

# 2022

## ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT





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# About This Report

## INTRODUCTION

This report is the second Environmental, Social, and Governance Report (referred to as "ESG<sup>1</sup> Report") issued by Yunnan Yuntianhua Co., Ltd. (stock code: 600096. SH) after issuing social responsibility reports for 13 consecutive years, aiming to demonstrate the environmental, social and governance strategies, management and practices of Yunnan Yuntianhua Co., LTD and its subsidiaries.

## TIME SCOPE

This report covers the period from January 1, 2022 to December 31, 2022. Some statements and contents are moderately retroactive and prospected.

## REPORTING SCOPE

This report covers Yunnan Yuntianhua Co., Ltd. and its subsidiaries. The financial data involved in the report and the scope covered are consistent with the 2022 Annual Report of Yunnan Yuntianhua Co., Ltd.

## PREPARATION BASIS

This report has been prepared with reference to the specific requirements on social responsibility in documents such as the GRI Sustainable Development Reporting Standards (GRI Standards) issued by the Global Sustainability Standards Board (GSSB), the United Nations Sustainable Development Goals (SDGs), the Chinese Academy of Social Sciences Guidelines for the Preparation of China's Corporate Social Responsibility Reports (CASS-CSR 4.0), the China Securities Regulatory Commission's Code of Corporate Governance for Listed Companies, and Shanghai Stock Exchange's Guidelines for the Preparation of the Report on Corporate Social Responsibility, according to the practical situation of the Company.

## DATA SOURCE AND CURRENCY

The information and data cited in this report are derived from the official documents, statistical reports, and financial reports of the Company, and have been collected, summarized, and reviewed by relevant departments. Unless otherwise specified, the reporting currency herein is RMB.

## SHORTEND FORM

For the convenience of expression and reading, Yunnan Yuntianhua Co., Ltd. is referred to "YTH", "the Company", or "we".

## RELEASE FORM

This report is prepared and printed in simplified Chinese and English with paper and electronic versions. The electronic version is available on the website of the Shanghai Stock Exchange.

## VOCABULARY

In this report, unless the context otherwise requires, the following words have the following meanings:

the Company, YTH, We	refers to	Yunnan Yuntianhua Co., Ltd.
YTH Group	refers to	Yuntianhua Group Co. LTD
Shuifu YTH	refers to	Yunnan Shuifu Yuntianhua Co., Ltd
Phosphate Chemical Group	refers to	Yunnan Phosphate Chemical Group Co., Ltd
Tian 'an Chemical	refers to	Yunnan Tian 'an Chemical Co. Ltd
Jinxin Chemical	refers to	Hulunbuir Jinxin Chemical Co., Ltd
Dawei Ammonia	refers to	Yunnan Dawei Ammonia Co., Ltd
R&D Center	refers to	Yunnan Yuntianhua Co., Ltd. Research and Development Centre
Red Phosphorus Chemical	refers to	Yunnan Yuntianhua Red Phosphorus Chemical Co., Ltd
Yunfeng Chemical	refers to	Yunnan Yuntianhua International Chemical Co., Ltd. Yunfeng Branch
Three Circles	refers to	Yunnan Three Circles-Sinochem Fertilizers Co. Ltd.
Tianju New Material	refers to	Chongqing Yuntianhua Tianju New Material Co., Ltd
Phosphate Technolog	refers to	Yunnan Phosphate Technology Co., Ltd
Modern Agriculture	refers to	Yunnan Yuntianhua Modern Agriculture Development Co., Ltd
Tianchi Logistics	refers to	Tianchi Logistics Co., Ltd
Dawei Fertilize	refers to	Dali Prefecture Dawei Fertilizer Industry Co., Ltd.
Honghai Phosphate Fertilize	refers to	Kunming Honghai Phosphate Fertilizer Co., Ltd
Yellow Phosphorus	refers to	Yunnan Jinning Yellow Phosphorus Co., Ltd.
Dongming Mining	refers to	Hulunbuir Dongming Mining Co., Ltd.
Phosphate Haikou	refers to	Yunnan Phosphate Haikou Co., Ltd.

## CONTACT

**Yunnan Yuntianhua Co., Ltd.**

**Website:** <http://www.yyth.com.cn/>

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**Post Code:** 650228

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<sup>1</sup> ESG: Environmental, Social and Governance



Company Chairman  
Duan Wenhan



Secretary of the Party Committee and  
General Manager of the Company  
Cui Zhouquan

## Message from the Chairman

In 2022, the world witnessed a rapid evolution of centennial changes, accompanied by the emergence of a new scientific and technological revolution and industrial reform. Despite facing numerous challenges, such as fluctuations in the bulk commodity market, and adjustments to industrial policies, the Company has persevered and achieved significant progress. The Company proactively took the initiative to serve the national strategy and zealously carried out the decisions and arrangements of the local government. This led to accelerated industrial transformation and upgrading, as well as the promotion of green and low-carbon development. As a result, the Company achieved record-breaking business performance and demonstrated promising growth in green and high-quality development. These accomplishments have delivered excellent outcomes to shareholders, employees, and society as a whole.

### Focus on "high quality" and blaze a trail for corporate development

Over the past year, the Company has proactively capitalized on strategic opportunities for the development of the new energy, fine phosphorus, and fluorine chemical industry. A large number of new energy and fine phosphorus and fluorine chemical projects with an annual output of 100,000 tons of iron phosphate, 5,000 tons of PMPP flame retardant, and 300,000 tons of wet process phosphoric acid refining have been completed and put into operation. The non-fertilizer business sector has achieved a remarkable 27% increase in operating revenue and a 35% increase in total profit. This has further enhanced the Company's ability to resist cycles, fluctuations, and risks, providing robust support and assurance for the optimization and adjustment of the Company's industrial structure and maximizing the value of the entire industrial chain.

In the past year, the Company has deeply promoted the special campaigns of SOE reform and benchmarking, and comprehensively implemented the reform tasks and benchmarking measures, resulting in a notable improvement in overall labor productivity and profit margin/100 yuan salary. These achievements have further stimulated organizational vitality and strengthened the core competitiveness of the Company. In recognition of these efforts, the Company was selected as a demonstration SOE in corporate governance by SASAC and a national key SOE in management benchmark and has been shortlisted in the SSE 180 Index, CSI Smallcap 500 index, and MSCI Index. Our information disclosure has been rated as Grade A by the Shanghai Stock Exchange. The quality and efficiency of enterprise development have been continuously improved.

### Focus on "sustainability" and take new steps in green construction

In the past year, the Company has actively embraced the concept that lucid waters and lush mountains are invaluable assets. It has attached great importance to the construction of a long-term mechanism for safety and environmental protection, focused on annual HSE goals, implemented 23 key security measures, and continuously improved the "dual prevention mechanism" of risk-tiered management and control and potential trouble screening and governance. The Company has fully implemented its main responsibility, as well as the responsibility for the safety production of all employees. At the same time, we accelerated the implementation of 206 centralized management of safety risks of hazardous chemicals, and worked diligently to promote the pilots of "Four-zone Separation" and "Industrial Internet+Hazardous Chemical Safety". Our intrinsic safety has been significantly enhanced, and the risk defense capability has been constantly heightened.

In the past year, the Company has adhered to the path of green and high-quality development with ecological priority, conscientiously implemented the "dual carbon" (carbon peaking and carbon neutrality goals) and "double control" policies, and expedited the implementation of 42 HSE governance and technological transformation projects. As a result, the Company has achieved significant results in emission reduction, with the emissions of major pollutants continuing to decline. The Company has ceaselessly promoted the development of the "Three Green" project, constructing a total of 7 green mines, 17 green factories, and 180 green products, forming an industrial cluster of green manufacturing and green development. The Company has actively integrated into the construction of local ecological civilization, accelerated the promotion of ecological restoration of mining pits, and explored new ways and models that can be replicated, demonstrated, and promoted for local ecological restoration of mining pits, internal pollution control of lakes, and land rocky desertification. As a result, these efforts have delivered favorable social and ecological effects.

