a critical year for its transformation and upgrading. In accordance with the "Belt and Road Initiative" and the strategy of building a strong marine power, we rode on the momentum to recover from the bottom. As the excessive global shipping capacity and shipbuilding capacity remained unchanged, the market recovery faced a grim situation. With our mission in mind, we recorded growth by sticking to our strategic objectives of "Becoming a first-class enterprise in the global marine and heavy equipment market with leading technologies and prominent services and a building and supply facility for Chinese navy in South China" and making concrete efforts. As a result, we have achieved strong performance of making progress while maintaining stability.

We fulfilled our economic responsibility as a state-owned enterprise to maintain growth through concerted efforts. Under the guidance of the strategic decision of the Party Central Committee, the State Council and the group company, we continued to facilitate the integration of military and civilian sectors in 2017. We realized continuous steady growth through innovations. In order to follow and implement the State Council's decisions and arrangements for "cutting overcapacity, destocking, deleveraging, reducing corporate costs and shoring up weak spots" and make state-owned capital become stronger and bigger, we actively conducted market-oriented debt-to-share conversion to lower the gearing ratio of the Group, optimized our state-owned economic structure and assets and liabilities structure, in order to strengthen our competitiveness and stamina for development and realize cost reduction and performance improvement. During the year, the Group undertook contracts with value of RMB13,554 million and recorded operating income of RMB22,313 million and profit of RMB168 million, effectively fulfilling its economic responsibility to maintain and increase the value of state-owned assets.

We embraced green and practiced our environment responsibility conferred by the times. By sticking to our responsibility philosophy of "Green development", in 2017 we continued to improve our environment management system, strengthened the supervision and management of

environment issues, and earnestly implemented our environmental protection training system so that the concept of green and environmental protection is closely integrated with the production and operation of the Company and the sustainable development of the economy, ecology and the society can be achieved. During the year, we saved comprehensive energy consumption by approximately 31,452 tons of standard coal and improved our green competitiveness and influence. While steadily developing our core shipbuilding business, we also actively expanded our environmental protection business and gradually formed an environmental protection business presence.

With great virtue one can take charge of the world. We continued to pass on CSSC's gene for fulfilling social responsibility for over 100 years. While in pursuit of our own development and growth, in 2017 we kept our corporate citizen capacity in mind and actively sought out a way to harmonious and mutual development with our stakeholders. We effectively fulfilled our mission as a state-owned military shipbuilding enterprise and worked with our stakeholders to together achieve growth and brilliant achievements. For staff development, we made plans for staff career development, strengthened staff training and talent reserve, and improved the development of backup teams. We aim to build a better platform for staff growth and development and strive to achieve the common growth of employees and the Company. For community development, we actively conducted poverty alleviation by vigorously promoting the charity cause of "targeted poverty alleviation". During the year, we made donations for targeted poverty alleviation in the amount of RMB3,736,000. We actively participated in community volunteer services and provided over 42,800 hours of volunteer services during the year and communicated positive energy and love to people and the society.

When the situation is in our favour, we should take the opportunity to move forward. There is tough work ahead and a long way to go, and we need to work harder. Looking forward, we will continue to follow the leadership of the Party, fully implement the government's arrangements, and actively perform our responsibility conferred by the times of "Serving country through marine and shipbuilding business". We strive to achieve all-around development of military ships, civil ships and maritime engineering business and become a large comprehensive marine and defence equipment enterprise group ranking No. 1 in the world in several areas, so as to make more contribution to achieve the Chinese dream of the great rejuvenation of the Chinese nation.



ABOUT US

> Corporate Profile

CSSC Offshore & Marine Engineering (Group) Company Limited ("COMEC") is a large key shipbuilding enterprise under China State Shipbuilding Corporation Limited ("CSSC") and a holding platform company for capital operation of CSSC. The Company was formerly known as Guangzhou Shipyard International Company Limited. The Company became listed on Shanghai (stock code: 600685 for A shares) and Hong Kong (stock code: 00317 for H shares) in 1993, and was the first shipbuilding enterprise in the PRC with listing of both A+H shares.

In 2015, COMEC finished the consolidation of CSSC's high-quality shipbuilding assets in South China and realized the listing of domestic core military assets. It has become a large comprehensive marine and defence equipment enterprise group incorporating four sectors of maritime equipment being maritime defence equipment, maritime transport equipment, maritime development equipment and maritime expedition equipment.

> History

In over 100 years since the establishment of Guangnan Shipyard in 1914, COMEC experienced trials and hardships and moved forward. It built a strong foundation with the historical mission of making China become a strong marine power and manufacturing power, and has an important position in the modern industrial history and the shipbuilding industry in the PRC.

2016

COMEC formally independently operates as a holding company

2015

Name changed to CSSC Offshore & Marine Engineering (Group) Company Limited (中船海洋与防务装备股份有限公司)

2015

A shares were issued to raise funding to finance the purchase of 100% equity interest in CSSC Huangpu Wenchong Shipbuilding Company Limited and the relevant shipbuilding assets of Yangzhou Kejin

2014

H shares were issued to raise funding to finance the purchase of 100% equity interest in CSSC Guangzhou Longxue Shipbuilding Co., Ltd.

2006

Became the largest manufacturer of handy-size tanker in China

1993

Guangzhou Shipyard International Company Limited was established and became the first shipbuilding enterprise in the PRC with the listing of both A shares and H shares

1954

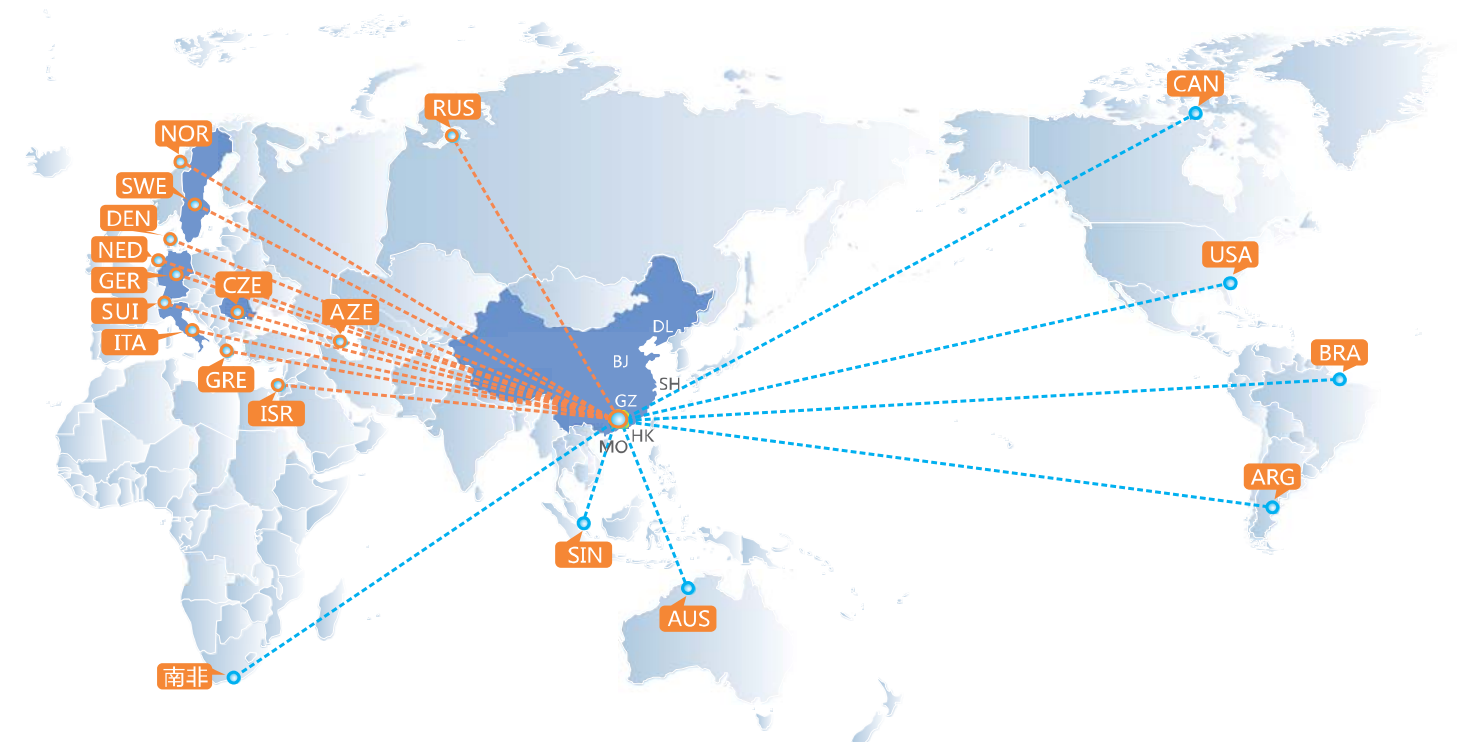
Guangzhou Shipyard was established

1914

Tan Liting, an overseas Chinese merchant established "Guangnan Shipyard" at the west bank of Nanshitou, Guangzhou

> Geographic Coverage

With over 100 years of development, the Company's business now covers over 20 countries and regions on the six continents in the world. Principal activities include shipbuilding, marine engineering, steel structure and electromechanical products.



> Principal Products

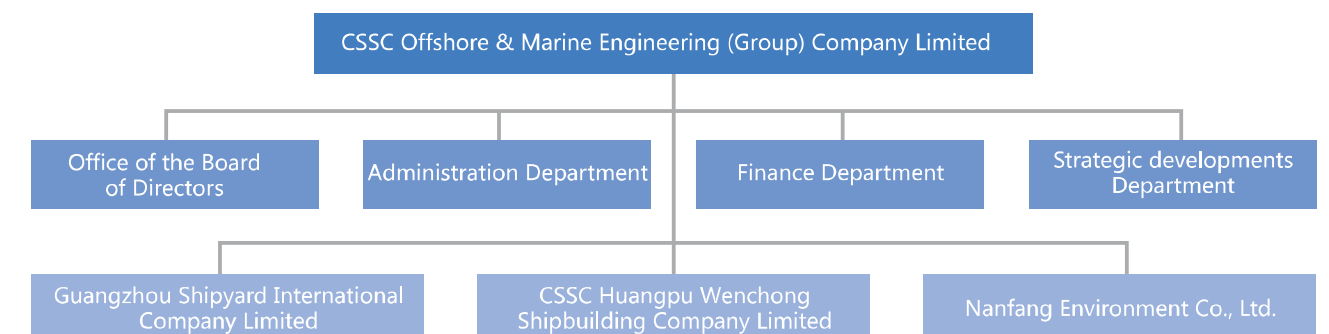
Company's products cover platforms marine products including military ships, special supporting ships, public service ships, oil tankers, feeder container ships, Ro-ro passenger ships, semi-submerged ships and polar module carriers, offshore platform, as well as non-ship products including steel structures and sets of electromechanical equipment.



CORPORATE GOVERNANCE

> Organisational Structure

We always keep in mind our responsibility for all of our shareholders and have been in strict compliance with laws, regulations and the relevant requirements. In line with our production and operation, we continued to improved our corporate governance structure, expressly set out the responsibilities and authority in respect of decision-making, implementation and monitoring, and formed an operation mechanism whereby the decision-makers, the implementation staff and the monitoring staff are assigned different responsibilities to achieve an effective check and balance. We strived to promote the overall healthy and sustainable development of the Company through professional, standardized and transparent means.



> Operation of the Board, the Supervisory Committee and General Meeting

The Board of Directors actively played its core role in the management of the Company's corporate strategies, risk management and control and material operational decisions. By holding the meeting of the Board, the Supervisory Committee and the general meetings and convening meetings of the specialized committees as appropriate, we improved the reasonableness of our operational decisions and the effectiveness of operation of the Company and fully safeguarded the lawful interests of shareholders.

• Board of Directors

The ninth session of the Board of Directors of the Company comprises 11 directors. The Board of Directors fully represents the interests of shareholders and reports to shareholders at the general meeting. It formulates the Company's development strategies and monitors the operation and management and financial position of the Company in order to create long-term value for shareholders.

Name	Position
Han Guangde	Chairman
Chen Zhongqian	Vice Chairman
Chen Liping	Executive Director
Xiang Huiming	Executive Director
Chen Ji	Executive Director
Yang Li	Non-executive Director
Shi Jun	Non-executive Director
Wang Yichu	Independent non-executive Director
Min Weiguo	Independent non-executive Director
Liu Renhuai	Independent non-executive Director
Yu Shiyu	Independent non-executive Director



• Supervisory Committee

The ninth session of the Supervisory Committee of the Company comprises 5 Supervisors. The Supervisory Committee operates in accordance with the laws, regulations and regulatory documents including the Company Law, the Securities Law and the Corporate Governance Standards for Listed Companies, as well as the requirements of the Articles of Association and the Rules of Procedure of the Supervisory Committee in order to actively safeguard the lawful interests of the Company and its shareholders.

Name	Position
Wu Guangjun	Chairman of the Supervisory Committee
Fu Xiaosi	External Supervisor
Zhu Zhengfu	External Supervisor
Mai Rongzhi	Supervisor Representing Employees
Zhang Shan	Supervisor Representing Employees



• General Meeting

In accordance with the relevant regulatory rules, the Articles of Association and the Rules of Procedure of the General Meetings, the Company sets out clear procedures for convening, notice, holding, consideration, voting and disclosure for general meetings so that shareholders fully enjoy the right to know, the right to speak, the right to question and the right to vote.



