



DONGGUANG CHEMICAL LIMITED

東光化工有限公司

(incorporated in the Cayman Islands with limited liability)

Stock Code : 1702

2021

ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT



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INTRODUCTION

About the report

Dongguang Chemical Limited (hereinafter referred to as “the Company” or “Donghua”), and its subsidiaries (the “Group”) are pleased to submit their annual environmental, social and governance (ESG) report to disclose our ESG management policy and main operating performance.

Report Availability

The Report is available in electronic version which can be viewed and downloaded on the Group’s website (<http://www.dg-chemical.com>) and the HKEXnews website (<http://www.hkexnews.hk>). Requests for printed copies of this report should be addressed to the Company Secretary of the Company by email to info@dg-chemical.com.

Report period

Unless otherwise stated, the content of this report covers the year from January 1, 2021 to December 31, 2021.

Report scope

The Group focus on the research and production of urea products. At the same time, the company has added a new product-automotive urea, which is used in the field of diesel vehicles such as heavy trucks and buses.

The Company continues to fulfill its promise as a responsible company by making progress in environmental protection and sustainable development. Through cooperation with relevant stakeholders and partners, we fulfill our commitment to maintain the core values of the Group. Guided by the implementation of social responsibility plans, we focus on sustainable development, environment and society.

Reporting principles

This report aims to provide relevant stakeholders with an overview of the company’s policies, performance and plans on major environmental and social issues. All information in this report is compiled and published in an accurate, truthful and transparent manner in accordance with existing policies, practices, and official documents or reports, and follows the following reporting principles:



Importance

Environmental, social and governance issues that have a significant impact on investors and other relevant stakeholders must be listed in this environmental, social and governance report.



Quantify

If key performance indicators are established, they must be measurable and comparable under appropriate circumstances. These indicators must also explain the purpose and effect of the quantitative information.



Balance

This Environmental, Social and Governance Report shall impartially report the Group’s performance in environmental, social and governance aspects, and avoid choices, omissions or reporting formats that may improperly influence readers’ decisions or judgments.



Consistency

This report calculates ESG data based on the “ESG Guidelines” and consistent methods.

Our ESG management policy

The company has implemented a top-down management policy on ESG management within the group. The Board of Directors is responsible for determining the Group's ESG strategy, assessing ESG risks and opportunities, and monitoring the overall ESG performance of the Group (including environmental management issues, labor practices and other ESG aspects).

Board declaration

The board plays an important role in overseeing the group's environmental, social and governance issues. During the year ended 31 December 2021 (the "**Reporting Period**"), the board, and management along with the environmental, social and governance team spent significant time assessing the impacts that environmental, social and governance-related risks pose on operation, and developing environmental, social and governance policies to address associated risks. The management of the company holds regular meetings to understand the progress, objectives and objectives of environmental, social and governance related performance.

The board is in charge of monitoring strategies and reporting of the group's environmental, social and governance to ensure that the board's requirements are met. In addition, the board also oversees and reviews the group's compliance with environmental, social and governance laws and regulations of external regulatory bodies such as The Stock Exchange of Hong Kong Limited (the "**Exchange**"). The board holds regular meetings to help understand progress, goals and objectives of environmental, social and governance-related performance.

The management and the environmental, social and governance team are primarily responsible for reviewing and overseeing the group's environmental, social and governance processes and risk management. Environmental, social and governance matters and environmental, social and governance related issues were reviewed at the daily work meeting during the Reporting Period.

The board has identified potentially significant issues relating to its business and stakeholders. The board, as the main stakeholder of the company, also participates in the materiality assessment and provides constructive advice on the importance of environmental, social and governance issues.

1. COMPANY PROFILE

1.1 About us

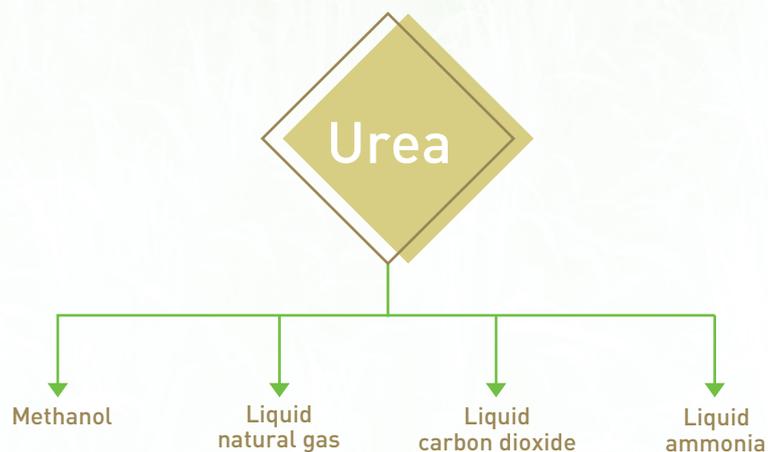
1.1.1 Brief Introduction

Hebei Dongguang Chemical Co., Ltd (“**Dongguang Chemical**”), the indirect wholly owned subsidiary of the Company, was originally established in 1970. Its predecessor, Hebei Dongguang Huafei Factory (“**Dongguang Huafei**”), was a local state-owned enterprise and was later privatized and reorganized in July 1998. On July 11, 2017, the Group was listed on the Main Board of the Stock Exchange of Hong Kong Limited (the “**Stock Exchange**”), (Stock code “1702”).

We have been focusing on the research and production of urea since 2001, and have gradually grown into the largest urea production enterprise in Hebei Province and ranked among the top 20 urea manufacturers over the country. We are close to major national highways, railways and important ports in North China. The superior geographical location allows the Group to quickly meet the demands of customers in various regions. The Group has maintained a good relationship with clients while building its brand image in Hebei Province and surrounding areas. We continuously improve production technology, improve product quality and quantity, and actively control costs while increasing company revenue. We focus on environmental protection and production safety, with a stable talent team and management team, laying a solid foundation for the Group’s subsequent development. The company currently has production plants equipped with advanced production equipment with a total area of 700,000 square meters. The company currently has two sets of urea production plants, of which the annual production capacity of leading product urea is 1.1 million tonnes, and some by-products such as methanol, liquid CO₂, LNG, vehicle urea, etc. Since the establishment of the plant, the company has been adopting the fixed-bed intermittent coal gasification process. After 50 years of scientific transformation and independent development, the company has made the fixed intermittent coal gasification process fully automated and achieve zero-emission, ensuring that the production process is intrinsically safe and clean.

In July 2019, we were on the list of green factories announced by the Ministry of Industry and Information Technology and were selected as a “National Green Factory”, reflecting the society’s recognition of the Company’s environmental protection and actively promote our construction of green industry.

1.1.2 Major industries



The Group is one of the major coal-based urea producers in the PRC, with headquarter located in Hebei Province. The Group mainly produces and sells urea. It also produces and sells other by-products of urea, including methanol, liquid carbon dioxide and liquid natural gas.

- Urea

Urea is a white crystal composed of carbon, nitrogen, oxygen and hydrogen. It is one of the simplest organic compounds and nitrogen fertilizer containing the highest nitrogen content. Urea is a neutral fertilizer, easy to store and use. It does little damage to the soil and is suitable for various soils and plants.

Based on particle size, urea products can be categorized into granular urea (large granular) and prilled urea (small granular). Compared with the prilled urea, the granular urea has a higher fertilizer utilization rate and a longer fertilizer effect time. It is often used as a base fertilizer and has comparatively obvious seasonal characteristics. The prilled urea is slightly faster to dissolve and release after application. It is commonly used for fertilization and can be used all year round. As the Group's main product, urea sales volume accounts for a high proportion of the total product sales year round, and customers who buy urea products mainly include (i) farmers who use urea as fertilizer; (ii) enterprises that directly sell urea to farmers; (iii) enterprises that use urea to produce synthetic fertilizers; (iv) Chemical enterprises that use urea to produce melamine and Cyan uric acid. In 2019, the Group launched a new product-compound fertilizer and tried to sell it in small quantities. Compared with urea, compound fertilizer has more nutrient elements, higher nutrient content, and improved fertilizer utilization, which plays an important role in promoting high and stable crop yields.

- Vehicle urea

Vehicle urea solution is an essential product for heavy-duty diesel vehicles to meet the National IV emission standards or above. It refers to an aqueous urea solution with a urea concentration of 32.5% and ultrapure water as the solvent. Heavy-duty trucks, buses and other diesel vehicles must meet the National IV emission standards, and in terms of exhaust gas treatment, it is necessary to select suitable SCR systems where urea solution is needed to treat the nitrogen oxides in the exhaust gas. Therefore, vehicle urea solution has become an essential product for heavy-duty diesel vehicles to meet the National IV emission standards.

- Liquid carbon dioxide

Liquid carbon dioxide is a gas generated in the decarbonization step during the manufacturing process of urea. It is obtained after several steps such as purification, compression, purification, distillation and cooling. Liquid carbon dioxide is often used as a refrigerant and artificial rainfall due to its extremely low temperature (-37°C); it can be used to extinguish fires caused by flammable liquids due to its rapid cooling and oxygen isolation characteristics. It is also one of the important main raw materials, for example it is often used to make products such as soda ash.

- Methanol

Methanol is a colorless, transparent and volatile liquid with a pungent odor. It is soluble in water and miscible in organic solvents such as ethanol and benzene. Therefore, it is an important organic chemical raw material. Methanol is mainly used in the production of formaldehyde, and is also commonly used in industries such as medicine, agriculture, chemical industry, and energy.

The methanol production methods include gas-to-methanol, coal-to-methanol, and cooking gas to methanol. Because of the lack of natural gas resources, the Group mainly uses coal to produce methanol, and is equipped with innovative equipment and utilizes technologies developed by China to facilitate the Competitors are in an advantage state.