### Focus on "happiness" and exhibit a responsible SOE taking on new responsibilities

In the past year, the Company has demonstrated its strong commitment to implementing the national agricultural supply and price stabilization policy. The Company has deepened industry collaboration, spared no effort to ensure domestic fertilizer supply, and made significant strides in safeguarding national food security. The Company pays close attention to the long-cycle culture, the main fertilizer production plants have operated at full capacity, prioritizing meeting domestic demand. Over 80% of the domestic production of nitrogen fertilizer, phosphorus compound fertilizer, and other products has served 500 million mu of arable land nationwide. The Company has actively passed on benefits to the people and stood firmly in "ensuring adequate supply, stabilizing market prices", which has been widely praised by competent national ministries, industry associations, and the public. I have

also been rated as the "Person of the Year for Agriculture, Rural areas and Farmers" in 2022. This is an affirmation of YTH's efforts in ensuring food security and promoting rural revitalization. In the past year, the Company has earnestly fulfilled the political and social responsibilities of state-owned enterprises, actively participated in social welfare undertakings, and taken practical actions to jointly build a beautiful and happy homeland. The Company has set up 29 science and technology academies and 98 service stations for science and technology academies, adopting a "zero distance, zero time difference, zero cost, and zero threshold" approach, with the mode of "agrochemical products+services" to inject strong scientific and technological strength into the green development of agriculture. Throughout the year, more than 180 science and technology events were carried out in the countryside, directly serving 16,126 farmers. The Company has also proactively implemented the rural revitalization strategy, donating 3.47 million yuan of rural revitalization assistance funds and fertilizer throughout the year.

To shorten the distance with marching and to accomplish the task with performing. Going forward, the Company is committed to becoming a "flagship leading listed company", by accelerating industrial transformation and upgrading, deepening its ongoing reforms, and continuously improving its ESG governance performance and sustainable development. We will prioritize the quality improvement of the platform, governance, business, and capital, and inject new momentum into the Company's green and high-quality development.

Chairman:



## About Us

Yunnan Yuntianhua Co., Ltd. is a holding subsidiary of YTH Group, a global preeminent manufacturer of phosphate fertilizer, nitrogen fertilizer, and paraformaldehyde. YTH Group is also one of the top 100 listed chemical companies in China, a national key SOE management benchmark, and a demonstration SOE in corporate governance. In July 1997, the Company was founded exclusively by YTH Group and has been listed on the Shanghai Stock Exchange (stock code: 600096). The Company mainly engages in fertilizer and modern agriculture, phosphorus ore mining and processing, the phosphorus chemical industry, the fine chemical industry, commercial logistics, and other businesses. The Company has established production bases in Yunnan, Inner Mongolia, Chongqing, and other provinces and cities. It has established sales companies in the Middle East, Southeast Asia, and other regions, with a sales network distributed around the world. In 2022, the Company ranked 219th on the Fortune 500 China list and 14th on the "independent production and operation" category of the top 500 Chinese petroleum and chemical enterprises.

As of the end of 2022, the Company had total assets of RMB53,223 million and owner's equity of RMB19,413 million, operating revenue of RMB75,313 million and total profit of RMB8,523 million.

The Company has a total fertilizer production capacity of 8.87 million tons/year, a phosphorus fertilizer production capacity of 5.55 million tons/year, a compound (mixed) fertilizer production capacity of 1.32 million tons/year, and a urea production capacity of 2 million tons/year, making it one of the largest phosphorus fertilizer producers in China; The production capacity of polyformaldehyde is 90,000 tons/year, ranking first in China in terms of capacity scale; The production capacity of feed grade calcium phosphate and iron phosphate are both 500,000 tons/year.



As of the end of 2022,  
the Company had total assets of

RMB **53.2** billion

Owner's equity of

RMB **19.4** billion

Operating revenue of

RMB **75.3** billion

Total profit of

RMB **8.52** billion

Net profit attributable to shareholders  
of listed companies

**6.02** billion

Net cash flow from operating activities

**10.6** billion



Picture: Company headquarters

# Corporate Culture

## Corporate Logo



**Meaning:** Clouds get together from all sides and chemistry makes all things on earth

## Corporate Mission

**Polymerizing the essence of heaven and earth; Creating harmony and prosperity together**

"Polymerize" refers not only to the unique production processes of the chemical industry, but aggregation and cohesion in general. "Polymerizing the essence of heaven and earth" means that we aggregate and cohere the preeminent talent resources of society, give play to our intelligence and creativity, and employ the luxuriant raw material resources from heaven and earth to produce high-quality chemical products to meet people's production and life needs.

## Corporate Vision

To be a world-class supplier of fertilizers, modern agriculture, and fine chemical products.

"Creating harmony and prosperity together" means that we join hands to create wealth through consequential and valuable labor, achieve a balance between shareholder investment returns, customer demand values, employee development opportunities, and social benefit creation, contribute to the revitalization of China's national industry, and promote social harmony and prosperity.

## Corporate Spirit

### Take roots in the earth and have aspiration up to the sky

It fully reflects the pursuit and ambition of YTH staff to sow the hope and harvest the future. It shows the spirit of diligence, pragmatism, and excelsior, and demonstrates the lofty aspirations of YTH staff, who have the passion to explore, and strive for excellence.

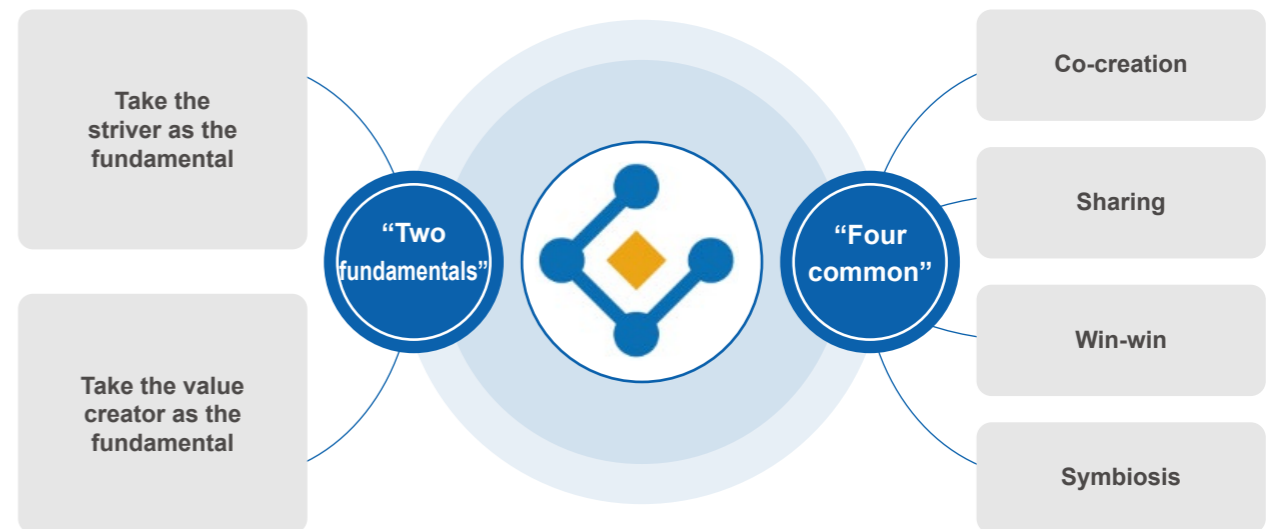
### "Take roots in the earth" is the spiritual cornerstone for all the staff in YTH

"Take roots" is the origin, "the earth" is the ultimate source of our cause, and "take roots in the earth" is a true portrayal of the diligence, dedication, and pragmatism of YTH staff, as well as a vivid statement of our rustic sense of responsibility and firm beliefs. "Taking root in the earth" inspires us to be down-to-earth, strengthen our foundation, work diligently, and strive to fulfill our mission.

### "Have aspiration up to the sky" is the spiritual pursuit of all the staff in YTH

"Aspiration" refers to determination and hard work, and "the sky" portrays our lofty aspirations. "Have aspiration up to the sky" is a vehement expression of the combatant spirit of YTH staff, and it is the highest requirement that YTH staff put forward for themselves. It inspires us to constantly strive for self-improvement, pursue excellence, bravely scale new heights, strive to surpass ourselves, and endlessly strive towards higher and farther goals.