• Regular meetings of the Board, the Supervisory Committee and General Meeting

In 2017, the Company held a total of 11 Board meetings, at which 40 resolutions were passed, 9 meetings of the Supervisory Committee, at which 22 resolutions were passed, and 3 general meetings, at which 14 resolutions were passed; and issued 4 regular reports, 62 temporary announcements, 3 announcements of resolutions passed at general meetings to keep the market informed of the production and operation of the Company.

11 Board meetings,
at which 40 resolutions were passed

9 meetings of the Supervisory Committee,
at which 22 resolutions were passed

3 general meetings,
at which 14 resolutions were passed

4 regular reports

62 temporary
announcements

3 notices of resolutions of
general meetings

• Hold meetings of specialized committees as appropriate

In 2017, the Company held a total of 8 meetings of the Audit Committee, 2 meetings of the Emolument and Examination Committee, 1 meeting of the Nomination Committee, and gave full pay to the role of the specialized committees under the Board of Directors in relation to audit supervision, remuneration appraisal and personnel nomination responsibilities.

8
meetings of the
Audit Committee

2
meetings of the
Emolument and
Examination
Committee

1
meeting of the
Nomination
Committee

> Active cooperation with investors for research

The Company received over 10 investor researches for funds, brokers and industry researchers and no less than 100 persons, which has improved the mutual understanding between the market and the Company.

More than 10 researches

Received no less than 100 persons



> Conducted series of seminars and training

The Company held two seminars in relation to the capital market business expansion training for the year 2017, which has enhanced the business skills of Directors and helped to improve the corporate governance of the Company.

2 seminars

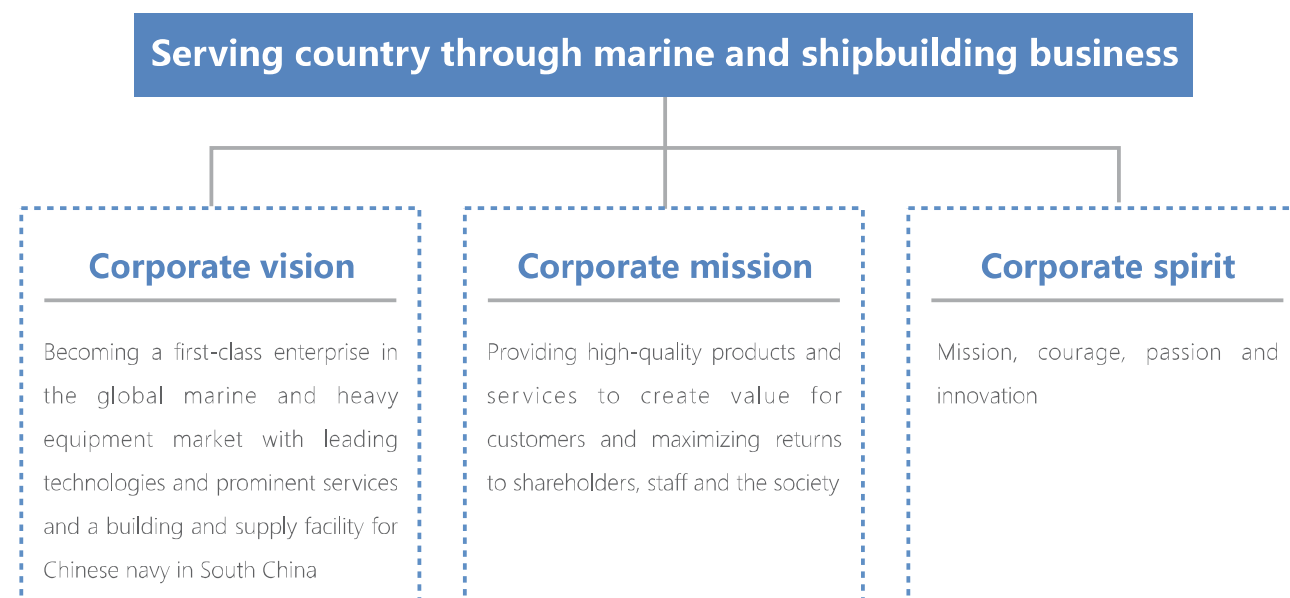


RESPONSIBILITY MANAGEMENT

We enhanced responsibility management by establishing and improving the Company's organizational structure and management team to promote the smooth development of social responsibility work. We jointed hands with the stakeholders including our customers, shareholders, employees and community to promote the sustainable development of the Company and the society.

> Responsibility Culture

After hundreds of years of practice and accumulation, we formed a culture system of "serving country through marine and shipbuilding business" to full our responsibility in the era. As an entity with deep historical heritage, the Company has an advanced responsibility culture adapting to the reality, which will lead COMEC to embrace the ocean and head towards "deep blue" with a brand new gesture.







> Social Responsibility Organisation System

We set up a social responsibility work network with deep involvement by key management, coordination and cooperation between departments and implementation by subsidiaries of the Company, in order to facilitate the implementation of the requirements for social responsibility management at all departments and pave the way for systematic advance of the social responsibility work.

Management	Conducts overall control over the social responsibility work, formulates the relevant strategies and policies, and makes arrangement for the social responsibility work.
Organizer	The Office of the Board of Directors implements the arrangement for the Company's social responsibility work and is responsible for the preparation of the social responsibility report, communication and submission and distribution of materials on social responsibility.
Implementer	All units arrange the implementation of the social responsibility practice and submit the relevant materials for the Company/the departments.

> Communication with Stakeholders

We placed stress on the establishment of a mechanism for regular communication and exchanges with the stakeholders. We strived to understand the expectations and demands of the stakeholders by way of communication and exchanges through various channels, levels and forms, which were used as important reference when formulating the Company's sustainable development strategies and actions plans and conducting responsibility practices and making information disclosure.

Stakeholders	Expectations and demands	Methods of communication and response	The Company's response and measures
 Government	<ul style="list-style-type: none"> Serve national defence Technological innovations Asset appreciation Abide by the laws and regulations and pay tax in accordance with the law 	<ul style="list-style-type: none"> Improve corporate governance Accept regulatory review Regular reporting 	<ul style="list-style-type: none"> Regular reports Information submission Public information disclosure
 Shareholders	<ul style="list-style-type: none"> Continuous stable returns Transparent information disclosure 	<ul style="list-style-type: none"> Regular report on operational information Improve daily management 	<ul style="list-style-type: none"> Receiving visiting investors Issue 2016 annual report
 Customers	<ul style="list-style-type: none"> High-quality products and services Strictly comply with contracts Cooperation and Win-win 	<ul style="list-style-type: none"> Provides safe and reliable products Provides high-quality services Strengthen contract performance management 	<ul style="list-style-type: none"> Delivery ordered products on time Fulfil contractual obligations
 Partners	<ul style="list-style-type: none"> Fulfil undertakings Fair, just and open Cooperation and Win-win Share experience 	<ul style="list-style-type: none"> Disclose procurement information Conduct strategic cooperation Negotiation and communication 	<ul style="list-style-type: none"> Signs strategic agreements Hold seminars Carry out technical exchanges
 Employee	<ul style="list-style-type: none"> Basic rights and interests protection Employee health and safety Fair promotion and development Employee care 	<ul style="list-style-type: none"> Improve the compensation system Provide a safe and healthy working environment Provide fair promotion channels Strengthen staff training Carry out employee care 	<ul style="list-style-type: none"> Democratic life meeting Workers congress Employee physical examination Visit workers with financial difficulties
 Environment	<ul style="list-style-type: none"> Energy conservation and emission reduction Waste disposal Reduce pollutant emissions Green office 	<ul style="list-style-type: none"> Strengthen environmental statistics and monitoring Green production Environmental protection training 	<ul style="list-style-type: none"> Research and develop green products Recycling resources Public disclosure of environmental information
 Community and the public	<ul style="list-style-type: none"> Community development Poverty alleviation Community communication 	<ul style="list-style-type: none"> Donations and help Volunteer service activities 	<ul style="list-style-type: none"> Help poor villages Learn from Lei Feng activities Convenience service activities



ECONOMIC RESPONSIBILITY

In 2017, major economies in the world showed a trend of recovery of varied degrees. As a result, the shipping market slightly picked up, and new ship price fluctuated at a low level. In addition, the price of second-hand ships rose significantly, and ship owners’ willingness to invest substantially improved. The shipbuilding market exhibited signs of recovery.



| Steady Business Growth | Building High-quality Ships | Production Safety Management | Independent Technological Innovation |
| Enhanced Operation and Management |

STEADY BUSINESS GROWTH

Based on our core shipbuilding business, we continued to expand into business such as maritime engineering equipment, electrical and mechanical engineering equipment and environment protection industries, in order to gradually establish our comprehensive presence in the maritime equipment industry and achieve our magnificent objectives of "becoming a first-class enterprise in the global marine and heavy equipment market with leading technologies and prominent services and a building and supply facility for Chinese navy in South China".

Shipbuilding business

- **For military ships:** Several of our products, including the frigates, hospital ships and carrier support ships built by us, were selected as one of the "Top Ten Naval Ships in 2017". "Hulunhu", a new navy support ship delivered by us in 2017, was selected as one of the "Top Ten Star Equipment in 2017" and was highly recognised by the Navy;
- **For civil ships:** We undertook 19 oil tanker building contracts, ranking 7th in the world. To date the number of our orders in hand ranks 9th in the world, and the global market share of our 50,000-ton oil tanker (MR) is close to 10%, ranking 4th in the world and 1st in the PRC.

Offshore engineering

We have established an offshore engineering equipment portfolio comprising multi-function underwater operation support ships, large survey ships, scientific exploration ships, saturated submersible ships and jack-up drilling platforms. Our position in the industry has been significantly improved.



Non-ship business

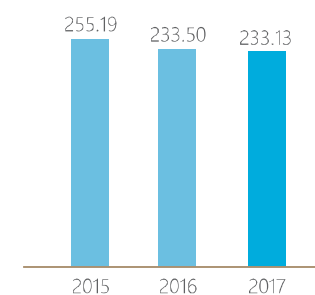
The Company actively explored and reviewed the repair and maintenance model for battle equipment and law enforcement equipment, facilitated the integration of military and civil business and the transformation and upgrading of its ship maintenance business.

Ship maintenance business

The Company has become an important supplier of ship outfitting, mechanical equipment, electromechanical products and steel structure products in South China. The Company's steel structure brand is well-known in the world. It has undertaken major projects including the "City of Dreams" project in Macau, the Hong Kong-Zhuhai-Macau Bridge and the Shenzhen-Zhongshan Channel and has established a good reputation in the industry.

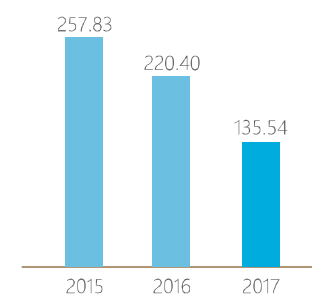
Total operating income

Unit: RMB100 million



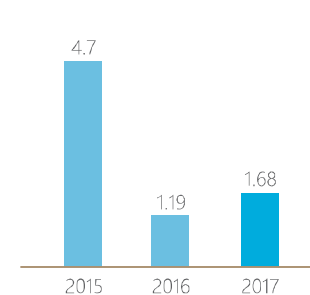
Value of orders received

Unit: RMB100 million



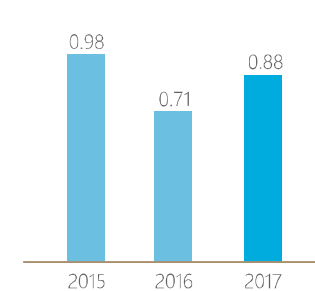
Total Profit

Unit: RMB100 million



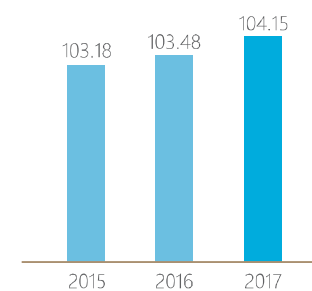
Net profit attributable to the Company

Unit: RMB100 million



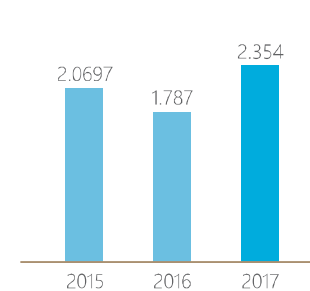
Equity attributable to owners of the Company

Unit: RMB100 million



Value of social contribution per share

Unit: RMB100 million



Case 38,800 DWT intelligent demonstration ship



Recognised as one of
"Top Ten
Technological
Achievements for
Intelligent
Manufacturing in the
PRC"



Case "Jiageng", a scientific exploration star

"Jiageng", a global scientific exploration ship built by GSI for the College of Oceanic and Earth, Xiamen University, was preliminarily designed by U.S.-based Glosten and later designed with details by No. 708 Institute of CSSC. GSI was responsible for its construction design and hull construction. The ship is 77.7 metres long and 16.24 metres wide, with a designed draft of 5.2 metres and loading capacity of approximately 3,500 tons. Its maximum speed is more than 14 knots and its maximum navigational mileage is over 10,000 nautical miles. "Jiageng" sets several records as follows:

- It was the first scientific exploration ship in the world the lifting fins of which are equipped with a super-clean seawater collection system in navigation. The lifting fins can be freely retracted or extended and are equipped with high performance acoustic equipment system such as multi-beam device to conduct complete exploration and analysis of sea floor.
- It was the first general maritime scientific exploration ship in the PRC which was designed by adopting overseas preliminary plan and domestic detailed plan and the intellectual property rights of which are independently owned by a college.
- It was the first scientific exploration ship in the PRC which can collect, operate and analyse clean samples, supports real-time, synchronized and on-site scientific experiment research for hydrology, chemistry, biology, geophysics, atmospheric and related interdisciplinary disciplines, and supports remote transmission of information and data.
- It was the first full electricity-driven silent propulsion scientific exploration ship in the PRC and can sail in all ice-free ocean in the world. It can make a circle around the Earth's equator with two oil fillings.
- It was the first ship in the PRC that has passed the Silent A+S indicator for ship noise class symbol of the Norwegian Classification Society. When it sails over the water, the noise level is only equivalent to the noise level produced by a meeting room.
- It was the first ship in the PRC all scientific exploration space (including the deck and the laboratory) of which has been equipped with a scientific exploration ship work dock reinforcement system. Scientific exploration equipment can be freely installed on the deck or on the floor of the laboratory.