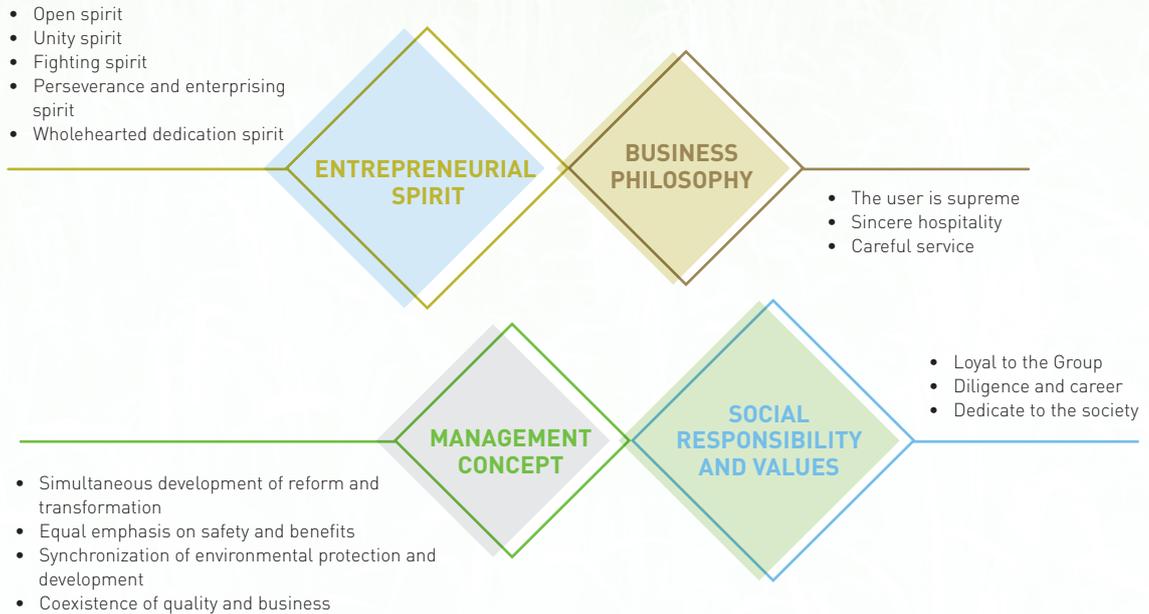
- Liquid natural gas

The main component of liquid natural gas is methane, which is recognized as the cleanest energy source on Earth. It is colorless, odorless, non-toxic, and non-corrosive. It is a relatively advanced energy source. As the heat utilization rate of natural gas can reach 55%, which is higher than that of oil and coal, many countries import liquefied natural gas for power generation. Secondly, companies that produce glass and ceramics are often far away from cities or gas pipelines while consuming a lot of energy. Compared with coal, liquefied natural gas can not only solve the above-mentioned problems, but also greatly improve the quality of products, making it a popular choice for similar enterprises. In addition, as a sustainable and clean energy source, liquefied natural gas can also be used as an alternative fuel for automobiles and as a fuel for residents' daily life.

- Liquid ammonia

Liquid ammonia, a colorless liquid with a strong pungent odor, is an important chemical raw material in industry. Liquid ammonia is widely used in the production of chemical fertilizers, such as nitric acid, and can also be used as a raw material for medicines and pesticides. Because liquid ammonia is converted into gas ammonia after gasification, it can absorb a lot of heat and is known as a refrigerant. In addition, liquid ammonia has a certain sterilization effect, so it is used for sterilization and cooling in the poultry breeding industry. At the same time, because of its special chemical properties, it is often used in the production of semiconductors and integrated circuits.

1.1.3 Corporate social responsibility



1.2 Honors and Achievements

1.2.1 Responsibility honors overview

Since the establishment of the Group, we have won many honors with our good brand image, advanced manufacturing process, well-developed corporate governance structure, sound information disclosure system, and environmentally safe production awareness and concepts. We were honored with the titles of 2011-2012 Technologically Advanced Enterprises, Top 20 National Nitrogen Fertilizer Enterprises Urea Total Profit Companies in 2015, Safety Production Standardization Secondary Enterprise in 2016. In 2018, we were honored the title of "Advanced Enterprise" and Top 20 National Nitrogen Fertilizer Enterprises Urea Production and Total Profit Companies. In 2019, it was awarded the titles of Advanced Unit of Energy Conservation and Emission Reduction in the Nitrogen Fertilizer and Methanol Industry, and "Hebei Province Credit Enterprise". In 2020, it was awarded the "2020 China Top 500 Petroleum and Chemical Enterprises", "Hebei Province Leading Industry Leading Enterprise", "China Nitrogen Fertilizer Industry Vice Chairman Unit of the Seventh Council of the Association" and other titles. In 2021, it was awarded the "2021 China Top 500 Petroleum and Chemical Enterprises", "2021 Hebei Province manufacturing top 100 private enterprises", "Advanced unit of energy conservation and emission reduction in nitrogen fertilizer and methanol industry during the 13th Five-Year Plan period", "The eco-friendly development model in China Petroleum and Chemical Industry during the 13th Five-Year Plan period" and other titles.

The following is an overview of the honors we received in 2021:



In November 2021, China Petroleum and Chemical Industry Federation and China Chemical Enterprise Management Association awarded Dongguang Chemical the title of "2021 China Top 500 Petroleum and Chemical Enterprises".



In November 2021, Dongguang Chemical ranked the 398th place among China's top 500 independent production and operating petroleum and chemical companies.



In October 2021, Dongguang Chemical was rated as "Advanced unit of energy conservation and emission reduction in nitrogen fertilizer and methanol industry during the 13th Five-Year Plan period."



In July 2021, Dongguang Chemical was rewarded "Science and Technology Grand Prize" by China Nitrogen Fertilizer Industry Association.



In September 2021, Dongguang Chemical was rewarded "Science and Technology Progress Award" by Chinese Chemical Industry Society.



In September 2020, Hebei Province Federation of Industry and Commerce Dongguang Chemical was awarded the title of "No. 82 in the Top 100 Private Manufacturing Enterprises in Hebei Province in 2020".



In January 2021, Dongguang Chemical was awarded the title of "The Eco-friendly Development Model" by China Chemical Industry News.



In January 2022, Dongguang Chemical was awarded the title of "The Social Responsible Model" by China Chemical Industry News.

1.2.2 Key achievements overview

In 2021, the Company will continue to introduce advanced technology and equipment on the production line to effectively increase production capacity and reduce production costs. Secondly, a thorough transformation and upgrade have been carried out, in response to the environmental protection problems that have plagued the fixed-bed intermittent coal gasification process for many years. The Company realizes the closed circulation and clean treatment of the direct cooling of the gas-making cooling water to indirect cooling, and realize the “zero discharge” of waste water, waste gas and residue. Based on the Company’s continuous attention and efforts to environmentally friendly production and safe production, the Company has been shortlisted for the fourth batch of green manufacturing publicity lists of the Ministry of Industry and Information Technology since 2019, and has been rated as a national green factory.

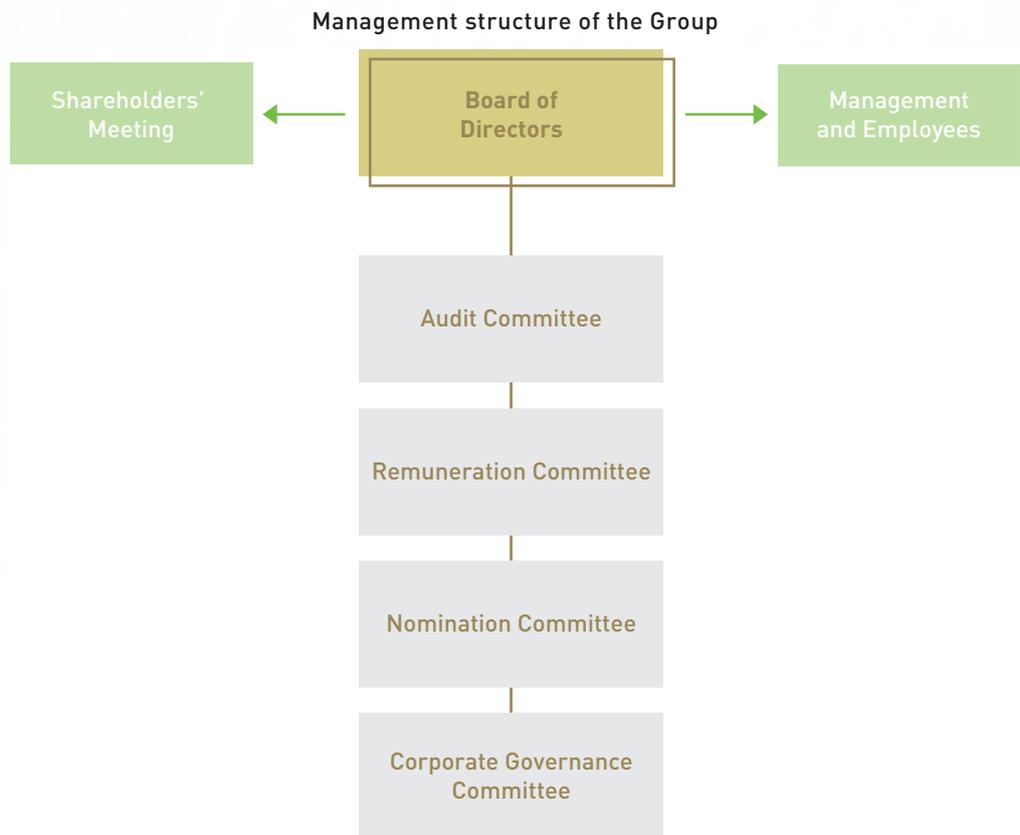
A green factory refers to a factory that realizes intensive land use, clean production, waste recycling, and low-carbon energy. In June 2015, the State Council officially issued “Made in China 2025”, which proposed to adhere to the basic principles of “innovation-driven, quality first, green development, structural optimization, talent-oriented”, and took the construction of green factories as a priority. The green factory is the main body of green manufacturing and plays a vital role in the industrial environmental protection upgrade. Green manufacturing is an important means to solve national resource and environmental problems, an important task for industrial transformation and upgrading, an effective way for the industry to achieve green development, and an inevitable choice for enterprises to actively assume social responsibility.

We have long been adhering to the concept of green environmental protection development, non-stop technical transformation, management and efficiency, and have done a lot of work in green transformation and achieved good results. In the future, we will continue to improve the Group’s green level from various aspects such as energy and water saving, cleaner production, pollution prevention, and comprehensive utilization of resources, and improve the construction of the Group’s green manufacturing system.