## Corporate Core Value



# Performance and Honor

## Performance

### Clean Handed - Improving Governance Ability

- No corruption and commercial bribery cases have occurred
- **100%** signing rate of *Integrity Contract* with suppliers

### Safety First - Building a Firm Safety Line

- **"Zero death"** in safety production
- **3,450** hidden dangers were identified and **100%** handled
- **583** emergency drills were held without safety accidents
- No emergency safety incident response cases

### Cherishing the Nature - Protecting Lucid Waters and Lush Mountains

- No pollution incidents throughout the year
- The total annual investment in environmental protection exceeded RMB **450** million, and the total amount of energy saving reached **52,300** tons of standard coal
- Built **7** green mines, **17** green factories (including **3** national level, **14** associations), and **180** green products

### People-oriented - Promoting Employee Growth

- **100%** employee training coverage
- **602,483.5** hours total training duration
- **100%** employee social insurance coverage
- **100%** coverage of health examination for employees
- RMB **630,000** issuance in employee grant

### Shoulder to Shoulder - Improve the People's Wellbeing

- RMB **485** million annual R&D investment
- **125** newly authorized patents annually
- **20,000** tons of daily average output of fertilizer
- Over **1.96** million tons of the annual production of urea with a year-on-year increase of **330,000** tons
- The annual guaranteed supply of diammonium phosphate in total was about **4,606,800** tons, an increase of about **114,000** tons year-on-year

## Honor

**Demonstration SOE in corporate governance**

State-owned Assets Supervision and Administration Commission of the State Council (SASAC)

**Duan Wenhan, Chairman of the Company, was rated as the Person of the Year for "Agriculture, Rural Areas and Farmers" in 2022**

China Agriculture Film and Television center, CPADC

**National key SOE in management benchmark**

State-owned Assets Supervision and Administration Commission of the State Council (SASAC)

**Rated as 5A in 2022 Performance Report of The Secret of the Board of Directors of Chinese Listed Companies**

China Association for Public Companies (CAPCO)

**National Dominant Enterprise in Intellectual Property**

China National Intellectual Property Administration

**Best Practice Cases of Board Offices of Listed Companies in 2022**

China Association for Public Companies (CAPCO)

**In 2022, the Company's information disclosure was rated as Grade A on the Shanghai Stock Exchange**

Shanghai Stock Exchange

**ESG Excellent Practice Cases of Listed Companies**

China Association for Public Companies (CAPCO)

**No. 219 of Fortune 500 in China in 2022**

CICC Wealth Management and Fortune (Chinese Version)

**Provincial Advanced Group for Discipline Inspection and Supervision**

Yunnan Provincial Commission for Discipline Inspection of the Communist Party of China, Yunnan Provincial Supervision Commission, Yunnan Provincial Department of Human Resources and Social Security

**No. 14 in China's Top 500 Petroleum and Chemical Enterprises (Independent Production and Operation Category) in 2022**

China Petrochemical Federation, China Chemical Enterprise Management Association (CCEMA)






# Stakeholder Engagement

The Company continues to maintain close communication and exchanges with stakeholders, constantly improving the normalized and multi-channel communication mechanism, and responding to the expectations and opinions of various stakeholders in a timely and efficient manner.





## Communication with Stakeholders

Table: Communication Mechanism with Stakeholders

Stakeholders	Concerns and Requirements	Response
 Government/regulatory agencies	Observe law and discipline Tax contribution Economic development Fight corruption and advocate integrity Strengthen Party construction Respond to national policy	Abiding by laws and regulations Implementing national policies to ensure stable production and supply State-owned enterprise reform, the 14th Five-Year Plan Paying taxes according to law Strengthening Party construction Actively participating in researches organized by the government
 Shareholders	Return on investment Performance growth Standardized operation Timely and accurate information disclosure Investor protection	Continuing to improve profitability Standardizing corporate governance Disclosing information in accordance with regulations Through shareholder meetings, investor exchanges, performance presentations, road shows, and online interactive platforms to communicate with investors
 Employees	Wages and benefits Safety and health Promotion and development mechanism	Improving the salary and appraisal system Expressing sympathy for the employee All-staff physical examination and safety protection Vocational training, open and transparent channels for promotion Corporate cultural activities



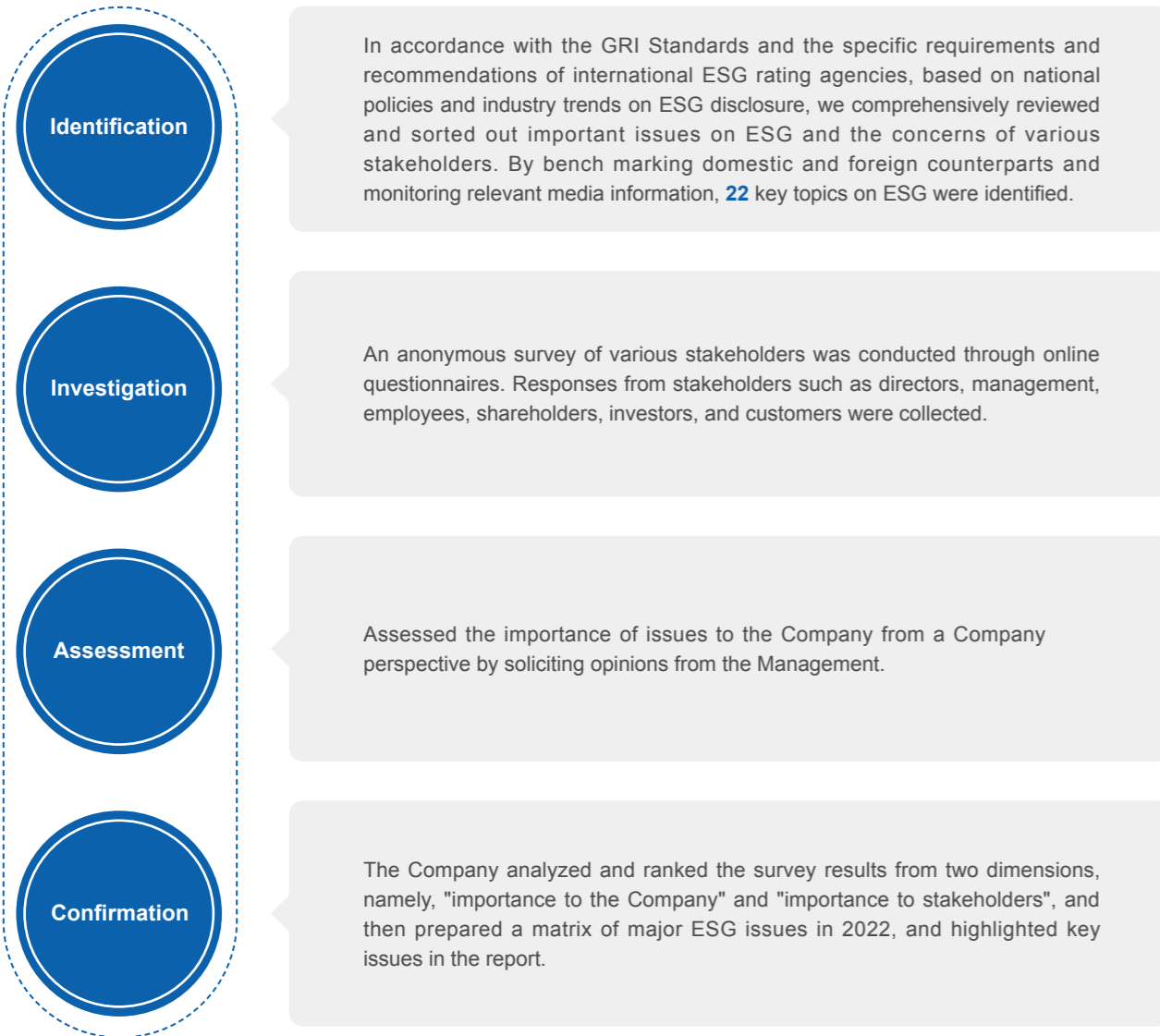
Picture: Company headquarters

Stakeholders	Concerns and Requirements	Response
 Clients	Product quality and safety Product function and effect After-sales service Customer satisfaction	Strict quality control and inspection New product research and development Professional guidance, establishment of after-sales service platform Customer satisfaction survey
 Partners	Business ethics Honesty and win-win cooperation Sustainable cooperation	Honest cooperation and mutual trust with win-win results Establishing strategic partnership Performing contracts according to law
 Environment	Green and sustainable development Implement energy conservation and emission reduction Environmental protection and governance	Promoting green and high-quality development Emission management "Three green" projects Environmental governance and land reclamation Hazardous chemicals management
 Public	Improve local people's livelihood Support public welfare establishments Promote employment	Rural revitalization Community co-construction Actively carrying out public benefit activities Boosting local economy and employment