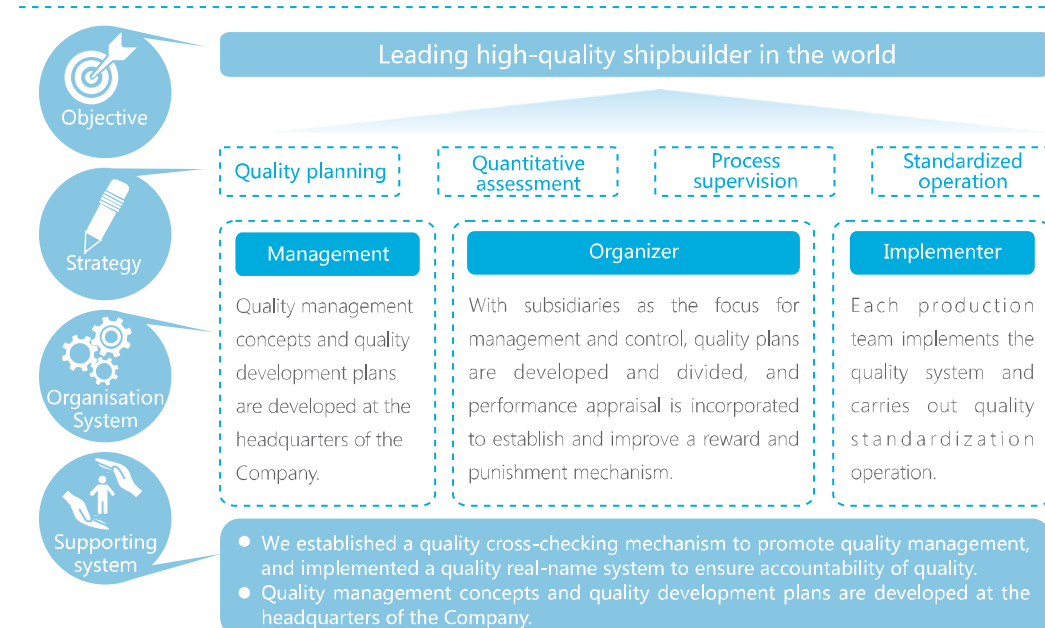
BUILDING HIGH-QUALITY SHIPS

Today's ship quality determines tomorrow's sailing safety. A shipbuilding project involves extensive and complex work and comprises many links including design, building and installation of supporting equipment. We always regard the ship quality as the lifeline of enterprise development. We continued to improve our quality management and control capability, deepened synergies and promoted innovations, in order to build high-quality ship products.

Quality management

We have assigned the quality responsibilities in the whole process of production and operation of the Company and established a multi-level quality management system from the headquarters to production teams, with all levels interrelated and each having its own focus, so that the quality management and control of the Company can shift to reasonable and systematic management.

Quality management system



Quality Control program

Quality control (QC) program is one of the good traditions of our two subsidiaries and helps to create a healthy environment in which all employees focus on quality, pursue quality and advocate quality. In 2016, we continued to promote the quality improvement process and carried out quality improvement work well. We actively summarized quality issues, analysed the root of problems, and developed and implemented the relevant improvement measures.

Quality training

In order to enhance the ability of team members in the learning, application and innovation of quality awareness, tools and methods, we arranged quality inspectors and quality managers to participate in various quality training and conducted regular qualification assessment in order to improve the quality management ability of quality inspectors and quality managers.

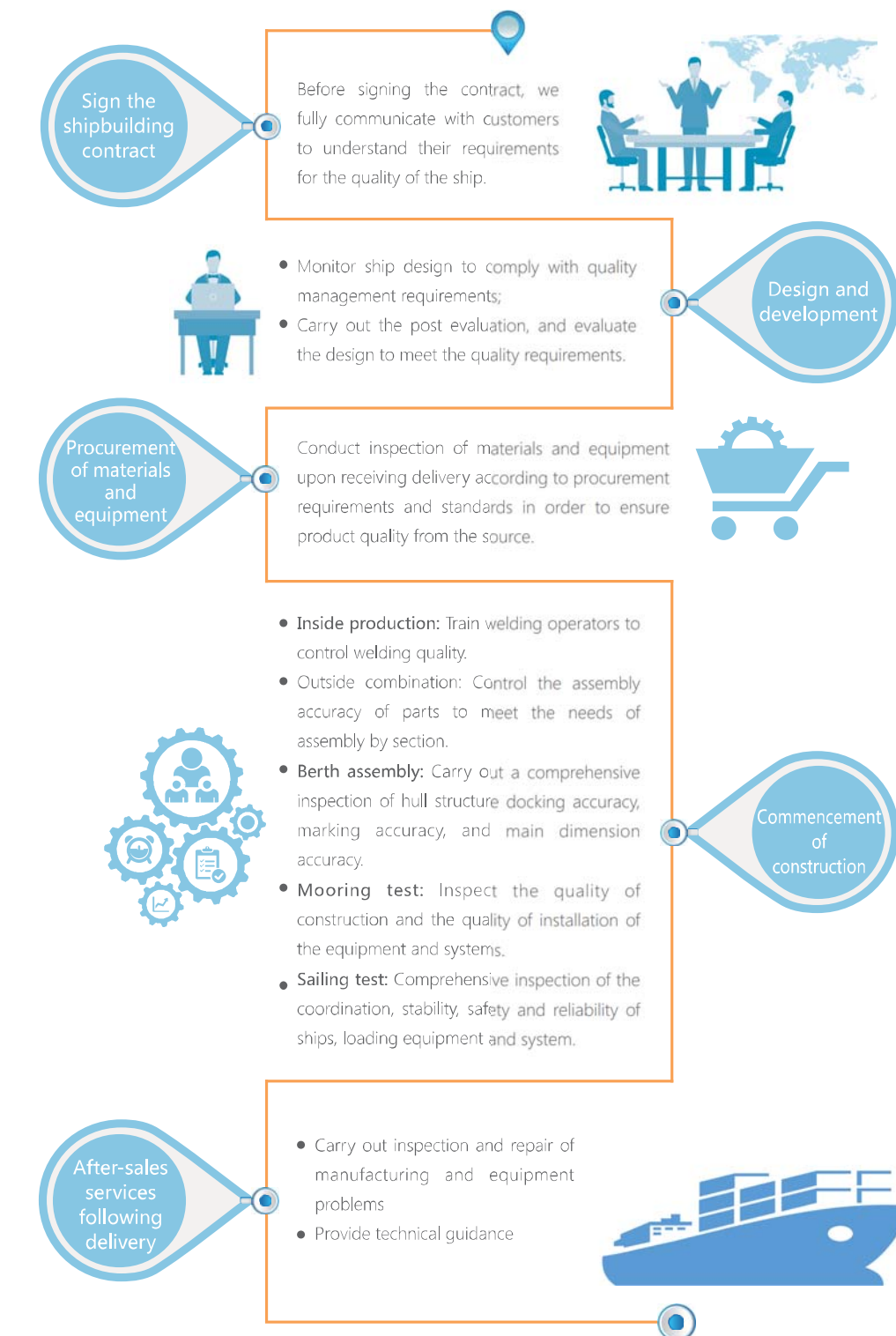
Product quality assurance expenses of RMB **229.16** million

3 national excellent quality teams
5 Guangdong excellent quality teams

2360 persons participated in quality management training

Whole Process Quality Supervision

From pieces of scattered steel and equipment to the ships sailing in rivers and oceans and serving economy, all of them require a series of processes from design, development, cutting, manufacturing, welding to assembly. We advocate a high-quality process and implement a quality supervision and inspection mechanism. Quality inspection must be carried out upon completion of each process and the next process shall not commence until the previous process has passed the quality inspection. We control quality in strict compliance with national quality system standard ISO19001 to ensure the quality of the production process.



First pass rate of process
96.91%
an increase of **0.21** percentage points year-on-year

First pass rate of parts procured from external suppliers
98.88%

First pass rate of hull welding X-ray film
95.31%

First pass rate at external delivery
97.83%

PRODUCTION SAFETY MANAGEMENT

Work safety plays an important role in ensuring the healthy operation of enterprises. We adhered to the safety management concept of "safety first, prevention first, comprehensive treatment" and continued to improve safety management through assigning responsibilities at all levels to ensure all-around safety. The Company experienced no major accident or heavy injury accident in 2017, and the number of its minor injury accidents reduced by 24.4% year-on-year.



Improve Safety Management

Following the Company's safety plans and objectives for the 13th Five-Year period, we further deepened our 6S management, strengthened on-site safety management and control, promoted production safety standardization, and strived to improve safety management to avoid production safety accidents.

Improve 6S

- Improve the 6S management system so that responsibilities and areas are more clear;
- Conduct special rectification of basic orders to avoid "black spots";
- Cross-examination of 6S work and monthly review;
- Carry out 6S inspection of ship products under construction and promote equipment protection.

Enhance on-site safety management and control

- Carry out on-site confirmation and on-site monitoring to ensure the safety and smooth operation of major dangerous operations;
- Conduct hazard identification and environmental investigation, strengthen workers' safety awareness and ability to identify dangerous sources, and improve production equipment and facilities and on-site working environment.

Production safety standardization

- Assess the suitability of the safety management system of the Company and improve its production safety rules and regulations;
- Comprehensively promote the standardization of safety production of military enterprises, and strengthen the implementation and learning of standards.

Safety Culture among All Employees

People are always the core factor that determines the level of safety management. In 2017, we continued to be committed to cultivating safety culture among all employees, promoting employees' transformation from "I'm asked to maintain safety" to "I want to be safe and I know how to be safe", improving the sense of responsibility and recognition for safety, and building our own safety brand.

Safety training

By combining internal training and external combining, we adopted different training programs for safety managers at all levels and provided unique training such as "management's production safety management ability improvement" and "process technician safety training", in order to effectively regulate the safety behaviour of employees and improve their safety awareness.

Publicity activity

We organised safety publicity in various forms including the "Safety is blessing" lecture and the "Ankang Cup" production safety knowledge contest in order to teach safety knowledge while playing and let staff keep in mind their safety responsibility and fulfil their responsibility.

61,440

persons participated in production safety training



Case Carefully plan for and carry out the "Month of Production Safety" activities

We organised production safety accident warning education among all employees, conducted safety knowledge quiz, and held the "Safety is blessing" lecture, which incorporated safety knowledge into play and silently influenced each employee by conveying production safety knowledge and the safety philosophy of "Life above all and strict compliance with protocol" to them. As a result, employees' safety awareness was enhanced, and a strong production safety environment was created, which had comprehensively promoted the safety culture building of the Company.



Safety knowledge quiz



3M career health and safety roadshow

Strengthen Emergency Drills

We have established a comprehensive coordination and interaction mechanism for emergency response, and carry out regular emergence drills with various sizes, in order to enhance our ability to cope with natural disasters and emergencies and ensure that any emergency will be handed with ease. In view of the challenging situations including frequent extreme weather, typhoon and flood, we have prepared an emergency drill plan by taking into account the characteristics of production and major risks of the Company. During the year, we conducted 53 emergency drills.



Emergency supply expense

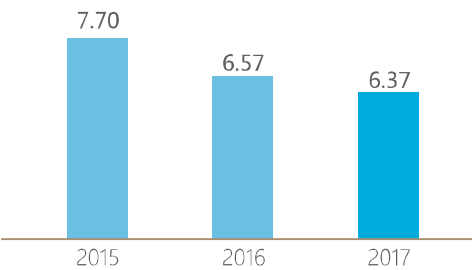
RMB 422,800

INDEPENDENT TECHNOLOGICAL INNOVATIONS

In the era of economic globalization, technological innovation is an important driving force for enterprise development. We continue to deepen the mechanism of technological innovation, strengthened capital and human resources protection, and focused on the promotion of application of technological results in order to provide strong support and protection for our independent innovations and development.