1.3 Corporate governance

1.3.1 Corporate Governance Framework

In accordance with relevant national laws and regulations, the resolutions of the shareholders' (general) meeting and the company's articles of association, the Group has clarified the organization of the chairman, board of supervisors, management and various levels of the Group's internal organization, staffing, responsibilities, working procedures and related requirements Hierarchical system. The Group's management structure is shown in the following table:



With reference to the above corporate governance system, the main conditions of corporate governance are as follows:

- (1) Shareholders and Shareholders' Meetings: During the year, when the general meeting of shareholders of the Group reviewed relevant proposals and the Group's major business decisions, the topics of the meeting were considered through voting and the authorities were exercised according to law.
- (2) The relationship between the controlling shareholder and the listed company: The resolution of the general meeting must be passed by more than half of the voting rights held by the shareholders attending the meeting. The controlling shareholders strictly abide by the relevant laws and regulations of the securities market, regulate the company's corporate governance and information disclosure procedures, and perform their duties with due diligence to promote the standardized operation of the Company and improve the quality of the Company.
- (3) Directors and Board of Directors: All directors of the company exercise their powers and obligations strictly in accordance with the provisions of the listing rules, perform their duties faithfully, and safeguard the interests of the company. The directors of the company maintain a cautious, serious and diligent attitude, and make objective and fair judgments on the resolutions considered by the board of directors based on their professional knowledge and capabilities. Regularly convene and actively participate in board meetings to promote the effective operation of the company. The board of directors is responsible for formulating and supervising the company's strategic development and assuming the company's corporate governance responsibilities.
- (4) Executives: The company employs and changes senior management personnel in strict accordance with the provisions of the listing rules. Senior management personnel are able to perform their duties in accordance with laws and regulations, have important responsibility for the company's management and performance benefits, and make every effort to realize the company's best interests.

1.3.2 Overview of Dongguang Chemical Limited's Board of Directors

The board of directors is the Company's business decision-making center. The board of directors is entrusted by the general meeting of shareholders to manage the Company's legal person property and is responsible for the general meeting of shareholders. As of December 31, 2021, the Company's board of directors is served by seven directors, including three executive directors, one non-executive director and three independent non-executive directors.

Director Information:

Name	Age	Position	Date of appointment	Date of joining the Group	Responsibility
Wang Zhihe	64	Executive director Chairman of the Board	2014.06.12	1998.07	Responsible for the Group's overall strategic development and lead the Group's business development
Sun Zushan	69	Executive director	2014.06.12	1998.07	Responsible for the overall operational management of the Group
Xu Xijiang	60	Executive director	2014.06.12	1998.07	Responsible for the overall technology and production management of the Group
Chen Jimin	48	Non-Executive Director	2018.04.06	2018.05	Supervise management, participate in the direction of the Group's business and affairs, and provide objective opinions on the issues facing the board.
Lin Xiuxiang	59	Independent non-executive director	2017.06.20	2017.06	Supervise the board, Audit Committee, Remuneration Committee, Nomination Committee, Corporate Governance Committee and make independent judgments
Liu Jincheng	58	Independent non-executive director	2017.06.20	2017.06	Supervise the board, Audit Committee, Remuneration Committee, Nomination Committee and make independent judgments
Ng Sai Leung	49	Independent non-executive director	2017.06.20	2017.06	Supervise the board, Audit Committee, Remuneration Committee, Corporate Governance Committee and make independent judgments

1.3.3 Overview of stakeholders and the communication with them

The relevant stakeholders and the Company are complementary to each other, and different stakeholders play different roles in the Company. The development of the Company is inseparable from the participation, investment and supervision of various stakeholders, so the relevant stakeholders are extremely important for the survival, development and governance of the Company, and the relevant stakeholders also achieve their own goals through the Company. Therefore, the ability to maintain good communication with relevant stakeholders will affect the Company's daily operations. The Company should maintain a certain frequency of contact with relevant stakeholders to facilitate understanding of its goals and concerns. At the same time, the opinions of relevant stakeholders are also factors that the Company needs to consider when making important decisions.

The following figure is an overview of relevant stakeholders:

Stakeholders	Main objectives and focus	Communication channel	Measures
Shareholders and investors	Steady operations, revenue payback, protection of shareholders' rights; true, accurate, and timely disclosure of information.	Interim Report, Annual Report, Shareholders' Meeting, Stock Exchange Information Disclosure	According to the Listing Rules, regularly discloses interim reports, annual reports and announcements, and holds shareholders' meetings.
Customers	Product quality and quantity guarantee, long-term and stable cooperation.	Visit regularly and maintain daily communication.	Establish a quality inspection center and a customer service center. Strictly monitor product quality and provides customers with satisfactory products. While focus on protecting the interests of customers, facilitating customers and serving customers and ensuring the smooth delivery of goods.
Government	Operating legally, paying taxes according to law, producing safe and environmentally friendly, fulfilling social responsibilities	On-site inspections, work conference discussions, approval of work reports.	Legal operation, compliance management, and tax payment in accordance with the law. Strengthen the Company's safety production and environmental protection management; receive supervision and inspection by the government, and actively undertake social responsibilities.
Staff	Guarantee of fundamental rights and interests, welfare and remuneration, working environment, development space, occupational health and safety, self-value realization.	Trade unions, employees and management communication channels, set up a WeChat platform for employees to facilitate timely feedback on job suggestions, employee activities, training and learning.	Establish a corporate trade union organization to provide employees with a communication platform; pay compensation and benefits in full and on time, pay social insurance in accordance with the law; provide a healthy and safe working environment; establish a fair promotion mechanism; care for employees, help employees in difficulties, and organize employee activities.

Stakeholders	Main objectives and focus	Communication channel	Measures
Suppliers	Fair bidding, long-term stable cooperation and timely payment.	Bidding meetings, fairs, daily communication.	Fair bidding, selection of merit, performance of contracts as per contract, strengthening of daily communications, long-term cooperation with high-quality suppliers.
Bank	Repayment on schedule, operating conditions, business risks, honesty and credit.	Work conference, on-site inspection, post-loan tracking, and daily communication.	Repayment of loans and interest on time, cooperation with loan review and supervision.
Competitors	Fair competition, cooperative development, sharing of technology and experience, industry development.	Seminars, exchange visits, negotiations, industry conferences.	Practiced fair competition, achieved win-win cooperation, shared experiences, participated in industry seminars and research exchange activities for more than ten times, and promoted the sustainable development of the industry.
Market supervisor	Compliance with regulatory requirements, compliance management, disclosure of information and filing information.	Consulting, information disclosure, reporting, filing information.	Strictly abide by regulatory requirements, and disclose information and filing materials in a timely, accurate, and truthful manner according to law.

- Investor Relationship Management

Investor relationship is an important factor to enhance the Company's value. Strengthening the management of investor relations is beneficial to the Company's establishment of a good capital market, improvement of investor's recognition and loyalty to the Group, and then maximizes the relative value of the Company. On a daily basis, the Group communicate with investors through emails, regularly disclose interim reports, annual reports and announcements in accordance with the Listing Rules and hold shareholders' meetings.

- Customer Relationship Management

The Group has fully developed its production technology and management since joining the industry, continuously improving the quantity and quality of its products and enabling the Group to establish long-term and stable relationships with customers in the industry.

In order to complete the customer's order with quality and quantity, we use a quality control system to strictly control the quality of the product, mainly in the testing and inspection of product production, and the secondary control of product quality in packaging and storage, through sealed packaging and timely delivery with production, so as to ensure the high quality of products.

- Environmental Protection Agency Relationship Management

Dongguang County Branch of Cangzhou Ecology and Environment Bureau strictly supervises and manages the Group's environmental protection implementation in accordance with relevant national laws and regulations. At the same time, the Environmental Protection Bureau will propose improvements to the Group's existing environmental protection work, so that the Group's environmental protection work can continue to be improved while meeting the standards.

- Government Relation Management

We strive to use various information dissemination channels and methods to carry out two-way information exchange with the government to obtain government trust, support and cooperation, so as to establish a good external environment for the Group and promote the Group's survival and development.

- Relationship Management In The Same Industry

China Nitrogen Fertilizer Methanol Conference



On July 21, 2021, the Company participated in the "2021 China Nitrogen Fertilizer Methanol Conference". The meeting reviewed the achievements made by the industry in production and technological innovation and development since 2020, introduced the main work carried out by the association in promoting the technological progress of the industry in the past year, and put forward the focus and direction of the industry's innovative development. The Company won the science and technology special prize of China Nitrogen Fertilizer Industry Association for "Fixed Bed Intermittent Gas Making Circulating Water Volatile Pollutant Treatment Technology", and once again won the advanced unit of energy conservation and emission reduction in China's nitrogen fertilizer and methanol industry.

The Third Council of the Seventh Session of the China Nitrogen Fertilizer Industry Association



On December 11, 2021, the Company participated in the third council meeting of the seventh session of the China Nitrogen Fertilizer Industry Association. The meeting summarized the operation of the industry from January to October and the main work completed by the association, analyzed the situation of nitrogen fertilizer at home and abroad, and put forward the focus of the next stage.

2. ENVIRONMENTAL PERFORMANCE ANALYSIS

2.1 Overview of relevant environmental protection laws applicable to major business areas of the Group

 2014	《Law of the PRC on environmental protection》 (Amended in 2014) To protect and improve the environment, prevent pollution and other public hazards, safeguard public health, recommend ecological civilization construction and promote sustainable economic and social development.
 2015	《Law of the PRC on the prevention and control of atmospheric pollution》 (Amended in 2015) To protect and improve the environment, prevent and control atmospheric pollution, safeguard public health, promote the construction of ecological civilization and promote sustainable economic and social development.
 2016	《Hebei Province Air Pollution Control Regulations》 (Amended in 2016) Prevent and control air pollution, protect and improve living environment and ecological environment, protect human health and promote the development of socialist modernization.
 2017	《Law of the PRC on water protection》 (Amended in 2017) To protect the environment, prevent and control pollution, and promote the development of pollution control technologies for the production of synthetic ammonia. 《The regulations of environmental protection of constructive project》 To prevent construction projects from generating new pollution and destroying the ecological environment.
 2018	《Law of the PRC on Environmental Protection Tax》 To protect and improve the environment, and reduce pollutant emissions. 《Law of the PRC on air protection》 (Amended in 2018) To protect the environment, prevent and control air pollution, protect public health, and promote the construction of ecological civilization. 《Law of the PRC on soil protection》 To protect and improve the ecological environment, prevent and control soil pollution, protect public health, and promote the sustainable use of soil resources.
 2019	《Administrative Measures on Coal Substitution for Coal-Used Investment Projects in Hebei Province》 To strengthen the prevention and control of air pollution, implement the goal of total coal consumption control, and standardize the coal substitution management of coal-fixed asset investment projects. 《Comprehensive Treatment Scheme for Volatile Organic Compounds in Key Industries》 To improve the scientific, targeted and effective management of volatile organic compounds (VOCs), and coordinate the control of greenhouse gas emissions. 《Integrated Control Plan for Air Pollution of Industrial Furnace》 To strengthen the comprehensive control of atmospheric pollution of industrial furnaces and kilns, coordinate the control of greenhouse gas emissions, and promote the development of high-quality industries.
 2020	《Law of the people's Republic of China on the prevention and control of environmental pollution by solid waste》 Protect and improve the ecological environment, prevent and control environmental pollution by solid waste, ensure public health, maintain ecological security, promote the construction of ecological civilization, and promote sustainable economic and social development

2.2 Emissions Correlation Analysis

The pollutants emitted by the Group due to fuel combustion mainly include nitrogen oxides (NO_x), sulfur dioxide (SO₂) and particulate matter. Most of the exhaust gas emitted comes from the consumption of coal fuel combustion, and a small part comes from the consumption of cars. The Group has set emission reduction targets for all gas emissions, effluent and industrial water consumption, and all gas emissions, effluent and industrial water consumption (in tonnes) generated per tonne of urea, a major product, will not increase by more than 5% compared to last year's emissions calculated on the same baseline.