## Matrix of Major Issues

The Company is well aware that the feedback and suggestions from various stakeholders have an important impact on the development of the Company. In 2022, The Company systematically sorted and adjusted major issues in accordance with the four steps of "identification, investigation, assessment, and confirmation", and drew a matrix of major issues in 2022. The assessment steps are as follows:



The distribution of major issues is as follows:

Highly important	Moderately important	General important
1 Production safety	9 Technology and product innovation	19 Training and development
2 Occupational health and safety	10 Risk management	20 Employee employment
3 Chemical management	11 Corporate governance	21 Information security and privacy protection
4 Product quality	12 Performance and promotion	22 Community welfare
5 Waste management	13 Customer relationship management	
6 Climate change and carbon emissions	14 Labor rights and care	
7 Environmental management	15 Anti-corruption	
8 Energy management and resource use	16 Purchasing and supplier management	
	17 Intellectual property rights	
	18 Biodiversity	





Picture: the headquarters

# 01

## Clean Handed - Improving Governance Ability

The Company attaches great importance to high-level corporate governance, continuously improves the risk management and internal control system, enhances the overall level of normative operation, and reduces governance risks.

- 01 Party Construction
- 02 Corporate Governance
- 03 Risk Control
- 04 Anti-bribery on Commerce

# Party Construction

In 2022, guided by Xi Jinping's Thought of Socialism with Chinese Characteristics in the new era, the Party Committee of the Company meticulously studied and implemented the spirit of the 20th Party Congress, closely focused on the general requirements of Party construction in the new era and the spirit of the national and provincial Party construction work conference, effectively "set the direction, manage the overall situation and ensure the implementation", and further built up the ideological and operational consciousness of promoting reform and development, as well as constantly enhance Party construction in a more scientific way. The Company has been making efforts to promote the transformation of Party construction advantages into development advantages, and has provided robust political and organizational support for building a flagship listed Company.

The Company has continued to promote the innovative theory of the Party, meticulously studied and implemented Xi Jinping's Thought on Socialism with Chinese Characteristics for a New Era and the spirit of the 20th Party Congress with 10 theoretic-study meetings being held in Party Committee to deeply understand the decisive significance of "Two Establishes", and guide Party members and cadres to enhance "Four Consciousnesses", firmly adhere to "Four Matters of Confidence", and achieve "Two Upholds".



Picture: Shuifu Yuntianhua



In **developing a Party-building brand system**, guided by the Party-building brand of "Unity is Strength • Five Pursuits with Innovative Leadership", 24 sub brands of Party construction have been formed, covering brand identity, brand propositions, brand connotation, brand implement approach, and other contents, enriching the Party construction brand system with YTH characteristics.



In **developing a Party-building visualization system**, through the guidance of Party construction Target Statement, Party construction Priority List, and Party construction assessments, a Party construction visualization system integrating goals, processes, evaluations, and results is achieved. At the same time, the Company have carried out a special action to "inspect, supplement, and strengthen" Party construction, to complement weaknesses, promote good experience and practices, and comprehensively improve the standardization level of Party construction work.



In **developing a Party-building exemplary base**, taking the original exemplary Party branch as the starting point, we have expanded the coverage, and achieved a work pattern by promoting work in all areas by drawing upon the experience gained on key points. In 2022, two Party branches were rated as "Yunling Pioneering Party Branch", seven Party branches were listed as exemplary Party branches of the Provincial SASAC, and six Party branches were listed as exemplary Party branches of the Group.



In **developing a Party-building innovation axis system**, centering on the overall guidance of "strengthening Party leadership, consolidating Party construction, promoting production and operation, and advancing reform and development", we have driven continuous innovation in the Party construction concept, mechanism, and carrier, and diversified the innovation subject and content, redacted the "Compilation of 2020-2021 Party construction Innovation Achievements".



In **developing a networking system for Party construction**, a "Party and Government College" has been established, offering 1,000 e-books and various learning courses related to Party construction. Four platforms, including an online sharing center for achievements, have been established to form a grid-enabled platform and share resources.



In **promoting cultural development**, we vigorously promoted the core values of "take the striver as the fundamental, and take the value creator as the fundamental". In 2022, 447 quarterly "MAP" were selected. At the end of the year, 15 annual "MAP" and 10 annual "MVP" were selected. The Company have launched the "Harvest China" event themed on "Rural Revitalization, Harvest China", with over 50 million viewers across the network. We have also launched a large-scale activity to discover the most beautiful wealth creators, within the Company, in the field of Agriculture, Rural areas and Farmers, attracting over 100,000 participants. At the same time, the Company launched the thematic activity "Rural Revitalization, Land Story" to elaborately record the services provided by YTH for driving the modern agricultural



In **building a new state-owned enterprise supervision system**, the Company have organically combined full-scale supervision by the Party Committee, specialized supervision by the Discipline Inspection Commission, functional supervision by the Working Department of the Party, management supervision by the Administrative Department of production and operation, daily supervision by the Party's grassroots organizations, and democratic supervision by Party members to form a multi-dimensional supervision force. At the same time, the Company continued to deepen the construction of the "risk control, compliance, internal control, and legal affairs" management system, and abidingly improved the Company's risk management capability.


# Corporate Governance

The Company has strictly complied with the *Company Law of the People's Republic of China*, the *Securities Law of the People's Republic of China*, and the regulations and guidelines of the China Securities Regulatory Commission and the Shanghai Stock Exchange, and has established a scientific and efficient corporate governance mechanism with explicit powers and responsibilities. The Company has comprehensively revised the Articles of Association and the rules of procedure of each committee, deepened the reform of corporate governance, unremittingly improved the corporate governance structure, and laid a solid foundation for the sustained and steady operation and healthy development.

## Directors and Board of Directors

Under the Board of Directors, there are Strategy Committee, Audit Committee, Remuneration and Appraisal Committee, and Nomination Committee. The Company defines the responsibilities and work processes of each committee to supervise the management of various affairs. During the reporting period, the Directors held 17 meetings, with a attendance rate of 100%.

The Company has meticulously considered factors such as the gender, age, educational background, professional knowledge and skills, and industry experience of board members to ensure the diversification of board composition while meeting various business needs. As of December 31, 2022, the Board of Directors had a total of 11 members, including 4 independent directors, each of whom has rich industry experience, with professional backgrounds covering multiple fields such as finance, law, and risk management, bringing diverse experience and expertise to the Company. In addition, the appointment of a female independent director by the BOD is an important manifestation of our emphasis on the leadership of female leaders and our pursuit of board independence and diversity.