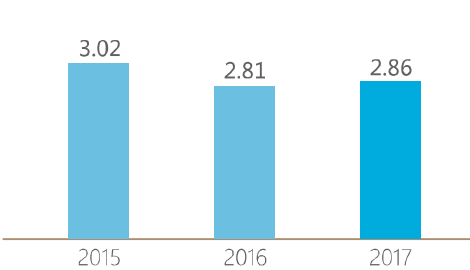
Research and development expense

Unit: RMB100 million



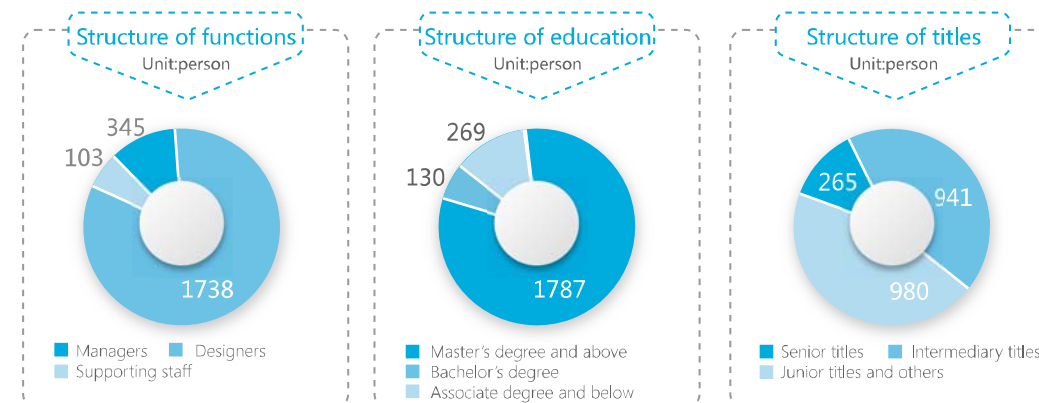
Research and development expense as a percentage of operating income

Unit: %



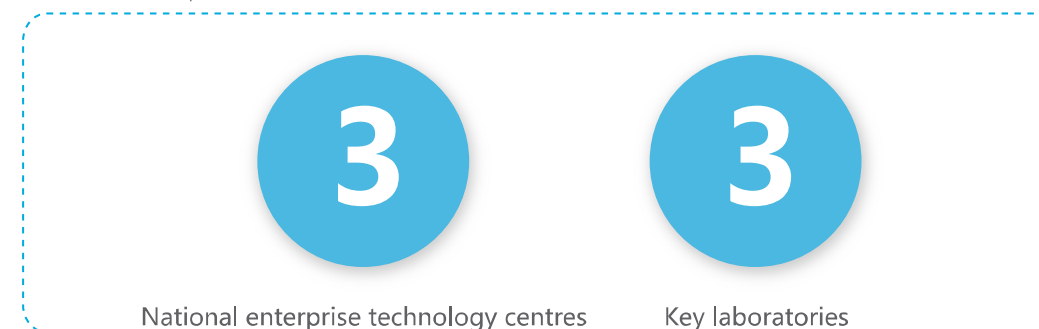
Research and Development Team

We attach great importance to the development of the development team and the building a reserve of multi-level talents. As at the end of 2017, we had a research and development team consisting of 2,186 members to provide talent support for technological innovations.



Research and Development Platform

We strive to build a multi-level platform for scientific and technological innovation and provide strong support for innovative research and development.

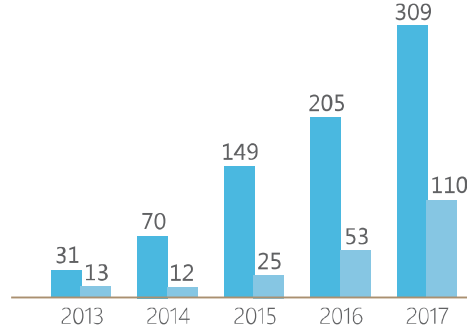


Technological Achievements

In 2017, the Company further promoted the development and technical research of new green energy-saving and environment-friendly ships and conducted the research of polar rules and ship types, dual fuel power and emission control and treatment technology, efficient propulsion and energy-saving device application, large low-speed shaft application and smart technology application.

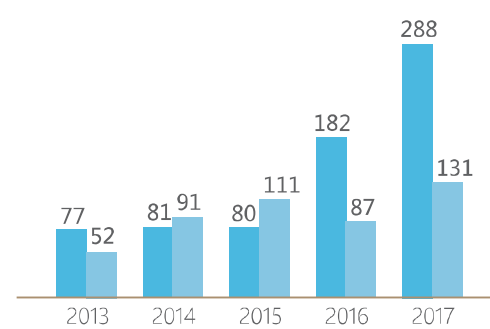
Application for and grant of invention patents

Unit: number



Application for and grant of utility model patents

Unit: number



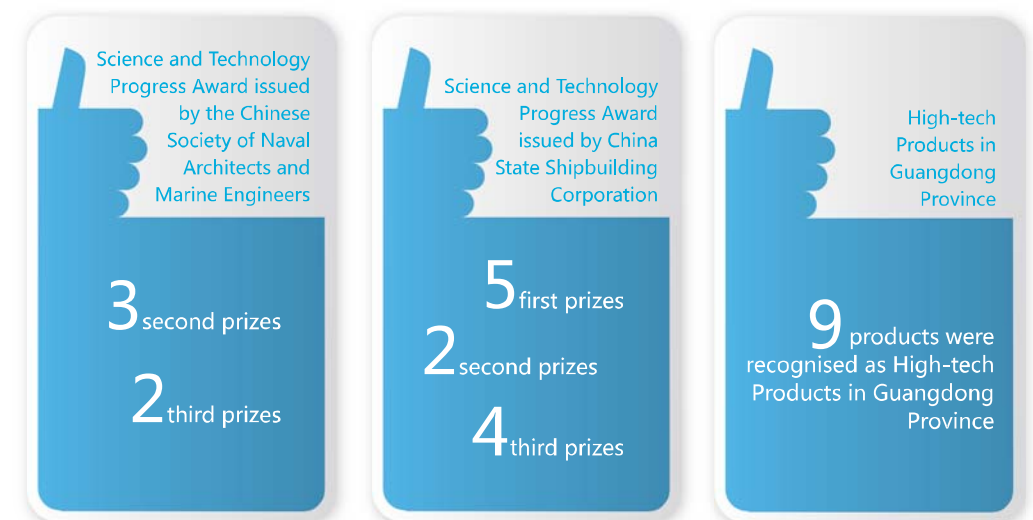
Technical centre

Invention patents obtained during the year
110

Utility model patents obtained during the year
131

Obtained **16** Scientific and technological achievement awards during the year

Obtained **5** Science and Technology Progress Award for 2017 issued by the Chinese Society of Naval Architects and Marine Engineers and **11** Science and Technology Progress Award issued by China State Shipbuilding Corporation.



ENHANCED OPERATION AND MANAGEMENT

Amid complex and changing economic situations and excessive global shipping capacity and shipbuilding capacity, we continued to improve internal management, strictly implemented internal audit and anti-corruption work in order to ensure our operation and management in compliance with the laws and regulations, the safety of our assets and the truthfulness and completeness of our financial reports and related information. We strived to improve the efficiency and results of our operation and promote the achievement of development strategies.

Operation in Compliance with Laws and Regulations

Transparent operation in compliance with laws and regulations is an important prerequisite for an enterprise to maintain the vitality of development. We further promoted the honest and clean corporate governance and anti-corruption work and took the opportunities brought by the inspection by the central government to further facilitate operation in compliance with the law. We established a long-term mechanism to enhance the ability of anti-corruption and strived to create an honest and clean environment.

Legal review rate for contracts

100%

Legal review rate for regulations and rules

100%



Strengthen Risk Management and Control

In light of its characteristics as a holding platform company, the Company formulated 7 rules and regulations, revised 5 rules and regulations and abolished 5 rules and regulations in 2017. The Company has established 18 rules and regulations for corporate governance and 42 rules and regulations for corporate management and formed an effective and sound internal control and management system. In order to promote the rules, standards and process for internal control management, the Company has been developing rules and improving manuals at the same time. It established one new internal control process and continued to improve the Internal Control Manual and the Internal Control Assessment Manual of COMEC in 2017.

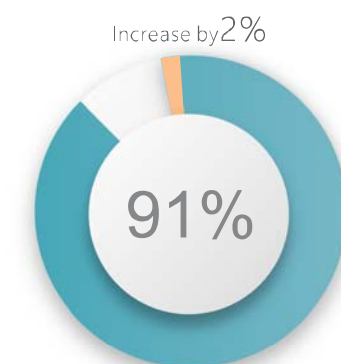
<p> 審計風險 防控措施 </p>	<ul style="list-style-type: none"> • We established the Rules for Internal Control and Audit of COMEC to regulate the audit process and behaviours and promote operation in compliance with these rules; • We conducted innovations in the forms of audit by carrying out joint audits, and met the objective of preventing risk, improving management and creating values using internal audit.
<p> 內 部控制 強化 </p>	<ul style="list-style-type: none"> • We strived to improve the rules, standards and process for internal control management and established the Rules for Internal Control Management of COMEC to regulate the process and behaviours in the internal control process and enhance basic management; • We held internal control work arrangement meetings to conduct internal control audit and appraisal at four stages being on-site audit, subsidiary self-assessment, internal control team on-site test, defect rectification and consolidation with holding company to mitigate the risks of the Company.

Improve Operational Efficiency

By in-depth analysis of the characteristics of the industry and enterprises, we conducted solid management innovations, steadily pushed forward cost reduction and performance improvement and information development, and sought refined management models to comprehensively enhance the operational efficiency at all links of the Company.

Informatization Development

For informatization development, compared to 2016, the Group's informatization driving force and informatization top class design ability continued to be improved, and its ability to support its integration using information technology significantly increased. The integration had shifted to the improvement phase from the single application phase. The principle business coverage ratio of Huangpu Wenchong increased by 2% to 91%, compared to that at the end of 2016. Its basic construction further improved. As single application has substantially matured, the comprehensive integration can be effectively realized. For modelling 2.0 information development, in accordance with the relevant requirements of the modelling office of the Group and the Company, GSI actively carried out work in respect of the implementation of information integration and network operation among the nine major elements of "Modelling 2.0". It conducted effective work in respect of the establishment of the corporate data centre and paperless and efficient meeting, including the research on the establishment of corporate data centre and gradually building a corporate data centre in the process of promotion of the application of AM12.1 and the new PDM system. For workshop digitization, it gradually achieved the integration of the data on parts for manufacturing and cutting instructions, so as to partially realize the efficient and paperless management.





ENVIRONMENT RESPONSIBILITY

Ecological civilization is a new stage in the development of human society, and also the duty and mission of an enterprise in this era. With “green shipbuilding” as the management philosophy, in compliance with the requirements of international conventions and laws and regulations and under the guidance of the ISO14001:2004 management system, we strengthened our environmental management and promoted green shipbuilding and energy-saving and emission-reduction so as to lay a solid foundation for building an energy-efficient and environment-friendly enterprise.

Environment
protection expenses
RMB
11,370,600

9,686
persons participated in
environmental
protection training

Major
environment violations
during the year
0

| Green Management | Green Research and Development | Green Production | Development of Environment Protection Business |

GREEN MANAGEMENT

Comprehensive energy consumption Per RMB 10,000 of output value (spot price)

0.0415

ton of standard coal/
RMB10,000

Power consumption per RMB10,000 of output value (spot price)

180.20

kWh/RMB10,000

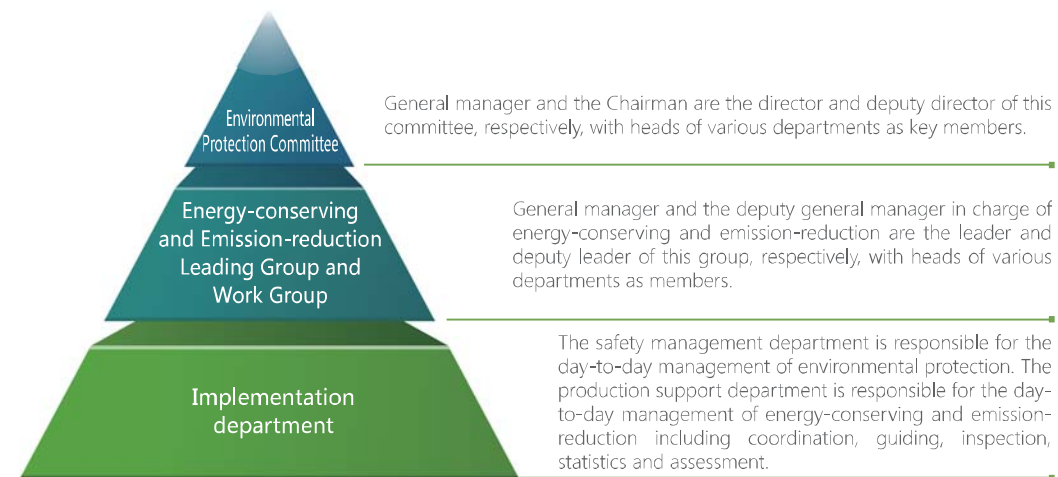
Environment protection expenses RMB

11,370,600

By following the responsibility philosophy of "green development" and in strict compliance with the requirements of laws and regulations including the Environmental Protection Law, we continued to improve our environmental management system, strengthened the supervision and management of environmental issues, and earnestly implemented our environmental protection training system so that the concept of green and environmental protection is deeply rooted in people and realize the sustainable development of the economy, ecology and the society.

Environment Management System

To achieve the Company's objective of environment protection and energy-conserving and emission-reduction, we established and improved an environment management organizational system with interactions and communication between all levels from the management to the working groups and to the implementing level, in order to facilitate the reasonable management of our environment protection and energy-conserving and emission-reduction and realize green sustainable development of the Company.



Environmental Protection Training

We carried out extensive environmental protection training to popularize environmental science knowledge and improve the environmental awareness of all employees, so as to prevent and reduce the occurrence of various environmental accidents and develop the Company into a green and beautiful homeland.