The Group's main fuel combustion source is coal. White coal and bituminous coal are the main raw materials used in the production of products. White coal has a high carbon content and the least amount of impurities. It is used as a raw material for the production of urea and methanol. Bituminous coal has a lower carbon content than white coal. It is used to produce electricity for the production process and steam for gasification. The types of vehicles that consume fuel are mainly small and light-duty vehicles, mainly from small-sized vehicles, and the consumption of passenger cars, trucks and other vehicles.

2.2.1 Exhaust emission data calculation

In the process of combustion, air pollutants such as nitrogen oxides, sulfur oxides, and particulates are emitted. Excessive discharge of pollutants can lead to air pollution. Therefore, the appropriate amount of pollutants is an important prerequisite and a priority for the chemical industry. The emission volume of each type of gas is calculated based on the data obtained and collected by the Group's gas fuel consumption and vehicle emissions and is shown in the following figure:

2021 Air Pollutant Emissions of the Group (Unit Tons)



According to the standards set by the local environmental protection bureau for waste emissions, the annual limit of nitrogen oxides are 549.25 tons, and the annual limit of sulfur oxides are 327.1 tons. As shown in the above figures, the NO_x and SO_x emissions of the Group in 2021 were 431.73 tons and 104.47 tons respectively. The total emissions of the two major air pollutants have not exceeded the standard indicator.

KPI	2021	2020
Nitrogen oxides	431.73	427.86
Tons/1 million RMB income	0.16	0.22
Sulfur oxides	104.47	93.74
Tons/1 million RMB income	0.04	0.05

The company's emission intensity decreased by about 28% compared with the previous year, and the Company's environmental protection policy has effectively controlled the emission intensity of nitrogen oxides and sulfur oxides to achieve the Company's established emission intensity control targets.

2.2.2 GHG emissions data calculation

Greenhouse gases will be emitted through both direct and indirect methods. The combustion of fuel by fixed and mobile sources will directly emit a certain amount of greenhouse gases, which covers the greenhouse gas emissions directly generated by the business owned or controlled by the company, which is Scope 1; the electricity provided will indirectly emit greenhouse gases which is Scope 2. Our company can basically recover carbon dioxide generated during the production process of fixed source combustion. The carbon dioxide recovered from this part is then produced into liquid carbon dioxide as by-product and then added into the sales channel. The mobile source (small and light vehicle emissions) fuel consumption and emissions of carbon dioxide, methane and Nitrous Oxide amounted to 109,428.92 tons of carbon dioxide equivalent. We calculate the carbon dioxide emissions of 673,861.38 tons of carbon dioxide equivalent via the Group's monthly electricity bills.

The table below shows the group's carbon footprint for the year: (tons)

KPI	2021	2020
Scope 1 – Direct emission		
Direct emission	0.00	0.00
Scope 2 – Indirect emission		
Flow source	109,428.92	69,076.16
Fixed source	673,861.38	622,285.47
Total	783,290.30	691,361.63
Tons/1 million RMB income	284.20	356.83

The Group's emission intensity decreased by about 20% compared with the previous year, and the Group's environmental protection policy has effectively controlled the carbon dioxide emission intensity and achieved the Group's established emission intensity control target.

2.2.3 CLIMATE CHANGE

Global climate change is one of the most concerned environmental issues and challenges in the future, which has led to an increase in the frequency of extreme weather in recent years. The Group has always been adhering to the concept of “green water and green mountains are golden mountains and silver mountains”, actively responding to climate change, implementing the national carbon peak in 2030 and carbon neutrality targets in 2060, starting the preparation of the “carbon peak, carbon neutrality” action plan, comprehensively promoting the implementation of the green and low-carbon strategy, striving to develop clean energy, vigorously promoting energy conservation and emission reduction projects, improving the utilization rate of energy resources, and creating a resource-saving green enterprise. The Group’s management has been seeking ways to improve emission reductions and believes that any output in its production process can be reused/recycled to some extent as an input to other production processes.

In response to the regulations and requirements of national and local competent climate change authorities, the company has incorporated climate risk into the Group’s comprehensive risk management system and formulated management policies and strategies to actively resist climate change.

(1) THE MAJOR DIFFICULTIES FACED BY COMPANY:

<p>Policy risk</p> 	<ol style="list-style-type: none"> 1. The emission standards of pollutants have been continuously improved; 2. The “fee to tax” of water resources and pollutants promotes enterprises to reduce emissions 	<p>Using new technology, new process, vigorously develop the circular economy.</p>
<p>Transformation risk</p> 	<p>At present, the capacity of nitrogen fertilizer and phosphorus fertilizer in China is surplus, and potash fertilizer needs to be imported in large quantities;The rapid growth period of chemical fertilizer consumption has basically ended and will enter the era of structural adjustment</p>	<p>Scientific and technological innovation, improving quality and reducing costs, while strengthening the R & D and promotion of new fertilizers and compound fertilizers.</p>
<p>Technology risk</p> 	<p>Because of the serious over exploitation of groundwater in Hebei Province, and donghua is a big water user. The water resource tax leads to limited water use and higher operating costs.</p>	<p>Develop water recycling technology, recycle and reduce the waste of water resources. At the same time, use Changjiang water to reduce the use of groundwater.</p>
<p>Environment responsibilities</p> 	<p>To ensure the green environment of the production base, if the treatment of pollutants is unreasonable, it will affect the enterprises to get the emission permit;if too many pollutants affect the local environment, it will exceed the ecological red line.</p>	<p>Strictly abide by the environmental protection law and other relevant national laws, control the emission of pollutants; at the same time, develop new technologies to reduce the emission of various pollutants,so that the enterprise emission standard is lower than the minimum emission index set by the state</p>
<p>Risk of disaster</p> 	<p>Loss of equipment, damage of building facilities, etc;</p>	<p>Organize disaster drill; Purchase of commercial insurance;</p>

2.3 Waste classification and emissions

2.3.1 Waste classification and processing

Dongguang Chemical Waste Sorting and Discharging in 2021 (Unit: Ton)

Category	Name	Collection	Treatment	Weight	
General waste	Non-recyclable waste	Peel, residual food and other domestic waste	Placed in company trash	Collection	6.45
	Recyclable waste	Sludge	No emission targets and no emissions	Burned by three-waste furnace	100.17
Slag		Put it in the specified storage	Send three waste furnace to burn	41,602.00	
	Waste paper: waste newspapers, office waste paper, etc.	Put it in the specified storage	Dealt by waste recyclers	1.60	

2.4 Resource Usage Analysis

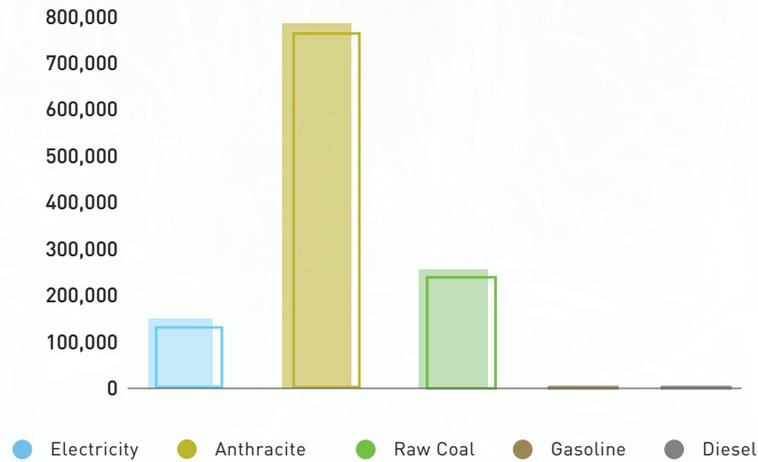
2.4.1 Main energy consumption structure of enterprises

In 2021, Dongguang Chemical consumed 25 tons of gasoline, 63 tons of diesel, 0.352 million tons of fuel coal, and 0.865 million tons of anthracite, the power consumption is 1.126 billion kwh. The Group applies water sources according to relevant national environmental protection policies and regulations, and has always adhered to the concept of water conservation. In 2021, the total water consumption of Yangtze River is about 3.16 million tons.

In 2021, Dongguang Chemical's various energy consumption was 1.141 million tons of standard coal, of which 67.27% originated from anthracite, 20.97% originated from bituminous coal, and 11.76% originated from electricity.

KPI (10,000 tons)	2021	2020
Water Resources (Yangtze River Water)	316.00	57.03
Water resources (groundwater)	0.00	47.40
Standard coal	114.10	114.24
Tons/1 million RMB income	0.04	0.06

Comparison of energy consumption of various types of the Group
(Unit: ton of standard coal)



The Group's energy consumption intensity per RMB million of revenue decreased by about 30% compared with energy consumption intensity per RMB million of revenue of the previous year, and the company's environmental protection policy has effectively controlled energy consumption and achieved established energy consumption intensity control target.