During the reporting period, the Directors held

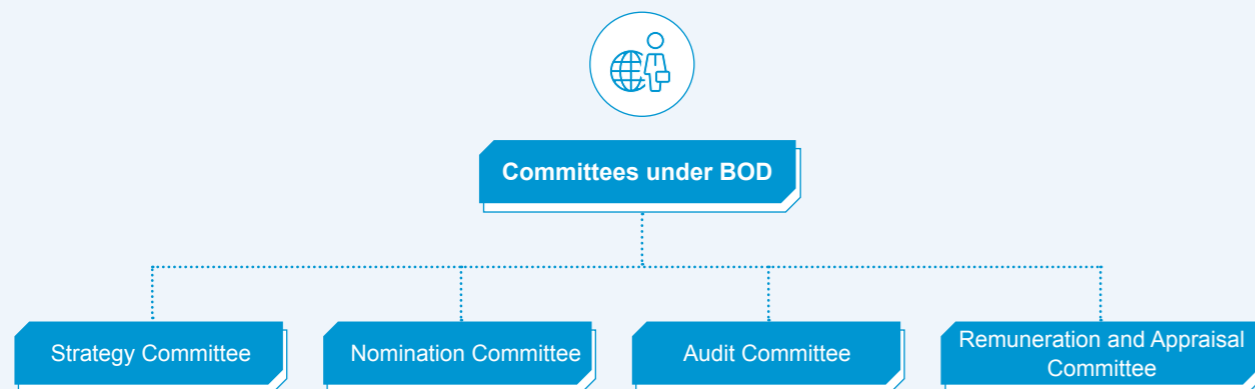
**17** meetings

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The attendance of the Board was

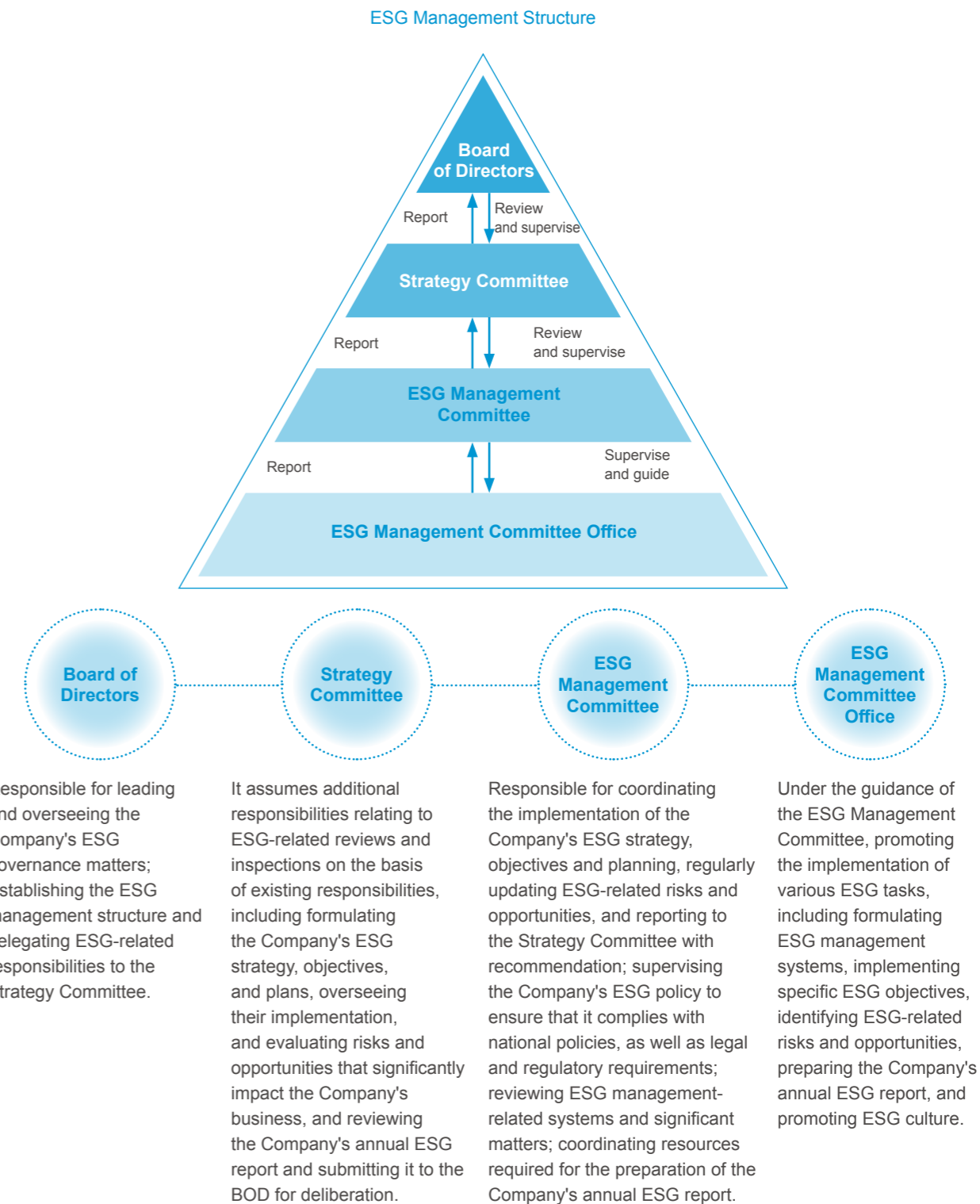
**100%**

The structure of BOD is as follows:



# ESG Management Structure

To ensure the successful formulation and implementation of the Company's sustainable development strategy, Yuntianhua has devised a top-down, multi-tier ESG management structure to meet its ESG management needs. The BOD and Strategy Committee lead this structure, with the ESG Management Committee serving as the core and the ESG Management Committee Office acting as the driving force for implementation, to comprehensively improve the level of ESG governance.



## Authority and Accountability Management

The Company prepares and implements the provisions of the *Guidelines for the Authority of Decision-Making Mechanism*, clarifies and improves the responsibilities and authorities of the Party Committee, General Meeting of Shareholders, Board of Directors, and the Management, and legitimately defines the responsibility and authority boundaries of each governance body. The Company has formulated relevant rules of procedure for the Party Committee, General Meeting of Shareholders, Board of Directors, and Management to effectively sort through various rules and regulations related to decision-making. The Company has prioritized the elimination of overlapping, vacant, and ambiguous decision-making boundaries. At the same time, the Company has effectively standardized the operating mechanism of decision-making bodies, created a sound governance responsibility and authority system, and improved the authorization mechanism of the Board of Directors to the Management. The Company has established a reporting system from the Management to the BOD to ensure effective communication and discussion in between.

## Information Disclosure

The Company has strictly complied with relevant laws and regulations and the *Information Disclosure Management System*, strengthened the management of the Company's information disclosure, and adhered to the principles of authenticity, accuracy, completeness, timeliness, and effectiveness. In 2022, the Company disclosed a total of 146 reports, including the annual report for 2021, first-quarter reports for 2022, semi-annual reports for 2022, third-quarter reports for 2022, and interim announcements. The Company's information disclosure effort was rated as Grade A on the Stock Exchange.



In 2022, the Company disclosed a total of **146** reports, including the annual report for 2021, first-quarter reports for 2022, semi-annual reports for 2022, third-quarter reports for 2022, and interim announcements

The Company's information disclosure effort was rated as Grade **A** on the Stock Exchange

## Investor Relations

The Company has been diligent in monitoring public opinion and has proactively communicated its information to the capital market and investors through various online and offline channels. These channels include online meetings, roadshows, performance presentations, corporate promotional films, cloud tours, investment strategy meetings, on-site investor research, SSE investor interactive platform, and investor hotlines. In 2022, the Company held 4 performance presentations through recorded broadcasts for the 2021 annual report and the 2022 first quarter report, During these presentations, the Company answered a total of 65 questions from investors, 300 investor phone calls, and 32 questions on the SSE investor interactive platform.



The number of performance presentations was

**4**



The number of investor questions answered was

**65**



The number of investor phone calls was

**300**



The number of questions on the SSE investor interactive platform was

**32**

## Risk Control

The Company has established a risk management and internal control system with explicit rights and responsibilities and complete functions. The Board of Directors serves as the leading and decision-making body for the Company's risk management efforts, responsible for overseeing the construction of the risk management and internal control system. At the functional department level, the Risk Management Department is responsible for implementing specific response measures for major risks.

In 2022, we revised the *Internal Control Management Manual of Yunnan Yuntianhua Co., Ltd.* to ensure the effectiveness of our risk management and internal control system. The Company adopted the "three lines of defense" model and employed diverse risk identification methods to regularly identify, troubleshoot, analyze, and evaluate risks. These methods allow us to develop corresponding risk response strategies, and track the progress in real-time. The Company has attached importance to managing ESG-related risks, incorporated risks related to safety, environmental protection, product quality, and other ESG risks into the Company's risk management system, and developed risk response strategies to enhance our coping capabilities towards ESG risks.