Environmental protection training provided during the year **19** sessions

Environmental protection training provided per capita **4** hours

Participated in environmental protection training **9,686** persons

GREEN RESEARCH AND DEVELOPMENT

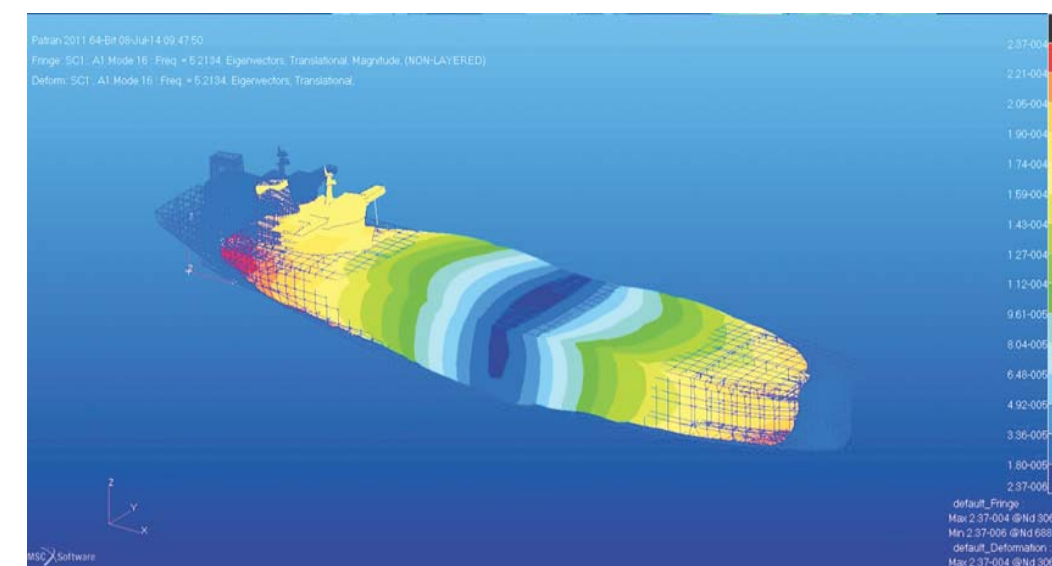
With "green shipbuilding" as the management philosophy, we strengthened the research and development of key technologies for green environment-friendly ships to meet the needs of low carbon-emission and green economy, and incorporated energy-conserving and emission-reduction into our production process and workflow in order to lay a solid foundation for the development of a resource-saving and environment-friendly enterprise.

- **Ship designs with low carbon-emission.** We conducted in-depth research of the impact of the new regulations on ship designs, strengthened the efforts to understand the TIERIII emission regulations, and adopted the selective catalytic reduction (SCR) and dual-fuel proposal to optimize ship and system configuration and reduce fuel consumption.
- **Shipbuilding technologies to reduce emission.** We carried out the research and development of technologies to reduce emissions, and successfully developed SOx and NOx control system integration, CO₂ emission control system integration and HFCs emission control system integration technologies, which formed part of the core green environmental protection technologies of the Company.
- **Green manufacturing processes.** We researched green environment-friendly manufacturing processes, testing technologies, welding technologies and green processing technologies such as noise and dust treatment in the manufacturing process, and extensively adopted green processes and technologies.



Case new generation of green environment-friendly LRII ship

LRII ship has the characteristics of high cost performance, safe and environment-friendly, green and energy-saving and low noise and vibration. It has reached the international advanced level. In accordance with the major performance rating standards for marine transport ships set out in CB/T 3886-2002, this ship falls under the top class. Amid the sluggish shipbuilding market, the Group entered into 16 shipbuilding contracts (of which 11 ships were delivered), including 2 for FRONTLINE (with certifications of ABS Classification Society), 2 for Wanli (with certifications of ABS Classification Society), 8 for the ship owner of Navig8 (with certifications of DNV Classification Society) and 4 for the ship owner of TORM (with certifications of DNV Classification Society). With total contract value of approximately RMB5 billion, the Group has achieved good economic and social benefits. Through the mass production of ship series, the Group has obtained low cost advantage, ship model advantage and customer advantage and established a product offering of major ships, so as to win the market with scale and increase its market share.



Won the 2017China Shipbuilding Engineering Society Science and Technology Award Third Prize for the new generation of green environment-friendly LRII ship.

GREEN PRODUCTION

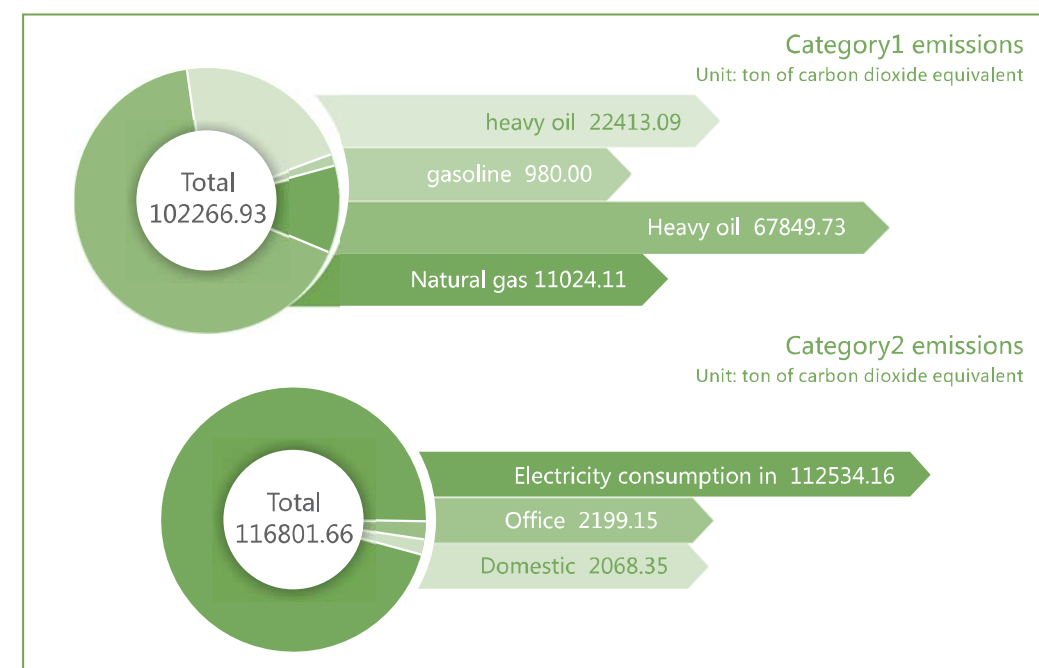
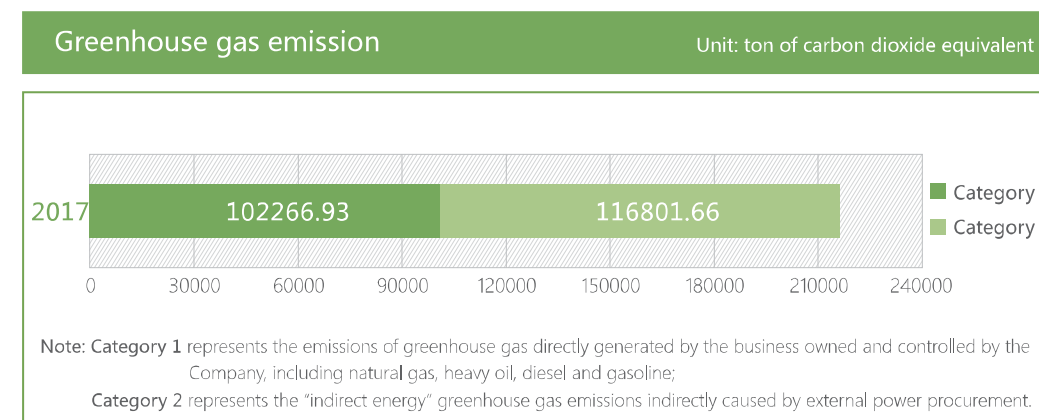
We incorporate the philosophy of green development and practice into the entire production and operation process and strive to improve the green competitiveness and influence of the Company through reasonable utilisation of energy and strictly controlling pollution and emission.

Climate Change and Energy Management

We pay close attention to the global climate change trend and the relevant international conventions, has established an energy saving management network and energy monitoring system to reduce greenhouse gas emissions, and aim to become a builder of more environment-friendly ships and reduce the impacts of the Company's production and operation on climates changes.

Greenhouse gas emission management

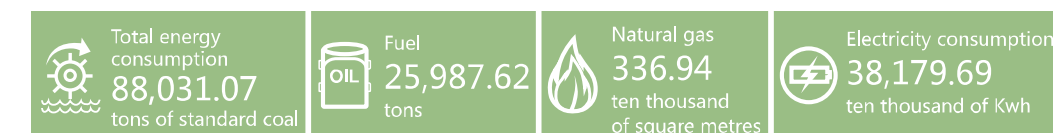
We have fully implemented various national and local requirements and classified the sources of greenhouse gas into two categories, namely category 1, which represents the emissions directly generated in the shipbuilding process of the Company, mainly greenhouse gas generated by fuel consumption, and category 2, which represents the emissions



Energy conservation and carbon-emission reduction management

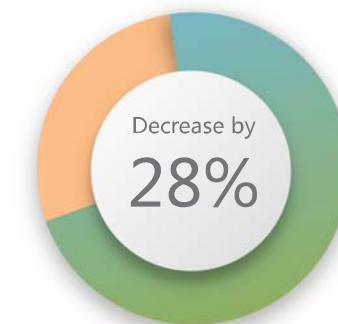
We strive to improve energy efficiency, actively carry out energy-conserving technology transformation, promote the development of dynamic energy monitoring system, endeavour to lower energy consumption, and stick to the "green and low carbon-emission" concept in development. In 2017, we obtained energy management system certificates for all plants, which has comprehensively improved energy management.

Energy consumption of COMEC in 2017



Case Instalment of flow metre and energy saving upgrading for gas shielded welding (CO₂) wire feeder

The instalment of flow metre gas energy saving upgrading for gas shielded welding (CO₂) wire feeder was implemented during the year, whereby a mechanical flow metre with self-designed structure is installed on the wire feeder to enable on-site fast adjustment of CO₂ gas flow, which also can significantly reduce energy consumption. The CO₂ consumption flow of a wire feeder without having a flow metre installed is 25L/min, while the CO₂ consumption flow of a wire feeder equipped with a flow metre is 18L/min. After inspection, the welding seam is normal, and the gas consumption decreased by 28%. This project has won the Advanced Energy-saving Technological Achievements of Enterprises in Guangzhou for 2017, First Prize.



Exhaust Treatment

Organic exhaust and metal oxide dust are generated during the production and manufacturing process. We value the management and treatment of exhaust, adopts technologies such as absorption through activated carbon and filter barrel filtration, conduct regular maintenance of environmental protection equipment, and strengthen the inspection of equipment and records, in order to ensure that all exhaust emission indicators meet the required standards and minimize the impacts on environment. All pollution emissions were up to standard during 2017.

污染物来源		GSI		Huangpu Wenchong		Emission method	Height of exhaust tube
		Emission concentration (mg/m ³)	Emission rate (kg/h)	Emission concentration (mg/m ³)	Emission rate (kg/h)		
Steel plate pre-treatment line	Particulates	8.3	0.04	8.4	0.12	Intermittent	20
	Toluene	0.102	0.003			Intermittent	20
	Xylene	6.33	0.16	1.32	0.01	Intermittent	20
Segmental coating	Particulates	4.65	0.07	13.5	0.4	Intermittent	25
	Toluene	0.11	0.001			Intermittent	25
	Xylene	1.96	0.21	7.87	0.42	Intermittent	25

Number of energy-conserving technological achievements during the year **5**

Number of energy-saving technological transformation projects **8**

Annual saving of comprehensive energy consumption by approximately **31452** tons of standard coal

Energy-saving Management

The Group established ship coating electricity consumption counting and assessment, added electricity consumption for vehicles by direction, and added control valves for the industrial gas pipelines for the dockyard and the assembly site.

Total exhaust emission **134,460** ten thousand of standard cubic metres a year-on-year decrease of **51.60%**

Waste Management

Solid waste produced during the year
368.978 tons

Liquid waste generated during the year
402.884 tons

Waste is a by-product of our construction and operation. We focus on reducing the generation of waste and environmental hazards from the source. We have adopted various responsible measures, including improving waste classification management and comprehensive utilization efficiency, to reduce waste emissions and achieve recycling of resources.