2.4.2 Other Energy Consumption Statistics

Since coal is the main source of the Group's energy consumption, it is a difficult task for the Group to develop the urea industrial chain through the system's maximum use of the gas emitted from urea production, while reducing energy consumption, emissions, and environmental pollution. As of the end of Reporting Period, the number and types of company office equipment have been calculated. There are 224 computers, 47 printers, 3 fax machines, and 3 copy machines. In addition to working equipment, a total of 1685 light bulbs are energy-saving lamps. There are 132 air conditioners, 115 split units and 17 water-cooled units.

Dongguang Chemical's sewage disposal capacity of 2021 is 109 cubic meters per hour. All sewage discharges are properly handled in accordance with relevant national environmental protection policies and regulations. The wastewater treatment facility of the first plant is 2,424 tons per day, and the wastewater treatment of the second plant is 192 tons per day.

In addition, for the urea industry, the amount and treatment of fertilizer packaging also has important implications for the protection of human and animal security and the ecological environment. In order to strengthen the quality management of urea bags, the Group has established a bag inspection and management system, strictly implements sampling inspections and issues inspection reports. Discarded packaging bags are standardized for recycling and unified scientific treatment to maximize the protection of the ecological environment.

2.4.3 *Plan and Effects of Energy Saving and Emission Reduction*

Energy-saving and emission reduction is an important measure to implement the scientific concept of development, promote economic restructuring, change the mode of economic development, and increase the potential for sustainable development. The Group strictly implements the energy-saving and emission-reduction system, and has repeatedly upgraded the production line to achieve certain results in reducing energy consumption.

2.4.3.1 Freeze blocking and waste avoiding

In order to minimize waste, the Group has done lots of job on preventing freezing. It is stipulated that the on-duty dispatcher should always pay close attention to the temperature change when the temperature reaches zero degree centigrade, and immediately notify the various positions to check the discharge status of each dredge to avoid the occurrence of frozen plugging events. When the temperature reaches above zero degree, the dispatcher on duty should be responsible for notifying each position, reasonably controlling (or shutting down) the drain discharge, and avoiding waste

2.4.3.2 The use of heater

In order to reasonably control the on and off of heaters, the Group stipulated that when the temperature is higher than 15 degrees centigrade, all heating facilities in the office buildings and workshops should be turned off. When the temperature is lower than 15 degrees centigrade, heating facilities can be turned on according to the needs of the employees, so as to avoid waste of resources due to long-term use of heating facilities.

2.4.3.3 Electricity-saving management

In accordance with the principle of maximizing electricity savings, the Group stipulates the timely turn-off of office computers, the air-conditioner on-off control in the production workshop, and the prohibition of permanent lights in the factory area. The employees are required to turn off the lights and the fans when they leave the workshop.

2.4.3.4 The use of air-conditioning

The use of air-conditioning is based on the principles of safety management, energy saving and consumption reduction, so the Group makes relevant regulations on the use of air-conditioning according to changes in seasonal temperatures. Doors and windows should be closed during use, air conditioners must not be arbitrarily changed the direction of the fan blades, and air conditioners and other energy-saving regulations should be promptly closed when off duty.

2.4.3.5 Water conservation

Water conservation is also an important measure for effective energy conservation and emission reduction. The Group strictly forbids the occurrence of dripping, long running water and other phenomena in the water system. Employees will be punished if it violates the regulations. In addition, the Group stipulates that every time water is added to the desulfurization circulating water and gas-making circulating water, it must be approved by the water supply workshop. The addition of faucets must also be submitted to the production department and the water supply workshop for approval.

At the same time, while advocating water conservation, we also introduced a reclaimed water reuse device combining membrane separation technology and biotechnology to achieve sewage treatment, solid-liquid separation and reclaimed water reuse. The intermediate water reuse device is mainly used to purify the waste water generated in the production process. After the treatment of the device, more than 50% of the waste water can continue to be recycled for production, which greatly avoids the waste of water resources and reduces our economic expenditure.

2.4.3.6 Energy saving

Every ton of urea produced by the Group needs to consume a certain amount of steam. We recycle this part of steam through the equipment to achieve more possibilities for saving and reducing consumption. Secondly, we will also use the waste heat generated by fuel combustion to generate electricity, thereby saving the raw coal required for power generation. In addition, our production department will formulate energy-saving and consumption-reducing measures for gas production, purification, compression and other links according to the actual situation every month, such as the transformation of the through furnace to increase the gas production; the use of old stainless steel pipes to detect leaks in the urea synthesis tower renovation; continuously optimize the devices that need to be strengthened and improved in production to better achieve the effect of energy saving and consumption reduction.

2.5 Enterprise environmental protection

2.5.1 Report on the air, water and noise situation of the plant

Each year, the EPA entrusts, or we commission, a testing technology service company to inspect the Group's operating conditions and environmental protection facilities. The monitoring of the locations and items corresponding to exhaust gas, waste water, and noise is performed according to the implementation of the standard values. The monitoring equipment is used to check whether the monitoring limits of the equipment exceed the standard values. Based on the inspection results, the test results are obtained and a monitoring report is issued. The Group uses the monitoring report to obtain the discharge permit.

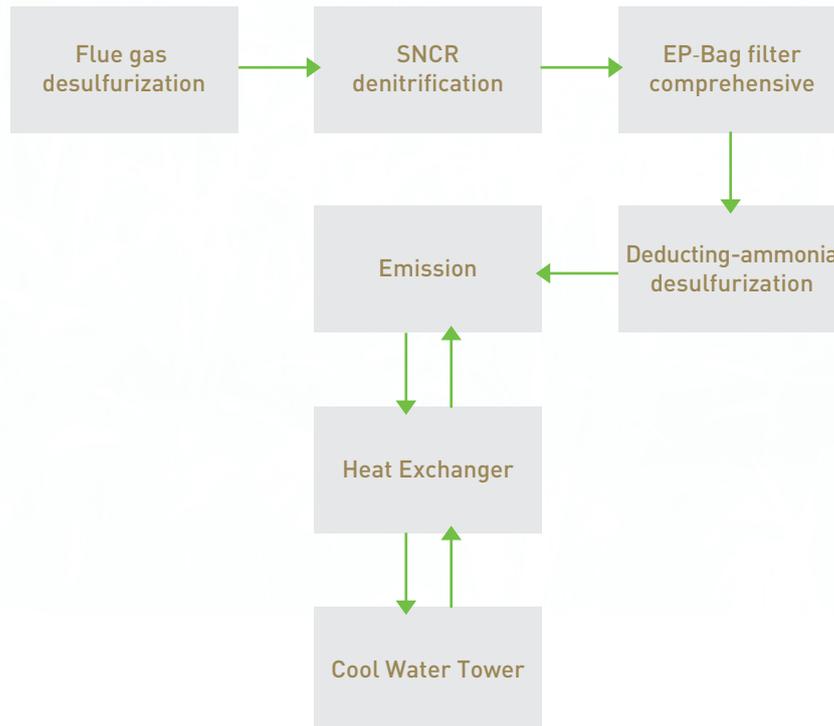
The monitoring report data of 2021 shows that the monitoring values of exhaust gas, waste water and noise meet the local or national emission standard values.

2.5.2 Environmental System Treatment Process (Handling Harmful Substances)

“Three wastes” are the products of the chemical industry in production, and improper treatment will cause serious pollution to the surrounding environment. The waste gas, waste water and waste residue generated by Group’s manufactured products are processed by environmental protection equipment and will not be discharged until they reach the standard.

(1) Waste gas/water/residue treatment flow chart

Waste gas treatment flow chart

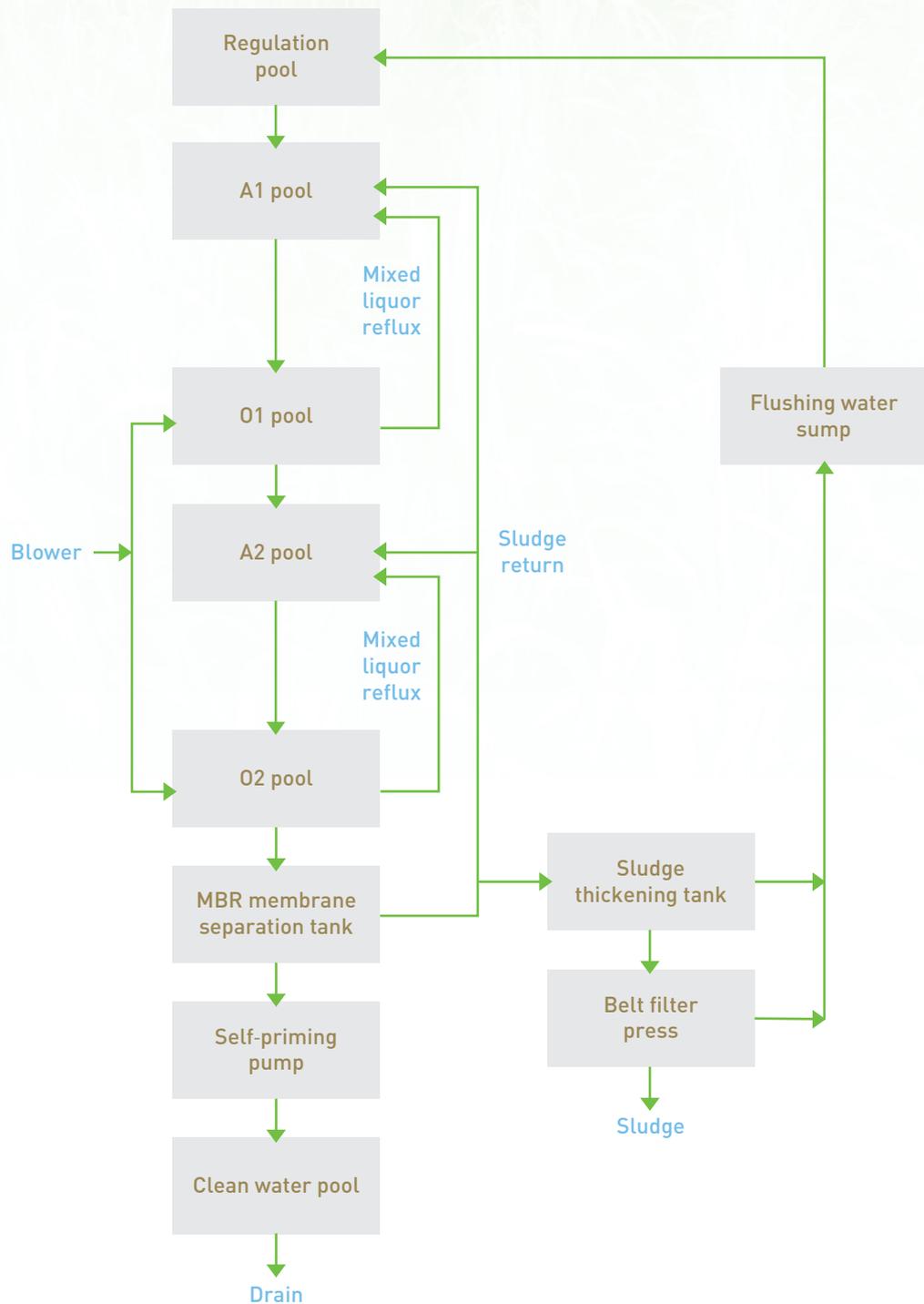


Exhaust gas is produced during the production of urea. The Group first uses the SNCR denitration process to treat the exhaust gas, and then removes the dust through a wet scrubber, using electric bag composite dust removal, ammonia desulfurization and other treatment procedures, and finally reaches the national standard for discharge. We subsequently upgraded the flue gas desulfurization equipment, which increased the number of spray layers, expanded the spray contact area, and further improved the effect of sulfur and dust removal.