## Training on Risk Control

The Company has always adhered to the principle of "prevention first" when managing risks. In addition to issuing risk warnings and compiling cases for typical and universal risks with potentially serious consequences, we have developed and issued the *2022 Work Plan for Improving Internal Control of Yunnan Yuntianhua Co., Ltd.* This plan aims to enhance the core competitiveness of the Company in risk prevention and control, and improve the risk management capabilities of all employees. Furthermore, we regularly sent the risk management personnel of the Company and its subordinate units to the top-ranking peers for exchanges and training.

## Compliance Management

The Company has strengthened compliance management to carry out policies such as the *Measures for the Compliance Management of Central Enterprises* and the *Guidelines for the Compliance Management of Provincial Enterprises in Yunnan Province (for Trial Implementation)*. The Company has established a Compliance Committee, mainly responsible for coordinating, supervising and examining compliance management, and promoting legal governance and popularization.

In 2022, the Company continued to prioritize improving compliance control in key areas. It further clarified the principal responsible departments, as well as departments responsible for evaluation and supervision of compliance management. At the same time, it emphasized that each business department is the first responsible department of compliance management. Through institutionalizing the management with a clear process powered by informatization, the Company expanded the application scale of standardized contract templates, and strengthened compliance supervision and inspection.



### Case: Compliance Management Training for YTH's Directors and Senior Managers

On October 13, 2022, in order to enhance employees' awareness of compliance management, the Company conducted compliance management training with the guidance of "Measures for the Compliance Management of Central Enterprises". Board members, middle and senior managers, and personnel related to risk management participated in this training where they ardently discussed how to strengthen the Company's compliance management.

# Anti-bribery on Commerce

The Company resolutely opposes any form of corruption, and has abidingly enhanced its anti-corruption governance and daily publicity activities, unremittingly strengthens business ethics constraints on management personnel, regularizes the behavior of employees, and is committed to creating an honest and upright business environment.

## Anti-corruption Management Framework and Mechanism

In 2022, the Company formulated the 2022 Leadership Task Division and Responsibility List for Party Conduct and integrity to enhance the awareness of integrity among leaders at all levels. This initiative strengthened the principal responsibility fulfillment system for business ethics construction, urging and directing the in-depth implementation of anti-bribery efforts. The Company has established a Leading Group on Party Integrity and Anti-Corruption to study anti-corruption efforts, review and supervise cases of major breaches of integrity and honesty as well as the overall business ethics of the Company.

The Company maintains a "zero tolerance" attitude towards all forms of corruption and commercial bribery. The Company conducts an annual assessment of the year's anti-corruption work and notifies the results of the assessment. As of 2022, no corruption or commercial bribery cases were found in Company.

The Company places great emphasis on maintaining the integrity of our business partners and the entire supply chain. To this end, we ensure a 100% signing rate of the "Integrity Contract" with our suppliers. These contracts are closely supervised and inspected by the Company, promoting a clean, honest, and mutually beneficial partnership.

As of 2022, no corruption or commercial bribery cases were found in Company

The signing rate of "Integrity Contract" with suppliers was

# 100%

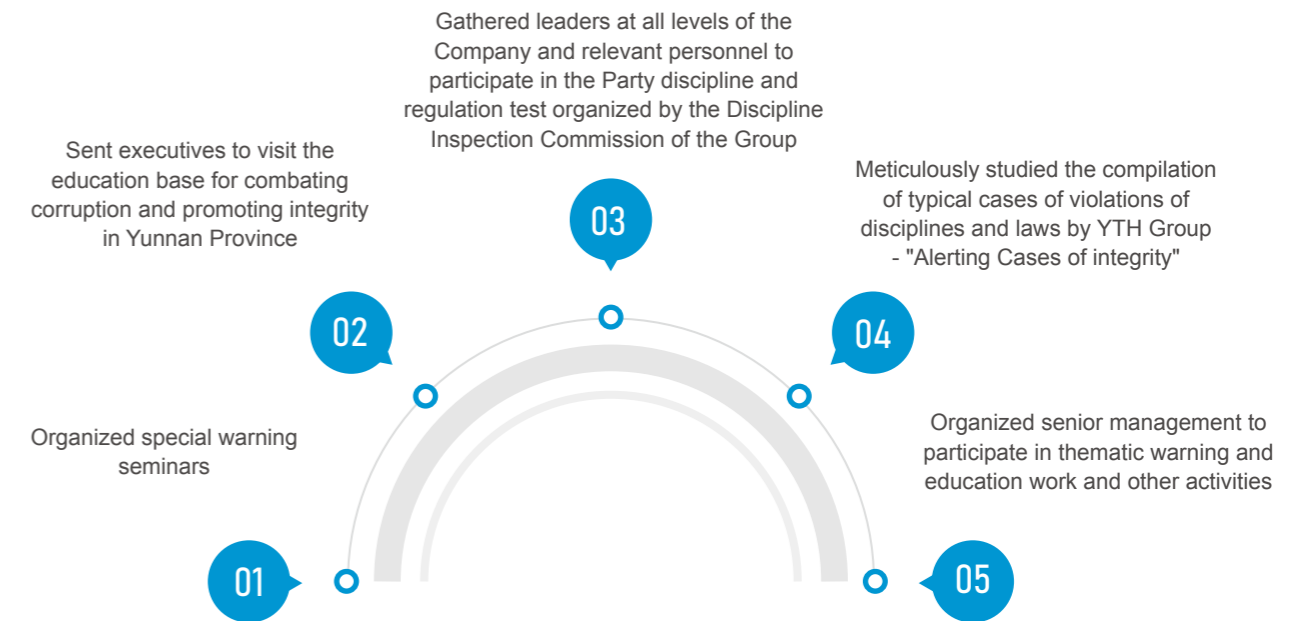
## Education and Training on integrity

In the construction of a clean culture, the Company held a number of education activities on integrity in various forms and contents in 2022, totaling 15 training sessions.

The number of integrity training events organised by the Company was

# 15

Table Education activities on integrity (non-exhaustive)



Picture: Company headquarters

## Whistle-blowing Management

The Company has strictly complied with the "Working Rules for Handling Complaints and Accusations by Discipline Inspection and Supervision Organs" to normalize the channels and processes for complaints and accusations. The Company receive internal and external supervision and complaints through multiple channels such as letters, calls, and visits.

In order to protect the basic rights and interests of whistleblowers, the Company have strictly complied with laws and regulations and implements a policy of protection for whistleblowers, safeguarded the confidentiality of whistleblowers' personal information and complaints within the scope permitted by laws and regulations, and taken corresponding measures to protect whistleblowers from retaliation in accordance with the law.



# 02

## Safety First - Building a Firm Safety Line

The Company has always adhered to the underlying requirements of safety development. It has established and improved the safety management system, continuously increasing investment in safety production, and strengthening risk management and control. The Company has expanded the scope of identifying and rectifying hidden safety hazards, while promoting the development of a safety culture throughout the organization.

- 01 Safety Management
- 02 Safety Guarantee
- 03 Occupational Health and Safety
- 04 Chemical Safety

Picture: Shijifu Yuntianhua centralized control room

## Safety Management

The Company strictly adheres to national safety laws and regulations, and has developed safety management systems such as the *Safety and Environmental Protection Responsibility System of Yunnan Yuntianhua Co., Ltd.* and the *Occupational Health Management System of Yunnan Yuntianhua Co., Ltd.*, tailored to its own business operations. The Company has established a clear safety management system structure, with the Ecological Environment Protection and Safety Production Committee (hereinafter referred to as the "Safety Committee") as the highest responsible body for safety work, coordinating and making decisions on internal and external safety matters. It has established specialized committees for fire prevention and emergency, production and process, along with a safety management department, staffed with full-time (part-time) safety officers at the grassroots level to comprehensively safeguard safety management.

The Company has adhered to the management policy of "safety first, prevention and treatment together, key area monitoring, and continuous improvement". Focusing on work plans and objections, the Company has improved the evaluation system of safety responsibility performance, and advanced safety management work. At all levels, from headquarters to subsidiary companies and departments, the Company signs Target Statements with its employees to effectively fulfill the principal responsibilities of safety management.