Source of waste	Treatment method	Environmental effectiveness
Scrap materials	Collected and handed over to suppliers	Used as raw material again
Paint waste	Compressed and put in paint bucket before delivery to qualified institutions	Reduce the use of space; harmless treatment
Part of hazardous waste	Delivered to qualified institutions	Harmless treatment
Domestic garbage	Classified and delivered to qualified institutions	Classified and reused

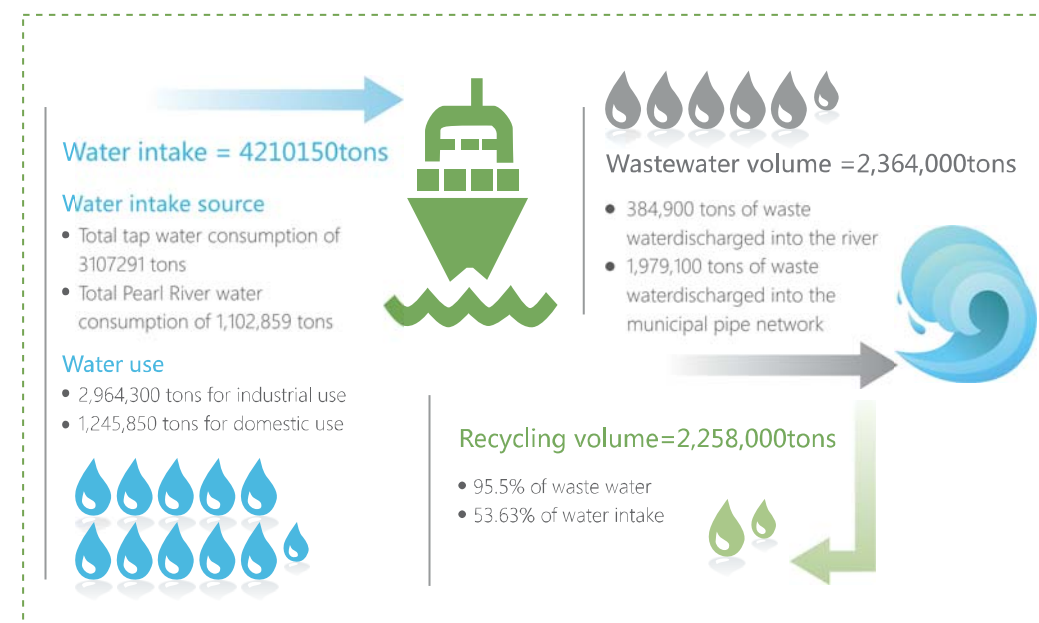
COMEC (Group)		2015		2016		2017	
		Generation volume (ton)	Recycling volume (ton)	Generation volume (ton)	Recycling volume (ton)	Generation volume (ton)	Recycling volume (ton)
Solid waste	Hazardous solid waste	493.72	24.8	503.96	17.2	368.978	10.65
	Non-hazardous solid waste	78960.4	33851.4	57205	34243	45780	33400
Liquid	Hazardous liquid	809.83	569.17	702.4	496.85	402.884	54

Water Resources Management

Water consumption per 10,000 DWT shipbuilding business
8124.67 tons/10,000 DWT

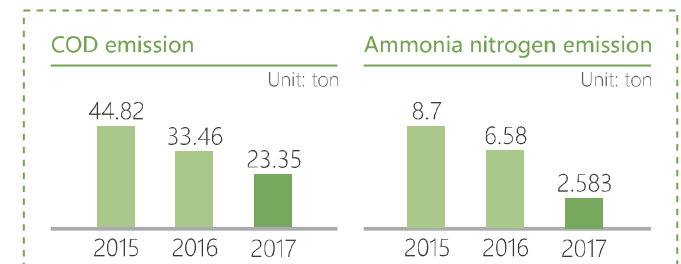
Waste water discharge per 10,000 DWT
6212.13 tons/10,000 DWT

Water is one of the most valuable resources on Earth and an indispensable resource for the shipbuilding industry. We cherish every drop of water, are committed to scientific and rational use of water resources, and strictly control sewage treatment and emissions to maximize the protection of water resources.



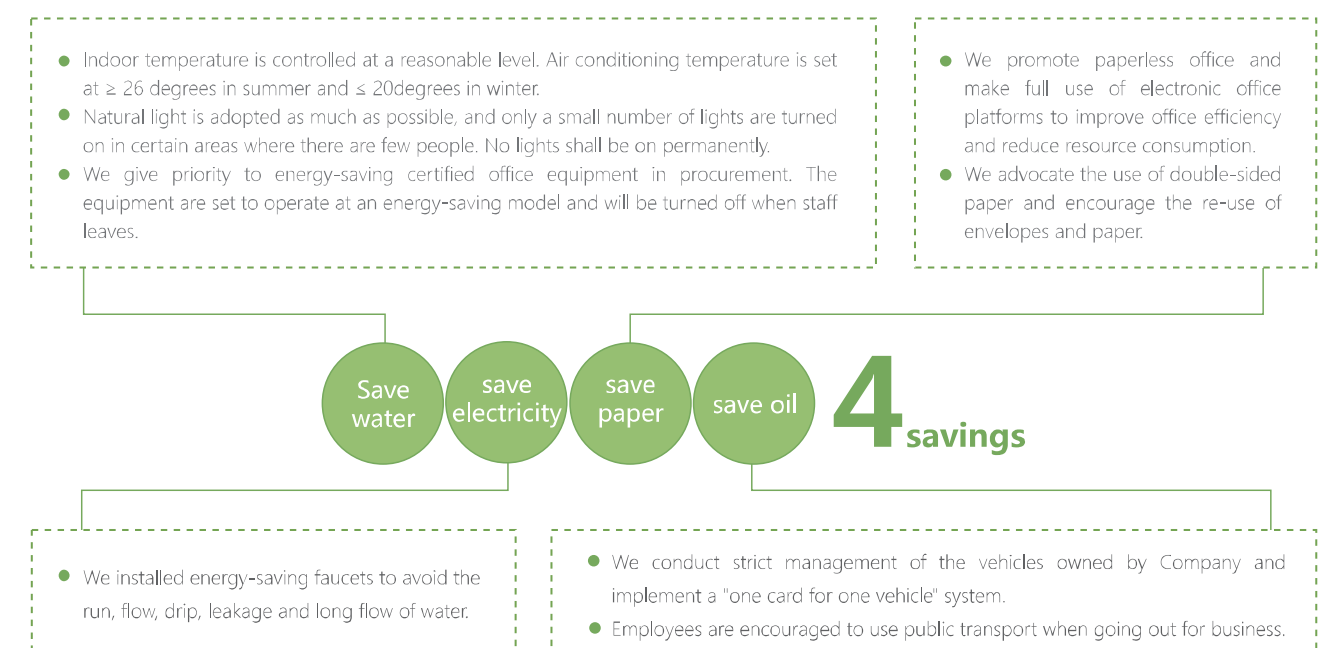
Wastewater treatment

In accordance with national and industry standards, we promote the continuous exploration by our shipyards of wastewater collection and processing technologies and methods. We carry out strict supervision and management of the operation of wastewater environmental protection equipment to prevent any water run, drop and leakage. We regularly carry out sewage outfall water monitoring, and the monitoring results are in line with the emission standards for Guangdong province.



Practice Green Office

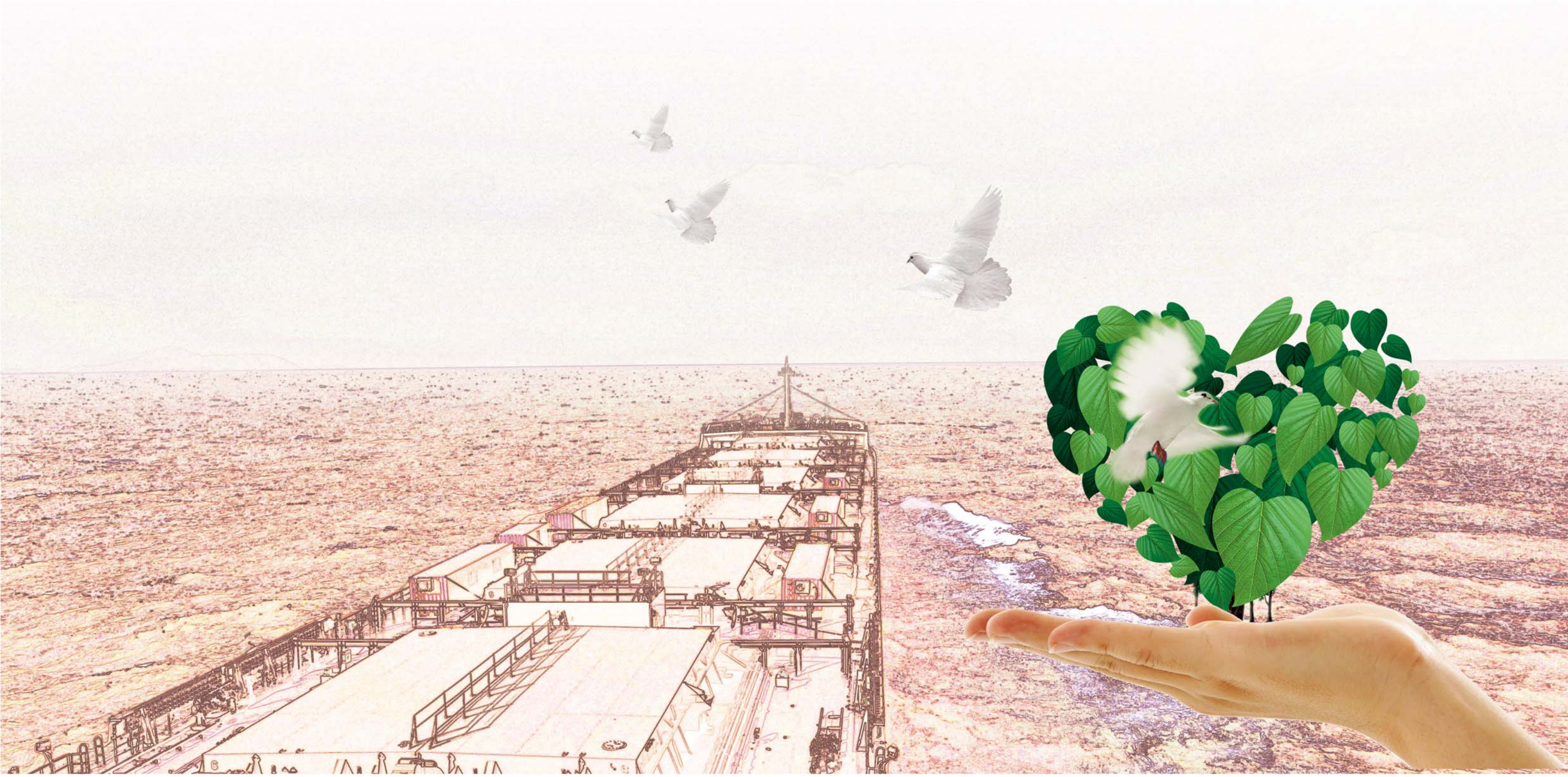
We integrate the concept of environmental protection into the daily work, encourage employees to start from the little things around and save very kilowatt hour of electricity, every drop of water, every piece of paper and every litre of oil.



DEVELOPMENT OF ENVIRONMENT PROTECTION BUSINESS

As the Company's environmental protection business successively made several breakthroughs in terms of end waste disposal to generate resources, recovery, recycling and transaction of city minerals, recycling of construction waste as resources, integrated environmental protection and comprehensive environment treatment PPP project. With the establishment of Nanfang Environment, the Group's whole industrial chain presence has initially taken shape, which will be further implemented in 2018.

In 2017, the environmental protection business of the Group received strong support and guidance of CSSC. With over two years of development and the research and analysis of the environmental protection industry and market, the Company has gradually established an environmental protection business presence. In respect of the city mineral development and utilisation, the Group provided solutions for integrated environmental protection of urban communities (refuse separation + cleaning + end disposal), and focused on large-scale PPP projects for integrated environmental protection, domestic garbage separation and resource utilisation, with solid waste disposal, soil remediation and treatment of hazardous industrial waste (medical waste and dismantled vehicles) as the drivers. The Group conducted project operation through the establishment of an environmental protection industry fund, mergers and acquisitions and project investment.



SOCIAL RESPONSIBILITY

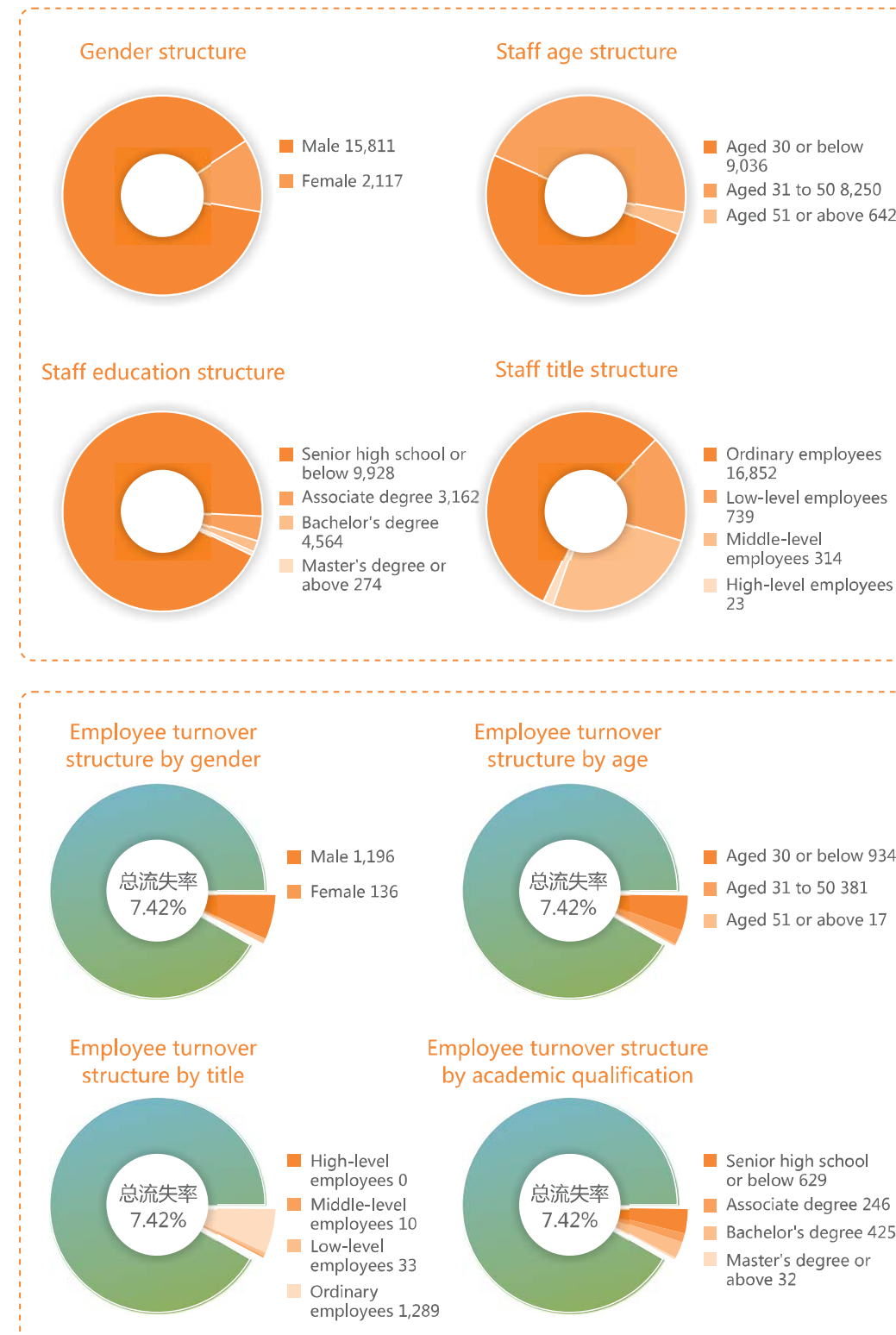
The development of an enterprise is inseparable from the support of the society, while the development of the society also cannot do without the contribution from the enterprise. While accelerating our own development and growth, we always keep in mind our corporate citizenship and have not forgotten to pass on CSSC' s gene for fulfilling social responsibility for over 100 years. We strive to provide staff with a broad space for development, to provide partners with a fair and transparent competition environment, and to create a harmonious and friendly atmosphere for the community. We actively participate in charity events, strive to repay the society and attach great importance to the harmonious win-win of corporate development, social development and staff development, while actively exploring a duplicable and learnable way to targeted poverty alleviation to fulfill our social responsibility and realize the creation and sharing of enterprise social values.



| Staff Development | Harmonious Community | Cooperation and win-win |

STAFF DEVELOPMENT

Only by creating an excellent team of employees will the Company be able to has a strong source of sustained growth in any case. We value and protect all lawful interests of our employees, provide them with a broad space for career development, and strive to achieve the common growth of the Company and our employees. As at the end of 2017, the Company had a total of 17,928 employees.