The Group has been implementing UGI gasifier multi pollution source integrated treatment project since 2020, which greatly reduced the carbon emission. Through the system transformation, pneumatic conveying was used to completely seal the conveying to the ash bin, and then into the three wastes furnace for combustion. There was no dust on site, which solved the environmental protection problems such as VOCs emission and eliminated the environmental pollution.

Therefore, the waste gas generated in the production process of the Group becomes cleaner after denitrification, dust removal, desulfurization, whitening and other measures. After meeting the emission standards of the new environmental protection smoke and rain treatment policy, it is discharged into the air through the chimney. After the Group’s continuous exploration and improvement in environmental protection in recent years, the air conditions at and around the Group’s location have significantly improved.

Flow chart of wastewater treatment



Our production and operation must comply with various environmental protection, occupational health and safety laws and regulations, government policies and industry standards applicable to China's environmental protection, occupational health and safety related to the discharge of waste water, solid waste and gas. We installed waste water treatment facilities in Plant 1 and Plant 2 to treat all waste water generated during the production process of our products. The respective waste water treatment capacity of the relevant facilities is 751 tons and 600 tons per day, respectively.

During the Reporting Period, the Group added a new intercooling transformation project. The Group adopts self-cleaning filter to capture more than 99% of coal powder, dust, salt and other substances in semi water gas and more than 90% of tar and aerosol by dry method, so as to make the cleanliness of gasification circulating water reach an excellent level, improve the cleanliness of semi water gas. Air-generation cooling water realizes indirect cooling and closed circulation. The incremental water produced in the process of gasification can be reasonably transformed and utilized to realize "zero" discharge of wastewater.

Waste slag processing flow chart



Unlike urea producers who use natural gas as raw materials, we use coal for urea production, so a large amount of waste residue will be generated during the production process. We send the generated waste slag to three waste furnaces for combustion. After combustion, some waste slag can be recycled as boiler fuel, and some waste slag can be processed into new building materials and sold to other companies.

The Group has been applying the intercooling transformation project – dust treatment link since 2020, the coal pulverized coal collected by self-cleaning filters containing organic matter and unburned carbon is sent to the three-waste boiler for secondary mixing, eliminating the traditional water washing and dust removal. The device for separating coal ash by wastewater sedimentation eliminates the generation of wastewater, waste gas, sludge and wet residue, and achieves "zero discharge of waste residue."



The three-waste furnace is a facility for treating three wastes, waste gas, waste residue, and coal foam. In order to respond to the national environmental protection policy and reduce pollutant emissions, the Group renovated the flue gas desulfurization facility, and solved the problem that the original 150-ton boiler and 90-ton three-waste furnace had no desulfurization facilities. At present, Dongguang Chemical has a total of 4 exhaust gas outlets, all of which are connected to the Municipal Environmental Protection Bureau and the County Environmental Protection Bureau to achieve information disclosure and discharge in strict accordance with standards. According to statistics, the real number of four chimneys is 24 hours/day to achieve uninterrupted production facilities. The running time in the past three years is as follows:

Category	Time	2019		2020		2021	
		Operating days	Operating hours	Operating days	Operating hours	Operating days	Operating hours
Three waste furnace chimney (120 tons)		348	8,352	282	6,782	325	7,798
Three waste furnace chimney (90 tons)		62	1,491	57	1,371	9	205
Boiler chimney		43	1,046	51	1,228	7	174
New exhaust gas outlet		314	7,547	298	7,155	341	8,190

2.5.3 Strengthen pollution control facilities

In order to improve the air environment in the surrounding areas in autumn and winter, we actively improve the problem of the unorganized emission of particulate matter in the coal sheds where coal is stored. In addition, we also use low-noise equipment, vibration reduction, distance attenuation and other methods to reduce noise, while meeting environmental quality standards, and further reducing the impact on the ecological environment. Facing the severe energy conservation and environmental protection situation, we started with comprehensive energy utilization, combined the "three wastes" treatment, comprehensive utilization and technological transformation, closely linked the enterprise development with environmental protection, and achieved good economic benefits and environmental protection results.

2.5.4 Environmental inspection department daily inspection

In order to protect our living and production environment, prevent pollution, implement sustainable development strategies, and gradually realize cleaner production, we have formulated the "Environmental Protection Management System" and implemented related management. Cadres and employees must pay attention to energy conservation and emission reduction, so as to improve their environmental protection awareness and legal concept. Keep the production workshop clean, clean up the factory roads in time to prevent dust pollution; check, repair and maintain the environmental protection facilities on time to ensure the integrity of equipment. The supervision and management of the above situations are all under the responsibility of the Environmental Protection Department.

The Environmental Protection Department will formulate a monthly inspection plan, conduct daily inspections in accordance with the daily inspection plan, and conduct a joint inspection once a week. In addition, unannounced inspections are also essential, such as checking whether the online monitoring facilities are operating normally, whether the environmental protection equipment is inspected on time, or whether the workshops and departments are cleaned in time, etc. Penalties are imposed and a penalty notice is formed. Monthly check the operation of each production facility and form an inspection table of the Environmental Protection Department to check whether the equipment is operating normally.

2.5.5 Green construction

In order to optimize and afforest the plant environment, improve the afforestation management level, consolidate the afforestation construction achievements of the plant, and make the afforestation of our plantation institutionalized and standardized, the Group has formulated the "Greening Evaluation" policy for annual company-wide evaluation. During the Reporting Period, the Group added 1,986 square meters of greening area for the plant, planted 1093 saplings. In order to promote more refined and routine greening work, and to further improve the greening enthusiasm of production cadres and employees, a greening fund system has been formulated in accordance with the actual situation of the company. We provide a fixed amount of greening fund in the spring and autumn to support greening activities. The branch's production department, environmental protection department, and logistics department are responsible for the overall planning of greening, planting and other technical support, and are also responsible for greening logistics support and daily supervision and management; each workshop does its own green plant maintenance work in accordance with the planning. We evaluate and reward the greening achievements of each branch and workshop every spring and autumn.

3. CSR ANALYSIS

3.1 Employment and labor status analysis

3.1.1 Overview of staff employment and labor standards

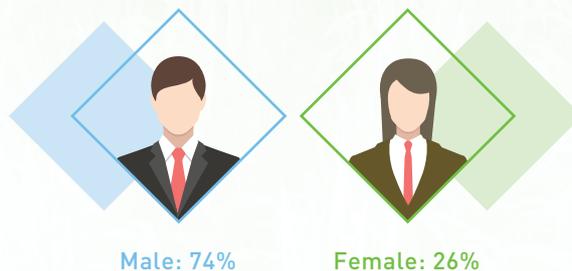
Dongguang Chemical formulates comprehensive staff employment rules and regulations in accordance with national and local policies regarding the employment of staff and labor conditions. From the employee handbook, it is seen that employees work eight hours a day and implement a three-shift system for factory workers. The non-production department is closed for five days a month, and the production department is closed for eight or nine days a month. At the same time, employees enjoy legally any prescribed benefits, wages, and holidays. In addition, during the period of high temperature, workers will be issued heatstroke and cooling supplies to provide employees with a good and suitable working environment, which also ensures safe production in high temperature weather and effectively prevents the occurrence of heatstroke in front line employees.

We hire employees strictly in accordance with the established recruitment process and plan. The person in charge of the human resources department and the head of the relevant department determines the employees to be hired, and the employees can only be hired after review and approval by the chairman. We uphold the principle of "justice, openness and fairness" to motivate and restrain every employee, and resolutely resist the employment of minor children as regular employees of the Group. At the same time, we pay attention to personnel training and development, and every employee has the right and opportunity for promotion. We evaluate self-recommended employees in accordance with relevant systems, implement a promotion system for qualified employees, create a space for employees to fully implement their talents, and develop training plans to enable employees to develop better.

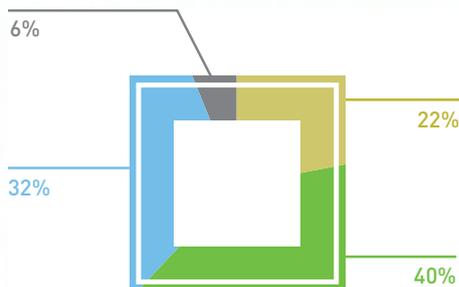
During the year ended 31 December 2021, the Group has strictly complied with the relevant labor laws and regulations, such as the Labour Law of the People's Republic of China (中華人民共和國勞動法), in the places of operation.