Table: Safety Management System

Management Level	Scope of Responsibility and Staffing
HQ	<ul style="list-style-type: none"> <li>The Ecological Environment Protection and Safety Production Committee is the highest decision-making body for the Company's safety and environmental protection work, responsible for implementing the guidelines, policies, laws, regulations, and instructions of the Party, the state, and superiors regarding safety and environmental protection.</li> <li>The director of the Safety Committee is assumed by the Company's General Manager, the deputy director is assumed both by the Secretary of Company's Party committee and the Deputy General Manager in charge of safety and environmental protection; the committee members are assumed by other senior management members, heads of functional department and main subsidiaries.</li> <li>The Safety Committee shall hold a meeting at least once a quarter for safety and environmental protection work report; Responsible for reviewing and approving long-term plans, work plans, key measures for annual safety and environmental protection work and important matters, assessment results of safety and environmental protection, and opinions on relevant evaluation, reward and punishment; Study, discuss, and make decisions on major issues of the Company's safety and environmental protection work in a timely fashion.</li> <li>The office is set up under the Company's Safety and Environmental Protection Department to fully implement safety management.</li> </ul>
Branches and Subsidiaries	<ul style="list-style-type: none"> <li>The branches and subsidiaries set a Safety Committee, under which sub-committees such as fire protection, process, equipment, electromechanical instruments, etc. are established, as well as a safety management department (Safety Committee Office).</li> <li>The members of the Safety Committee are composed of the senior management of the subsidiaries and the heads of each department. The sub-committees are headed by the leaders in charge, and the members are composed of the main technical personnel of each sector.</li> <li>Safety inspection and guidance are provided to promote the safety management in various fields.</li> </ul>
Workshop	<ul style="list-style-type: none"> <li>It is a management organization at the level of workshop, where the safety line is jointly built by factory (workshop) level leaders and factory (workshop) safety officers based on regional responsibilities.</li> </ul>
Team	<ul style="list-style-type: none"> <li>It is a management organization at the level of teams, mainly composed of team leaders, part-time team safety officers, and team members, constituting the most basic safety unit.</li> </ul>

## Safety Guarantee

The Company remains committed to prioritizing safe production, firmly adhering to its bottom-line thinking. It places significant emphasis on achieving annual targets on HSE (health, safety, and environment) responsibility, implementing key security measures for safe production and operation, carrying out emergency drills, employee safety training, and other activities to enhance the awareness and ability of safety management. Through these efforts, the Company promotes digital safety technology to build a safe highland, firmly establishing the intrinsic safety foundation of the Company.

### Safety Guarantee for Operation

With the goal of achieving "zero death" in safety production, the Company has continuously improved its "dual prevention mechanism" by enhancing risk-tier control and identifying and managing hidden dangers. The Company implemented the "Four-zone Separation", carried out emergency drills, and implemented the responsibility of all employees for safety production. These efforts have resulted in a new landscape, where safety is jointly managed by the Party Committee, administration, and discipline inspection. At the same time, the Company has continued to make efforts in digital construction, aiming at enabling digital safety management and enhancing capabilities in safety risk prevention.

#### Hidden Danger Handling

The Company has carried out in-depth investigation and handling of safety risks and hidden dangers, completed special investigations and remediation such as safety risk assessment of old devices and major hazard sources, in order to promote reform through investigation, and find disparities through bench marking, to shore up weak links in a timely fashion. In 2022, 3,450 hidden dangers were identified by various units, and 3,450 remediation projects have been completed, with a completion rate of 100%.



In 2022, with a completion rate of

100%

#### Four-zone Separation

According to the *Technical Guidance on the Separation of Four Zones for Hazardous Chemical Production and Storage Enterprises in Yunnan Province*, the Company has carried out the Four-zone Separation, separating administrative office areas, logistics support areas, centralized control areas, and production and operation areas, improving the level of intrinsic safety. In 2022, seven units, including Shuifu Yunhuatian, Phosphorus Chemical Division of Phosphate Group, Tian'an Chemical, Jinxin Chemical, Three Circles, Red Phosphorus Chemical, and Jinning Yellow Phosphorus, have completed the reform and passed acceptance.



Picture: Centralized Control Room of Tian'an Chemical



### Emergency Drill

In order to adequately implement the national safety production policy of "safety and prevention first with comprehensive treatment", and improve the emergency handling capacity across the board, each subsidiary has established emergency rescue forces to prepare emergency plans, and regularly conduct emergency drills and evaluations. In 2022, a total of 583 emergency drills were conducted with no emergency accident occurred.



In 2022

**583** emergency drills were conducted



#### Case: Shuifu YTH and multiple departments in Shuifu City jointly held a government-enterprise emergency drill for a leakage accident of hazardous chemical (methanol)

On June 29, 2022, Shuifu YTH and various departments of Shuifu City jointly held a government-enterprise emergency drill for a leakage accident of hazardous chemical (methanol) in the Company's methanol product tank farm and perimeter area, themed on "Abiding by the Safety Production Law with The Capacity of First Responsible Person" during the Safety Production Month. The drill lasted nearly 1.5 hours, with 125 participants and a total of 651 evacuees. The Company arranged 8 observers to observe and record the scene of the accident, the emergency command center, the on-site command center, and alertness zone, and dispatched 1 fire truck, 1 emergency rescue vehicle, 1 emergency reserve vehicle, 1 gas protection vehicle, and 22 professionals.



Picture: Emergency drill and instructions

### Digital Tool

The construction of a digital factory has enabled the Company to fully promote digital empowerment. With regard to work safety, the Company has promoted "personnel replacement with mechanization, personnel reduction with automation, economize on manpower with informatization to boost intelligent management and control", reducing the number of on-site personnel in high-risk positions. With regard to production equipment and hazard source management, automatic upgrades have been completed for production equipment and storage facilities, involving "two keys and one major". Safety instrumented systems have been installed for major hazard sources at level 1 and level 2 as required, improving the level of intrinsic safety and enhancing the Company's capabilities in safety risk precaution. In 2022, Shuifu Yuntianhua, Three Circles, Phosphate Chemical Division of Phosphate Chemical Group and other units took the lead in launching the pilot platform of the "Industrial Internet Plus Safe Production of Hazardous Chemical Substance".

### Safety Capacity Building

The Company places a high priority on strengthening employee safety education and training, recognizing its role in enhancing the safety management ability of employees. To this end, the Company has established a comprehensive three-level safety education system, featuring tailored training courses for management personnel, and employees with daily safety education, ensuring that management personnel is acquainted with national safety production laws, regulations, and technical standards while employees the Company's management system of safety production, management methods, and safety operating procedures. We have conducted activities, such as emergency response, emergency drills, and case studies of typical accidents, aimed at preventing and mitigating accidents related to production safety, and ensuring the safety of employees and Company property. In 2022, the Company provided 66,514 staff trainings and 17,340 supplier trainings on safety.

In 2022, the Company compiled 18 safety and environmental protection manuals. Through training and evaluation, it has continuously enhanced employees' professional skills and safety attainment to normalize their behavior, reduce and eliminate "human-made hazards".



In 2022, the Company provided

**66,514** staff trainings on safety

**17,340** supplier trainings on safety



Picture: Contest Themed on Safety Production



**Case: GM of Yunfeng Chemical held a public class on safety with the theme of "Work Safety Month"**

On June 16, 2022, Yunfeng Chemical held the Second Public Class on Safety with the General Manager Zhang Yong lecturing on "Accidents Around Us". A total of 110 personnel from each unit of the Company participated in the training, including managers above team leader, equipment technicians and management personnel of safety and environmental protection.



Picture: GM of Yunfeng Chemical Lecturing on "Accidents Around Us"



**Case: Shuifu YTH held a safety-flag-raising ceremony to launch the "Work Safety Month" in 2022**

On the morning of June 1, 2022, Shuifu YTH held a safety-flag-raising ceremony, officially launching the campaign of "Work Safety Month" in 2022. The leaders of Shuifu YTH, heads of all units in the Park, safety officers, and employee representatives attended the ceremony. Du Wei, Deputy General Manager and Chief Engineer, delivered a speech at the ceremony, calling on everyone to take the opportunity to conduct elaborate learning on safety production, and enhance safety production awareness and skills.