Protect Employees' Interests

We strictly follow the relevant labour laws and regulations, safeguard the basic rights and interests of employees and protect their occupational health, encourage employees to participate in democratic management of the Company, and strive to create a safe and comfortable working environment for employees.

Remuneration and benefits

We follow the principle of "efficiency first while ensuring fairness", whereby we encourage employees to work hard and provide higher returns to those with better performance. In distributing income, employees who have made considerable contribution to the Company will be preferred, in order to attract, retain and reward the employees who have made relentless efforts for the long-term development of the company so as to reflect their values. In addition, we have in place a sound benefit system to enhance the sense of belonging and happiness of employees.

- **Allowance for talents at key positions:** In order to motive and retain key talents, the Company provides certain allowance to employees holding key management, skills and production positions by category on a monthly basis;
- **Confidentiality allowance:** In accordance with the requirements of the Group and the Company for confidentiality work, certain confidentiality allowance is provided to the employees of the Company involved in confidential information on a monthly basis with reference to their rankings;
- **Research and development bonus:** In order to improve its research and development capability, each year the Company sets aside certain amount out of total salary as the incentive bonus for research and development, which will be granted to employees who have actively participated in the research and development and made contribution to research and development as incentive;
- **Link bonus:** In order to ensure the completion of production tasks, each year the Company sets aside certain amount out of total salary as the incentive bonus for the production link, which will be granted to the managers, direct production staff or supporting production staff at the production front-line as incentive;
- **Other bonuses:** In order to ensure the quality and safety of its products, each year the Company sets aside certain amount out of total salary as the incentive bonus for special incentive bonus, in order to encourage employees to do the quality, safety and management work well and maintain the brand reputation of the Company.

Staff labour contract signing rate of

100%

Staff social insurance coverage ratio

100%

Number of hours of paid leave for each employee

9 days

Democratic communication

We pay close attention to the needs of employees and strive to improve a domestic management system in the basic form of workers congress and democratic life meetings. We listen to the voices of employees and address the concerns of employees by holding Communist Youth League member representative meetings and the Mid-Autumn Festival form and seeking reasonable advices.



Occupational Safety

Staff health record ratio
100%

Labour protection
product expense RMB
27,081,200

Lost days due to work
injury
1,010 days

Number of employees
deceased due to work
1

We advocate and establish the idea of "life first", and has adopted a series of systems and measures to regulate the occupational health management and occupational disease prevention and control so that our employees can work with a healthy body and a positive attitude.

- **Effectively conduct occupational health management:** The Group arranged health examinations for employees involved in occupational health hazards in accordance with the laws and regulations, with a pre-employment health examination rate of 100%, an on-the-job health examination rate of 100% and a post-employment health examination rate of 100%. It timely notified its employees and labour project companies of the results of health examinations and effectively protected the health of its employees.

- **Regular occupational health examinations:** In 2017, GSI arranged 4,087 employees and urged the labour services companies to arrange 7,767 labour workers to attend on-the-job health examinations for 2017, and urged the persons-in-charge of the labour services companies to deal with labour workers with high risk of occupational health. It duly handled 12 case involving staff's occupational health; cooperated with the municipal safety supervision bureau in engaging third-party companies to inspect the 8 labour services companies which were identified in 2016 and 2017 with people with occupational diseases or suspected occupational diseases, and urged and guided the labour services companies in improving occupational health management.

- **Effectively ensure the delivery of labour protection gears:** We equip employees with labour protection gears such as anti-dust masks, anti-virus masks, earlobes, square gloves and hoods, and strengthen the monitoring of use of labour protection gears. In 2017, GSI identified and punished a total of 430 incompliant wearing of labour protection gears.

Assist Staff Development

We attach great importance to career development of our employees and, by actively creating a multi-channel and multi-level staff training system, strive to establish a smooth channel for employees' career development, stimulate their enthusiasm and creativity, and assist them in growth and advance at work.

Improve staff training system

We aim to improve employees' ability to perform duties and their overall quality, and continue to provide them with training meeting job needs and beneficial for their growth and development in order to achieve the win-win of development of both the Company and the employees.

	Staff training	Number of employees trained	Number of hours of training provided to each employee		Staff training	Number of employees trained	Number of hours of training provided to each employee
By gender	Male	15811	3.4	By type	High-level	23	24.7
					Middle-level	314	13.6
	Female	2117	5.4		Low-level	739	11.6
					Ordinary employees	16852	3.08

- **Pre-employment training and probation training:** New entrants to the Company will receive the pre-employment training arranged by the human resource development, covering the overview and development strategies of the Company, career development, professional ethics, quality management knowledge, safety and environmental protection knowledge, learning about labour laws and regulations and the introduction to the shipbuilding production process.

- **Internal Training:** The Company has established a staff education committee to guide staff training. Once an employee formally starts his/her career, he/she will have the opportunity to receive various training/education. The internal training is divided into two forms, being level 1 training and level 2 training. Level 1 training is managed by the human resource department of the Company, and level 2 training is managed by various departments. Internal training is closely related to the production, operation and job needs, which generally comprises skill training, process knowledge training, quality

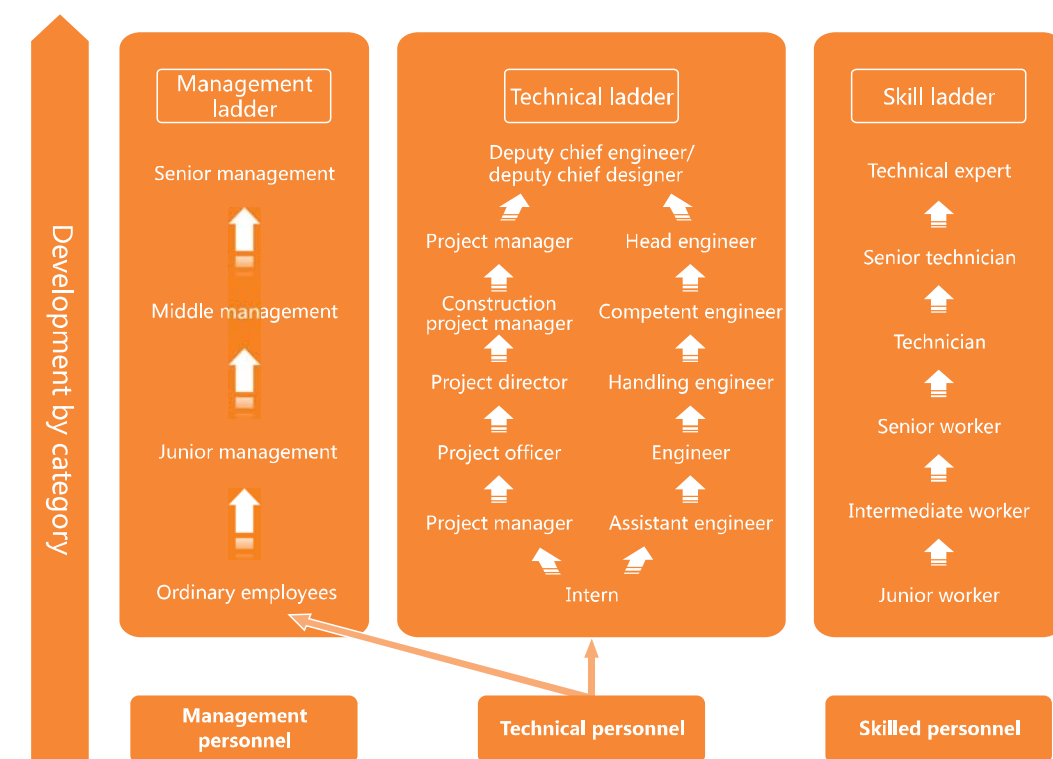
management, professional design knowledge training and management business training.

- **External Training:** In addition to internal training organized by the Company itself, depending on the job needs, employees may also can be sent to external training institutions to receive training. The external training is arranged in the principle of "training in the missing knowledge and the knowledge in need". In general, external training includes the training in operation skills necessary for production and operation, qualification certification projects and training to improve the management quality of employees. We give priority to employees at key positions, academic leaders, core staff and reserve cadres in external training.



Smooth career development channel

In developing human resources, the Company complies with the creed to respect the will of employees, respect the development path chosen by employees and assist employees' development. The Company and its subsidiaries have designed a career development path of vertical promotion and horizontal development for employees. The Company provides professional technical staff with a ranking and remuneration equal to those of managers and more career development opportunities, which will have two parallel career development paths: one is the management career path, i.e. the management ladder; another is the professional technician career path, i.e. appointment as professional technicians.



Care for Employees

We emphasize humanistic care for employees by providing assistance to employees with financial difficulties and providing front-line staff and workers with care in order to enrich their life and enhance the happiness and loyalty of employees, while creating a corporate atmosphere of advancement with harmony and a happy COMEC.

Help employees with financial difficulties

We help and care for employees with financial difficulties by starting from solving their practical difficulties in their work, life and family. We deliver the Company's care and warmth in a timely manner to employees with financial difficulties through various condolence activities and assistance.

- We arranged employees to participate in renewing and taking out insurance under the Guangzhou Employee Mutual Assistance and Support Program. A total of hardship subsidies amounting to approximately RMB1,560,000 was provided to approximately 4,600 employees of the Company under the Staff Hospitalization Protection Program, the Guangzhou Employee Special Major Disease Aid and Medical Protection Program and the Female Employees Mutual Aid and Protection Program of Guangzhou Federation of Trade Unions.
- On the holidays including the New Year Day, Spring Festival, Women's Day, Labour Day, Mid-Autumn Festival and National Day, we visited and gave condolences to labour models, employees with financial difficulties, hospitalized due to injury and disabled due to work injury and the surviving family members of the employees deceased due to work injury.



Care for low-level employees

We adopted various measures to express our care for low-level employees including front-line staff and labour workers in order to fully mobilize the enthusiasm, initiative and creativity of employees.

- **Safeguard lawful interests of labour workers:** We ensured the payment of salary in full and on time to labour workers, arranged on-the-job health examinations for labour workers and provided legal advices to them.
- **Care for front-line staff:** We conducted condolence activities such as "For the Labour Worker Service Day", and visited a total of over 10,000 front-line employees working overtime during the year.



"For the Labour Worker Service Day" activity



Visited production front-line employees

Enrich Employees' Lives

In order to further enrich the spiritual and cultural life of employees, we conducted a series of popular cultural and sports activities including the "New Year Cup" football game, the "Spring Running with Ankang around the Plant", staff tug-of-war, women employee badminton game and photography competition, which are both educational and entertaining and have helped to build a healthy corporate cultural environment and increase the loyalty of employees.



HARMONIOUS COMMUNITY

The development of an enterprise cannot do without the support of the community, while the development of the community also cannot do without the contribution from the enterprise. While accelerating our own development, we also actively participated in the targeted poverty alleviation cause and volunteer services in the community in order to realize the harmonious win-win of the development of each of the Company, its employees and the community.

Targeted Poverty Alleviation

It is our bounden duty to tackle poverty. In active response to the calls of the nation and the government, we strengthened our assistance and conducted innovative measures to alleviate poverty by helping specified poverty regions to get out of poverty in order to disseminate the affection and support of COMEC staff using love and care.

Total charity donations
during the year RMB

3,736,000

Volunteer Services

5700
persons provided
volunteer services
during the year

42800 hours
of volunteer services
were provided

With the purpose of building a harmonious society, we made use of our professional advantages and carried out various volunteer service activities such as Learn from Leifeng to bring positive energy and love to citizens and the society so that the spirit of Learn from Leifeng continues to be followed around us.



Case Bicycle riding to promote anti-drug

The Company actively fulfilled the social responsibility of building a "Safe Longxue", arranged the Anti-Drug Volunteer Team to carry out the relevant publicity in order to let the idea of "Staying away from drugs and cherishing life" become deeply rooted in people.