Dongguang Chemical's major indicators of employees 2021

• Gender

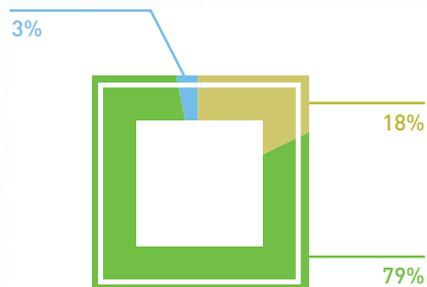


• Age



- Below 30
- 31-40
- 41-50
- Above 51

• Education situation



- Diploma
- Bachelor and above
- Technical secondary school

Dongguang Chemical's number of employees and turnover rate in 2021

Type of employees	Number at y.e	Percentage at y.e	Number of staff left	Turnover rate
Functional management	198	15.40%	5	2.52%
Urea production	1004	78.13%	70	6.97%
Other	83	6.47%	0	0.00%
Total	1285	100.00%	75	5.83%

As of December 31, 2021, the total number of employees in Dongguang Chemical was 1,285, of which males accounted for a relatively large proportion, and the staff number of urea production was the largest, and all work in Hebei Province. Overall, our annual turnover rate was small, and there was little change in personnel, so the overall situation is stable. Among the 75 staff who left, 8 were female(10.7%), and 67 were male(89.3%).

3.1.2 Overview of employee Health and Safety

In order to ensure safe production, we have formulated and implemented the “Working Environment and Safety Management Measures”, “On-site Safety Management Percent Assessment Measures” and other rules and regulations, and evaluates daily production safety in accordance with the “Production System Percent Assessment Management Measures”. Secondly, the Environmental Protection Department is responsible for the supervision and inspection of the Group’s civilized production management work. It implements daily inspections and regular joint inspections. It issues daily assessments and rectification notices within a time limit to departments that violate civilized production assessment standards, and performs daily assessments and rectification Check records and ledger. At the same time, the Safety Department organizes comprehensive inspections with the participation of production, equipment, process, electrical, instrumentation and other departments, and conducts comprehensive inspections once a quarter. Then, the Group adopts different investigation methods and investigation frequencies for different types of hidden dangers. The responsible person strictly implements the “security inspection and hidden danger investigation and governance system”, and implements preventive treatment by classification, and handles the discovered hidden dangers in a timely manner. In addition, the investigation, treatment, and monitoring of hidden dangers of various departments are included in the monthly safety assessment of the person in charge of the unit, and the excellent inspection workshop is rewarded, and the responsible persons who do not require the implementation are given corresponding penalties.

In addition, in order to ensure the safe operation of production facilities, we will implement a one-year repair system for large-scale substations, and small-scale production equipment will also be regularly repaired and maintained; seasonal and professional investigation of hidden dangers, and immediately prepare hidden danger inspection records, the Safety Department establishes the hidden danger files, clarifies the hidden danger level, and urges the implementation of various measures for hidden danger management in accordance with the “five fixed” principles, monitors the hidden danger management situation, and ensures that the hidden danger management is completed on schedule; we hand out labor protection materials around the 15th of each month, ensure adequate, complete, and timely materials for employees. Do a good job in all aspects of the Group’s safety in production, reduce the possibility of accidents, so as to ensure that employees have a safe working environment.

In order to prevent and reduce production safety accidents, in accordance with Hebei Province No. 2 Order Hebei Province Safety Production Risk Management and Control and Hazard Management Regulations, risk management and control have been identified. Determine all the risk points on the site, formulate a list of risk points, conduct hidden hazard investigations according to risk points, and standardize on-site safety management.

Due to the initiative of the employees of the Group and the frequent self-examination of the workshop groups, no safety accidents have occurred in during the Reporting Period.

Safety-production indicators	Times
Environmental pollution accident	0
Fire accident	0
Light-hurt accident	0
Severe accident	0
Death accident	0

Statistics of company employee work related casualties in the past three years

Work related casualties	2021	2020	2019
Environmental pollution accident	0	0	0
Fire accident	0	0	0
Minor injury	0	0	0
Serious injury	0	0	0
Fatal accident	0	0	0
Total	0	0	0

In order to ensure the health of employees, we also invite hospitals to “home service” every year to conduct health checks for all employees. For the front-line employees, we will also arrange related occupational health checks. In addition, we also have corresponding protection for female employees. During the physical examination, it has added inspection items related to female health to ensure the physical and mental health of female employees.

In addition, the coronavirus first appeared in December 2019 and the epidemic has spread to the world. This epidemic is mainly spread through respiratory droplets or physical contact. Therefore, we should always be alert to health and safety risks and be prepared for a high degree of emergency. The Group closely follows the instructions and recommendations of the local government and pay attention to the latest situation. We also assess employees’ health and safety risks, including commuting to get off work and office hygiene. To ensure that employees receive maximum protection in their daily operations, the company has adopted corresponding preventive and control measures, including:



Formulate emergency plans and establish a leading group for epidemic prevention and control



It is strictly forbidden for company employees to enter the factory without wearing a mask



Use video conferencing to minimize physical contact



Use forehead electronic heat detector to check body temperature



Ask employees about their travel records during the Lunar New Year period and assess the risk of exposure to the virus



Implement regular disinfection of the workplace and require employees to reduce going out

The systems and policies as set out above have allowed the Group to comply with the relevant laws and regulations regarding occupational health and safety, such as the Law of the People’s Republic of China on the Prevention and Control of Occupational Diseases (中華人民共和國職業病防治法), in the places of operation.

3.1.2.1 SIS (Safety Instrument System)

With the development of industry, the production process is becoming more and more complicated, and the possibility of safety accidents is increasing, so the safety control procedures are becoming more and more complicated. There are a lot of production parameters and equipment data in the production process. If these parameters and data are within the specified range, it means that the production is in a normal state; if it exceeds the specified range, it means that there is an abnormal production. In the normal range, this advanced program is called a safety interlock. SIS (Safety Instrument System) is a system to prevent accidents from automatically taking part or whole production equipment to stop, or automatically introducing a predetermined safe state, which can prevent further expansion of abnormal conditions such as mechanical equipment failure and energy interruption. The Group introduced the system in 2019, which greatly improved the degree of automation of the Group's production and provided a guarantee for safe production under abnormal working conditions. This transformation also achieved the Group's safety management ideas of centralized production control, mechanized substitution, and automation reduction.

3.1.2.2 Daily fire drill



"Safety first, environmental protection determines the future" is the slogan and goal of the Group. In order to implement the national laws and regulations on safe production, strengthen safety management, further strengthen fire safety education for all personnel, and do a good job in fire safety in the factory area. A fire brigade of the Group was formed and equipped with professional firefighting facilities and equipment, and employees of the plant were often organized for fire drills.

In order to effectively prevent, control and eliminate the hazards of production safety accidents in a timely manner, improve the emergency response capabilities of safety accident rescue, establish and improve early warning and emergency mechanisms to ensure the safe and stable operation of the company's production. On May 12 2021, the company organized a fire drill, which is mainly a comprehensive drill of the emergency plan for production safety, which simulates the disposal of liquid ammonia leakage in the liquid ammonia tank area and the preliminary medical treatment of ammonia poisoning personnel. This drill was successfully completed and increased relevant skills of participated rescuers, enhanced accident prevention and handling capabilities, and also provided employees with an opportunity for actual combat simulation drills, so that everyone can consolidate fire fighting knowledge and familiarize themselves with emergency operations, and at the same time strengthen employees' awareness of production safety.

3.1.3 Overview of Staff development and training

In order to provide employees with a better working environment and development prospects, the Group arranges various training courses from time to time to enhance employees' safety awareness and professionalism. The main training items are safety operation skills; emergency rescue training; protection supplies, emergency supplies training; workshop operation rules learning, etc. In addition, all employees must carry out on-boarding training to ensure they master the necessary professional skills. Employees in certain special positions must also hold a certificate to avoid unnecessary damage caused by the lack of technology knowledge.

At present, the Group's internal training is divided into on-boarding training, daily training and other internal training. The training contents mainly include two parts: process and safety. According to statistics, there were 330 training activities in 2021, with an accumulated training hour of 1,512 hours and 2,396 participants.

Training Name/type	Content	Internal/ external	Acc. Hours (unit hours)	Acc. Times (unit times)	Acc. Participants (unit people)	Percent (acc. Part./ total staff)	Result
On-boarding training	process	internal	240	10	68	100%	Y
	safety	internal	720	30	68	100%	Y
Daily training	process	internal	280	140	970	100%	Y
	safety	internal	272	150	1,290	100%	Y
Total			1,512	330	2,396		

- Special operation process training:

The picture below shows Zhang Xianzeng, former second-level inspector of the Provincial Emergency Management Department and an expert of the China Chemical Safety Association, conducting safety guidance training for the chemical industry in the county at the company:



On April 8, 2021, in order to solidly promote the work of safe production, further improve the level of major risk management and control, effectively promote the supervision of safe production to make up for shortcomings, strengths and weaknesses, improve quality, and promote the continuous stability of the safety production situation, the company invited Zhang Xianzeng, a former second-level inspector of the Provincial Emergency Management Department and an expert of the China Chemical Safety Association, to conduct safety guidance training in the chemical industry in the county at the company. Through this training, employees further deepened the concept of safe production and provided the necessary safety qualities for future work.

In addition to training, the Group also holds job skills competitions, daily discussions and learning, and a variety of other activities such as trips to enrich the amateur lives.

- Employee welder skills competition



In order to improve the enthusiasm of the company's employees and thoroughly implement the general requirements of General Secretary Xi Jinping's important expositions on the work of the working class and trade unions, on December 8 2021, Dongguang Chemical organized the "Dongguang County Welder Vocational Skills Competition" under the leadership of the factory department and the department. Employees all showed their talents during the competition. Through this competition, the enthusiasm and initiative of the majority of welders to learn technology and study business were fully mobilized, which stimulated the enthusiasm of the whole factory staff to learn technology and specialize in technology, and enhanced the cohesion of the enterprise.

- Staff basketball and billiards games



In October 2021, we held the fourth “Donghua Cup” basketball game, a total of six teams participated. After the fierce competition of the team members, the first team from the first factory branch and the third team from the second factory branch won the first and second places of the competition, and the first team from the second factory branch won the “spiritual civilization team”. In the game, the players on the field fully demonstrated the team’s unity and cooperation ability.

On August 30 and 31 2021, the company held “Donghua Cup” billiards games competition. The competition enhanced the understanding and enriched the amateur cultural and sports life of employees. It fully demonstrated the positive, hard-working and enterprising spirit of the company’s employees, enhanced the cohesion of the enterprise, stimulated the vitality and passion of the majority of cadres and employees to start a business, and condenses positive energy for the good and rapid development of the company

- Dragon Boat Festival Events



From June 9 to 11 2021, in order to let the front-line employees have a good holiday at their posts and feel the warmth and care of the Donghua family, the company’s trade union and the county federation of trade unions jointly held the “Dragon Boat Festival” activity. The county federation of trade unions provided ingredients, and employees wrapped their own rice dumplings, sent each other blessings, and spent the Dragon Boat Festival. The activity further enhanced the cohesion and combat effectiveness of the enterprise, and stimulated the enthusiasm of all employees not to forget the original mission.

3.1.4 *Guidelines and measures to prevent child labor or forced labor*

The Group strictly abides by state laws and regulations in labor and employment and strictly prohibits the employment of child labor. The Group strictly controls all aspects of recruitment, registration, labor contracts and so on to avoid hiring child labor resulting from work errors. There are no cases of child labor, nor the use of adolescents for high manual jobs from the view of 2021 employment of both the Group and suppliers.

3.2 Analysis of Operation Management Status

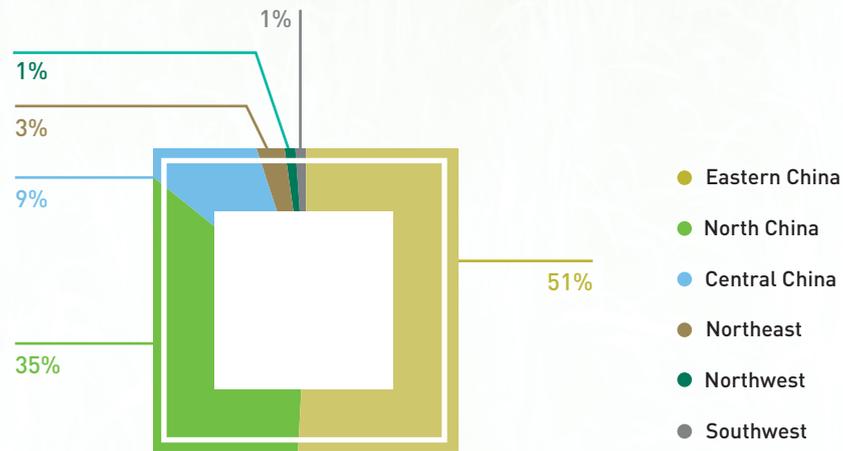
3.2.1 *Overview of Supply Chain Management*

To effectively evaluate and select qualified suppliers, optimize the Group's supply structure, improve the Group's supply system, and ensure that suppliers' supply quality and production delivery capabilities are in line with the Group's requirements, the Group has formulated corresponding regulations for supplier selection and evaluation management. Based on the Group's "supplier selection and evaluation management system", we set up a responsibilities assessment team to assess the supplier's qualifications, then evaluate them in accordance with the norms of supplier evaluation. From those suppliers we select quality ones to ensure the Group's normal production needs.

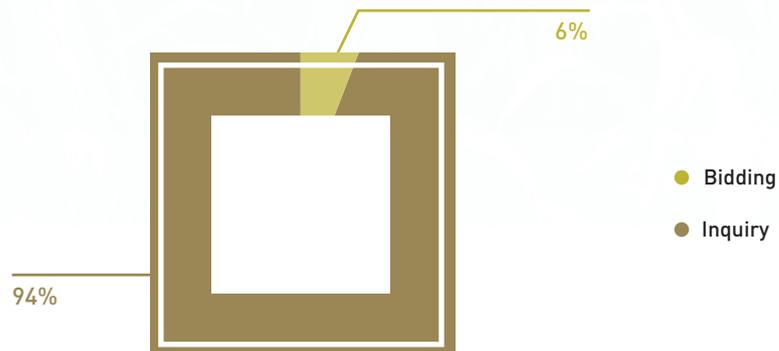
The Group has established a list of suppliers and are ready to update them once circumstances change. For suppliers whom we have long-term cooperation with, the Supply Department shall establish a file to obtain copies of a valid business license and various related licenses. The Supply Department organizes related departments and personnel to conduct annual comprehensive evaluations of large suppliers and long-term suppliers at the end of each year, determine the business volume for the following year based on the evaluation situation, and record the evaluation results in written documents. The methods of selecting suppliers include bidding and price comparison. In 2021, Dongguang Chemical had a total number of 365 suppliers and they are distributed in various regions in East China, North China, and Central China. Most of the suppliers were selected through the method of price-inquiry and price-comparison.

The company takes environmental and social factors into considerations when it comes to the procurement process and suppliers. We require suppliers to fulfill their social responsibilities and promise in writing documents that they should comply with environmental, occupational safety and health, labor, human rights and other matters. We will also provide relevant training or guidelines to ensure that they understand these requirements and how to implement them. Social responsibility performance, such as environment, occupational health and safety, labor, human rights, and ethics, is also one of our criteria for selecting new suppliers. If the supplier failed to fulfill our social responsibility policy, they are not eligible to become our suppliers.

Suppliers regional distribution



Suppliers selection method



3.2.2 Analysis of Anti-corruption Measures of Enterprise

According to the requirement of relevant national laws and policies, the Group has formulated anti-corruption company policies. Fraud, corruption, and other violations of professional ethics that damage the Group's economic interests can be reported through the hotline or email, and the Group will take corresponding penalties for those who violate the rules after verification; the unfair economic benefits obtained will be ordered to be removed; if it causes economic losses to the Group, it shall be liable for economic compensation in accordance with relevant national regulations. In 2021, the Group did not have any major corruption litigation cases.

3.3 Product liability

The Group has been in strict compliance with laws and regulations including the Law of the People's Republic of China on Product Quality, the Law of the People's Republic of China on the Protection of Consumer Rights and Interests; and pays full attention to product quality and sales management. We ask for the high quality for each step from production to delivery. We continuously make innovation breakthroughs in the areas of product enhancement and improvement in order to ensure the quality of products and to provide safer and more environmentally friendly products. The Group produces products in its own production facilities, so it has been constantly looking for solutions to improve the production processes, identifying new production facility models, optimizing equipment and upgrading production facilities to improve the quality and efficiency of production processes, and ensure that products are more efficient.

In addition, the Group has formulated and strictly implemented internal system procedures such as "Product Quality and Safety Management System", "General Principles of Intellectual Property Management", and "Sales Management System" to strive to enhance customer satisfaction and strengthen after-sales services to win customers' trust and support, thereby fulfilling the responsibility of the Group for consumers and the society.

3.4 Community investment

The Group attaches great importance to safety in production, and has specifically set up a fire department, equipped with professional fire equipment, and conducts fire drills from time to time. Therefore, we have skilled countermeasures for various fire accidents. When a fire occurs in the surrounding area, the Group's fire department will also be dispatched as soon as possible, volunteering to participate in fire fighting, and contributing to the environmental safety of the Group's surroundings.

Secondly, since the Group is a coal-based urea production company, huge heat will be generated in the production process. The Group will send the waste heat generated in the production process to the office area through the pipeline, thereby solving the problem of heating in the office area of the Group in winter, and at the same time achieving the effect of energy saving and emission reduction. Even so, the Group still has abundant industrial waste heat in the production process. Under the leadership and coordination of the Dongguang County Government, the Group signed an agreement with Luyuan Group to provide the waste heat of the Company's gas cooling tower to Dongguang County Heating place. After 5 years of development, the company has now provided heating for 68 communities, 3 schools, and approximately 1.91 million square meters in Dongguang County. The total number of users using central heating is approximately 15,464, and the total number of heating users is approximately 48,000.

In addition, in September 2021, the company donated poverty alleviation urea to Yijia Village, Shijing Township, Shangyi County, Zhangjiakou City.



During the epidemic period, Dongguang Chemical donated 10,000 masks to the Red Cross Society of Dongguang County, and at the same time donated 10,000 masks to front-line epidemic prevention personnel, and distributed them to frontline epidemic prevention personnel in a timely manner. The Group has made its due responsibilities and obligations to fight the epidemic.

The company does not forget to perform its own social responsibilities while developing itself, insists on participating in charitable causes, investing in the community where it is located, and encouraging employees to actively participate in various charity donations. In January 2021, Dongguang Chemical participated in the "One-Day Donation for Employees" activity initiated by the Dongguang County Trade Union, and actively mobilized employees to participate in the activity. In addition, the company also provides employment opportunities for poor residents in the county, and provides 10 public welfare jobs every year to help some residents obtain employment, creating opportunities for them to live a better life, and contributing to the harmony of the communities where they are located.

4 FUTURE PLANNING

4.1 The external risks and future plans

In recent years, China's energy industry structure has been continuously optimized, structural reforms on the energy supply side have been continuously progressing, and the release of clean energy supply capabilities has accelerated. The domestic energy industry is facing a transformation, and the rise in market energy supply costs will directly affect the Group's costs and reduce competitiveness. The rapid change of urea market has led to frequent fluctuations in urea market prices. The decline in urea prices directly affects the Company's sales performance.

Facing the constant changes in market supply and demand and the unstable fluctuations in the market price of urea, we have gradually increased appropriate product categories to increase product diversification; actively introduced new technologies for energy saving and consumption reduction, and promoted technological upgrading and production process transformation. We will continue to develop downstream products related to urea, expand the industrial chain and product chain, open new sales channels, and always pay attention to the new direction of industry development.

4.2 The internal risks and future plans

Independent innovations such as research and development, technology investment, and application of information technology, professional ethics of senior management personnel, professional competence of employees, and other management factors such as organizational structure, operating methods, asset management, business processes, operational safety, employee health, and environmental protection and other safety and environmental protection factors are all internal risks faced by enterprises, and risks arising from internal factors that enterprises should correctly identify.

We will continue to expand professional technical personnel, develop technical strength, increase talent reserves, and improve the quality and knowledge reserves of the original employees of the enterprise to meet the needs of the development of the knowledge economy. In order to exert greater economic and social benefits, we will continue to actively study energy-saving and environmental protection technologies, increase investment in energy-saving and environmental protection facilities, and effectively reduce production costs by adopting new technologies and new equipment. On the basis of increasing benefits, we will further strengthen energy-saving management and achieve green development of enterprises.

4.3 Future development strategy and business plan

The Company will continue to optimize its growth strategy, including effectively increasing production capacity, actively improving production quality and efficiency, and expanding the value chain to urea-related products such as vehicle urea solution and compound fertiliser products. In addition, we will strengthen our strategic partnership with major clients, diversify our customer resources and identify strategic acquisition opportunities, achieve sustained and stable development, and actively respond to future challenges in order to provide more efficient and environmentally friendly products and quality services.