COOPERATION AND WIN-WIN

A good partnership is an important cornerstone of the Company's long-term development. We stick to the philosophy of cooperation and win-win, and strive to build a harmonious and cooperative relationship with the stakeholders including suppliers, industry peers and government authorities, so as to promote the healthy and sustainable development of the industrial chain and achieve common prosperity and progress.

Supply Chain Management

Supply chain management has become an important part for modern enterprises to enhance core competitiveness. We strive to establish a sustainable supply chain and achieve growth through open and transparent procurement principles, standardized procurement management system and a sound supplier management system.

Responsible procurement

By following the principles of fairness, impartiality, openness and merit, we adopted a number of measures to regulate material procurement and create a sound environment for competition in order to maximize the comprehensive benefits from quality, cost, service and efficiency.



- Establish a material procurement information platform. We developed and adopted a supplier management system, collected basic information and daily platform data of suppliers, and established a supplier performance database.
- Implement centralized procurement strategy. Procurement is carried out on a centralized basis through the procurement information platform of the Group.

Open tender
procurement rate
during the year
5.17%

Percentage of local
procurement
50.55%

Supplier management

In order to select responsible suppliers, we strictly comply with the laws and regulations relating to bidding and have adopted multiple measures, including the qualification, appraisal and inspection of suppliers, to improve the management of suppliers and their ability to perform duties and lower supply risk.

- We have established a daily supplier performance assessment mechanism relating to completed ships, and assess the performance of suppliers on a project in a timely manner upon completion of the project.
- We conduct annual supplier assessment, select certain outstanding suppliers, unqualified suppliers and blacklisted suppliers based on their annual performance, and take corresponding measures against the suppliers at different categories in accordance with the Supplier Management Rules.
- We interview with unqualified suppliers according to the annual assessment process for their management improvement.
- For suppliers which provide high-quality products at favourable prices and have good creditworthiness, we actively take the initiative to establish strategic cooperation with them.

Percentage of suppliers
passing quality,
environmental and
occupational health and
safety management
system certifications:
90.53%

OUTLOOK

In the face of the situations of excessive global shipping capacity and shipbuilding capacity, in 2018 we will continue to implement China's major strategies including the Belt and Road Initiative and building a marine power. Based on reality, we will continue to improve and enhance the quality and services of our ship products, develop diversified business and strive to become a maritime defence equipment manufacturer with strong competitiveness.

Economic responsibility

- Implement China's major strategies including the Belt and Road Initiative and building a marine power, improve the quality of major products including ships;
- Ensure production safety, continue to deepen 6S management, and strive to improve intrinsic safety;
- Enhance technological innovation, accelerate transformation and upgrading, innovations and informatization to achieve intelligent manufacturing;
- Strengthen the operation and management to enhance the Company's operating



Light more colours

Social responsibility

- Establish a rational and sound mechanism for the selection, education, use and retaining of talents, and compressively assist staff in realizing value;
- Advance targeted poverty alleviation work, and increase community volunteer service to achieve harmonious development with the community;
- Actively carry out responsible procurement and grow with enterprises along the supply chain.



Environment responsibility

- Continue to promote green management and practice green office;
- Take the initiative to implement environmental protection policies, properly manage waste pollution to reduce the impact on environment;
- Endeavour to research and develop green environment-friendly products, and improve the energy efficiency of products to cope with climate changes.

KEY PERFORMANCE INDICATORS

Economic Responsibility

Performance Indicator	Performance in 2017	Performance Indicator	Performance in 2017
Operating income (in RMB100 million)	223.13	First pass rate of process (%)	96.91
Operating profit (in RMB100 million)	-6.90	Number of major safety accidents	0
Total profit (in RMB100 million)	1.68	Safety education and training (person-times)	61,440
Net profit attributable to the Company (in RMB100 million)	0.88	Research and development expense (in RMB100 million)	6.37
Equity attributable to owners of the Company (in RMB100 million)	104.15	Research and development expense as a percentage of operating income (%)	2.86
Value of social contribution per share (in RMB)	2.354	Percentage of research and development personnel to total employees (%)	12.19
Product quality assurance expenses (in RMB ten thousand)	22,916	Number of patents owned by the Company	746

Environment responsibility

Performance Indicator	Performance in 2017	Performance Indicator	Performance in 2017
Environmental protection expenses (in RMB ten thousand)	1137.06	Greenhouse gas emission (ton of carbon dioxide equivalent)	219068.60
Number of hours of environmental protection training provided to each employee (hour)	4	COD emission (ton)	23.35
Comprehensive energy consumption per RMB10,000 of output value (ton of standard coal/RMB10,000)	0.0415	Ammonia nitrogen emission (ton)	2.583
Electricity consumption per RMB10,000 of output value (spot price)	180.20	Solid waste generated (ton)	368.978
Water consumption per 10,000 DWT shipbuilding business (ton/10,000 DWT)	8124.67	Liquid waste generated (ton)	402.884
Wastewater discharge per 10,000 DWT (ton/10,000 DWT)	6212.14	Number of energy-conserving technological achievements	5
Total exhaust emission (10,000 standard cubic metres)	134460	Annual saving of comprehensive energy consumption (ton of standard coal)	31452

Social responsibility

Performance Indicator	Performance in 2017	Performance Indicator	Performance in 2017
Total number of employees	17928	Number of employees deceased due to work	1
Percentage of female employees (%)	11.81	Lost days due to work injury (day)	1,010
Employee turnover rate (%)	7.42%	Total consolation money provided to employees with financial difficulties (in RMB ten thousand)	330
Total number of hours of training provided to employees (hour)	65323	Total amount of donation for targeted poverty alleviation (in RMB ten thousand)	373.6
Number of hours of training provided to each employee (hour)	3.64	Volunteer services (person-times)	5700
Staff social insurance coverage ratio (%)	100	Total number of suppliers	2470
Staff health record ratio (%)	100	Open tender procurement rate (%)	5.17

INDEX OF INDICATORS

Aspects	Key Performance Indicators	Pages
A Environment		
Aspect A1: Emissions		
General Disclosure	Information on the policies and compliance with relevant laws and regulations that have a significant impact on the issuer relating to exhaust and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.	● P28-31
A1.1	The types of emissions and respective emissions data.	● P28-31
A1.2	Greenhouse gas emissions in total (in tonnes) and, where appropriate, intensity.	● P28
A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity.	● P30
A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity.	● P30
A1.5	Description of measures to mitigate emissions and results achieved.	● P29
A1.6	Description of how hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved.	● P30
Aspect A2: Use of Resources		
General Disclosure	Policies on the efficient use of resources, including energy, water and other raw materials.	● P29-31
A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total and intensity.	● P29
A2.2	Water consumption in total and intensity.	● P30
A2.3	Description of energy use efficiency initiatives and results achieved.	● P28-29
A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency initiatives and results achieved.	● P30
A2.5	Total packaging material used for finished products and with reference to per unit produced.	● Not applicable
Aspect A3: The Environment and Natural Resources		
General Disclosure	Policies on minimizing the issuer's significant impact on the environment and natural resources.	● P26-27
A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	● P26
B Social		
Employment and labour practices		
Aspect B1: Employment		
General Disclosure	Information on the policies and compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare.	● P34-35
B1.1	Total workforce by gender, employment type, age group and geographical region.	○ P34
B1.2	Employee turnover rate by gender, age group and geographical region.	○ P34
Aspect B2: Health and Safety		
General Disclosure	Information on the policies and compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards.	● P36
B2.1	Number and rate of work-related fatalities.	○ P36
B2.2	Lost days due to work injury.	○ P36
B2.3	Description of occupational health and safety measures adopted, how they are implemented and monitored.	○ P36

Aspect B3: Development and Training				
General Disclosure	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.	●		P36-37
B3.1	The percentage of employees trained by gender and employee category (e.g. senior management, middle management).	○		P36
B3.2	The average training hours completed per employee by gender and employee category.	○		P36
Aspect B4: Labour Standards				
General Disclosure	Information on the policies and compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour.	●		No violation of laws or regulations on preventing child and forced labour during the Reporting Period
B4.1	Description of measures to review employment practices to avoid child and forced labour.	○		
B4.2	Description of steps taken to eliminate such practices when discovered.	○		
Operating Practices				
Aspect B5: Supply Chain Management				
General Disclosure	Policies on managing environmental and social risks of the supply chain.	●		P40-41
B5.1	Number of suppliers by geographical region.	○		P41
B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored.	○		P41
Aspect B6: Product Liability				
General Disclosure	Information on the policies and compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress.	●		P16-19
B6.1	Percentage of total products sold or shipped subject to recalls for safety and health	○		There were no products subject to recalls for safety and health reasons during the Reporting Period.
B6.2	reasons.Number of products and service related complaints received and how they are dealt with.	○		During the reporting period the Company had not received any complaints about products or services and received recognition letters and advices from ship owners
B6.3	Description of practices relating to observing and protecting intellectual property rights.	○		P21
B6.4	Description of quality assurance process and recall procedures.	○		P17
B6.5	Description of consumer data protection and privacy policies, how they are implemented and monitored.	○		The Company has developed and strictly complied with the special confidentiality measures for customer information, and there has never been any leak of confidential information of customers.
Aspect B7: Anti-corruption				
General Disclosure	Information on the policies and compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.	●		P22
B7.1	Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases.	○		There were no legal cases regarding corrupt practices during the Reporting Period
B7.2	Description of preventive measures and whistle-blowing procedures, how they are implemented and monitored.	○		P22
Community				
Aspect B8: Community Investment				
General Disclosure	Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.	●		P39-40
B8.1	Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport)	○		P39-40
B8.2	Resources contributed (e.g. money or time) to the focus area.	○		P39-40
Note: ● means "comply or explain" indicators, and ○ means "disclosure recommended" indicators.				

ABOUT THIS REPORT

Dear readers, this report is the tenth social responsibility report issued by CSSC Offshore & Marine Engineering (Group) Company Limited. This report is addressed to all stakeholders of CSSC Offshore & Marine Engineering (Group) Company Limited, and its purpose is to describe the Company's concept of sustainable development and disclose the opportunities and challenged faced by the Company in creating values together with its stakeholders, the measures adopted by the Company to achieve sustainable development and the results. With this report, we wish you can feel our care and support and help COMEC's development.



Time frame

1 January 2017 to 31 December 2017, moderately extended to previous and subsequent years for certain contents.



Boundary of report

This report fully discloses the information and key performance of CSSC Offshore & Marine Engineering (Group) Company Limited and its related entities on fulfilling economic, social and environment responsibilities in 2017.



Basis for preparation

- G4 Sustainability Reporting Guidelines issued by the Global Reporting Initiative (GRIG4)
- Guiding Opinions on Fulfillment of Social Responsibilities by Central State-owned Enterprises issued by the State-owned Assets supervision and Administration Commission of the State Council
- Special Industry Guidelines set out in the Guidelines on Corporate Social Responsibility Reporting for Chinese Enterprises 3.0 Version issued by the Chinese Academy of Social Sciences
- Environmental, Social and Governance Reporting Guide issued by the Hong Kong Stock Exchange
- Guidelines for Disclosure of Information by Listed Companies issued by the Shanghai Stock Exchange



Reliability assurance

The Company undertakes that this reports contains no false statements, misleading statements or material omissions.



Source

All information and data used in this report are derived from official internal documents, statistical reports and annual reports of the Company. Unless otherwise specified, all amounts are expressed in Renminbi.



Explanation for titles

For ease of presentation and reading, in this report, "COMEC", "the Company" and "we" mean "CSSC Offshore & Marine Engineering (Group) Company Limited"; "the Group" means "COMEC and its related entities"; "CSSC" means "China State Shipbuilding Corporation"; "GSI" means "Guangzhou Shipyard International Company Limited"; "Huangpu Wenchong" means "CSSC Huangpu Wenchong Shipbuilding Company Limited"; and "Nanfang Environment" means "Nanfang Environment Co., Ltd".



Method to obtain this report

You may view or download the electronic version of this report at our website (comec.cssc.net.cn).

FEEDBACK FORM

Dear readers,

Hello! Thanks for reading this report during your busy time. It is inevitable that there may be flaws and omissions in this report. In order to improve our report preparation, we sincerely hope to hear your opinions and suggestions. Please feel free to contact us! Your opinions and suggestions will become an important basis for us to improve our report.

Open questions: (Please mark "√" in the corresponding box)

	Very good	Good	Fair	Bad	Very bad
Your overall impression of this report:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
You think the quality of information on social responsibility disclosed in this report is:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
You think the structure of this report is:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
You think the layout design of this report is:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
You think the readability of this report is:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Which issues disclosed in this report are you most concerned about? (Up to three items)

- | | | |
|---|--|--|
| <input type="checkbox"/> Quality management | <input type="checkbox"/> Technological innovations | <input type="checkbox"/> Compliance operation |
| <input type="checkbox"/> Green management | <input type="checkbox"/> Green research and development | <input type="checkbox"/> Green production |
| <input type="checkbox"/> Staff development | <input type="checkbox"/> Targeted poverty alleviation | <input type="checkbox"/> Cooperation and Win-win |
| <input type="checkbox"/> Production safety | <input type="checkbox"/> Environmental protection business | <input type="checkbox"/> Others (pleas specify)_____ |

Open questions:

What further opinions or recommendations do you have on this social responsibility report or our social responsibility performance?



Mail: 40 South Fangcun Main Road



Email: COMEC@ COMEC .CSSC.NET.CN



Telephone: 020-81636688



Website: COMEC.CSSC.NET.CN