Picture: Shuifu YTH Held a Safety-Flag-Raising Ceremony

## Occupational Health and Safety

The Company has strictly complied with the occupational health and safety management requirements of laws and regulations such as *the Law of the People's Republic of China on the Prevention and Control of Occupational Diseases*, *the Regulations of Yunnan Province on the Prevention and Control of Occupational Diseases*, and *the Management Measures for Occupational Health Surveillance*, and has formulated the Occupational Health Management System of Yunnan Yuntianhua Co., Ltd. to standardize and guide daily management, and to prevent, control, and eliminate occupational hazards, improve labor conditions and environment, protecting the health and rights of employees. At the same time, the Company requires its suppliers and contractors to adhere to the same health and safety standards with proper supervision and inspection.

The management of occupational health and safety is led by the Safety Committee and overseen by the Safety and Environmental Supervision Department. It is incorporated in the annual target assessment of safety production and each subsidiary has established systems and institutions in compliance with the Company's requirements, with the GM serving as the main person responsible for occupational health management. Safety responsibilities are implemented from various aspects, such as, early prevention, operational protection, occupational health monitoring, supervision and management. The relevant responsible person regularly conducts safety performance assessments, the results of which are linked to their salary.

The Company annually commissions a qualified quality certification center to conduct comprehensive evaluations of its implementation of health and safety targets. Additionally, all operational business entities undergo self-assessment and internal audits on safety standardization, followed by a third-party institution review every three years for effectiveness and compliance. 18 subsidiaries have obtained ISO45001 certification in occupational health and safety management system, and all production units have obtained safety standardization certificates.

In 2022, the Company signed the *2022 Safety, Environmental Protection, Occupational Health, and Fire Protection Target Statement* with 31 subsidiaries (including custody units), and conducted on-site inspection and evaluation every six months to pursue the goals of zero death. The injury rate of 1,000 people was only 0.0407 with 100% investigation and handling of hidden danger. The qualification rate of occupational hazard sites was 100%, and no occupational diseases were found in occupational health examinations.

In 2022, the Company invested 13.58 million yuan towards ensuring employee safety and health. All subsidiaries carried out daily monitoring of occupational hazard factors as required, with a qualification rate of 100%. The Company provided employees with regular physical examinations, and no occupational diseases were found during the examinations.



pursue the goals of

**0** death

The injury rate of 1,000 people was only

**0.0407**

The rate of investigation and handling of hidden danger was

**100%**

The qualification rate of occupational hazard sites was

**100%**

In 2022, the Company invested on employee health and safety

**13.58** million yuan

The qualification rate was

**100%**

Table: Annual Performance of Key Safety Indicators of the Company in 2022

Indicator	Annual Performance
Injury rate per thousand people (%)	≤ 0.5
Number of work-related deaths (person)	0
Number of occupational disease cases (person)	0
Qualification rate of occupational hazard sites (%)	100
Number of hidden dangers (items)	3,450
Completion rate of hidden danger handling (%)	100



Case: Shuifu YTH conducted first-aid training

In June 2022, Shuifu YTH organized 13 special trainings and certification examinations for the "guardians" of special operations in 11 days for production units, production auxiliary units, and operating personnel from resident contractor in the Park, totaling over 700 people to improve professional skills in occupational health and safety, and further protect the rights and interests of employees.



Picture: Environmental accident emergency operation training



Case: Three Circle invited expert lecturing on safety production and occupational health

On June 21, 2022, Three Circle invited the lecturer from Safety and Health Education (Kunming) and the director of the Occupational Health Association to lecture on safety production and occupational health, as an effort to protect the rights and interests of employees, care for their health, and enhance awareness of safety and health.



Picture: Lecture on Health

## Chemical Safety

The Company has strictly abided by national and local government laws, regulations, and policy documents, and has developed internal management systems such as the *Major Hazard Source Management System* and the *Hazardous Chemicals Management System*, to achieve complete process control across the entire production, storage, use, transportation, and loading and unloading of hazardous chemicals.

The Company strictly adheres to relevant specifications and standards in identifying, evaluating, and classifying major hazard sources, which are classified into Level 1, Level 2, Level 3, and Level 4 based on their degree of hazard. Evaluations are carried out every three years, and a responsibility system for major hazard sources is implemented. Comprehensive emergency plans for production safety accidents are conducted at least once a year for units that produce, use or manage hazardous chemicals, and on-site disposal drills for major hazard sources are conducted at least once every six months to ensure the safety management of chemicals. In addition, the Company regularly conducts a chemical elimination plan to eliminate all identified chemicals, and follows green chemistry principles in the design of new products, actively seeking alternatives to substances of high concern, with the goal of becoming a leading manufacturer of alternative substances.

Table: Dangerous Chemicals in the Company

Type	Name
<b>Hazardous chemical</b>	ammonia, methanol, formaldehyde, methane, naphtha, oxygen, hydrogen, nitrogen, argon, carbon dioxide, sulfuric acid, hydrochloric acid, phosphoric acid, fluorosilicic acid, pentaerythritol, nitric acid, dioxane, trimeric formaldehyde, yellow phosphorus, phosphorus pentoxide (phosphoric anhydride), polyphosphoric acid, carbon monoxide, hydrogen sulfide, crude phenol, hydrogen peroxide, phosphorus pentoxide, sodium hydroxide, sodium sulfide, m-dichlorobenzene, potassium fluoride
<b>Among them: dangerous chemicals subject to key supervision</b>	ammonia, methane, naphtha, methanol, crude phenol, carbon disulfide, hydrogen in gas, carbon monoxide, hydrogen sulfide
<b>Among them: Chemicals easy to produce drugs</b>	Sulfuric acid, hydrochloric acid
<b>Among them: Explosive hazardous chemicals</b>	pentaerythritol, nitric acid, hydrogen peroxide

In 2022, the Company continued to strengthen the management of hazardous chemicals, by conducting specialized inspections on transportation and disposal, relocating and transforming production enterprises, and advancing safety standardization. Furthermore, the Company implemented the pilot testing of the "Industrial Internet Plus Safe Production of Hazardous Chemical Substance", accelerating the centralized management of safety risks of hazardous chemicals to improve the level of intrinsic safety, and enhance the ability to prevent safety risks.

### Special Inspection of Transportation and Disposal

The Company has strengthened the management of transportation, use, and disposal of hazardous chemicals where it conducted safety inspections on 126 hazardous chemical shipping units, and discovered 33 issues such as lacking of fire extinguishers, and non-standard wearing of protective equipment by drivers during unloading operations. A total of 47 potential hazards were identified in loading and unloading stations for hazardous chemicals, warehouses, tank farms, and other areas. Currently, the above issues have been rectified to ensure that the safety risks of hazardous chemicals are controlled during the whole process.



conducted safety inspections on hazardous chemical shipping units

126



### Relocation and Transformation of Production Enterprises

The Company has relocated and transformed hazardous chemical production enterprises in densely-populated urban areas. Among them, Shuifu YTH has completed comprehensive treatment and on-site transformation, and has passed the acceptance of the government authorities; Dawei Ammonia actively cooperated with Huashan Street Office to carry out the relocation of residents with a safe distance. Of the 102 households that need to be relocated, 81 have been relocated to ensure the safety of local people in their daily work and life.



### Standardization of Safety

The Company has vigorously promoted the standardization of safety, covering a total of 17 secondary and tertiary enterprises engaged in the standardization of safe production of hazardous chemicals, 22 secondary and tertiary enterprises in non-coal mines (including tailings ponds), 1 secondary enterprise in coal mines, and 1 tertiary enterprise in light industry. It conducted chemical safety management from multiple aspects and forwardly assumed corporate safety responsibilities.



Picture: Safety inspections of vehicles transporting dangerous chemicals



### Industrial Internet Plus Safe Production of Hazardous Chemical Substance

The Company has carried out the pilot construction of "Industrial Internet Plus Safe Production of Hazardous Chemical Substance", improving chemical safety management with digital means. Currently, Shuifu YTH, Three Circles, and Phosphate Chemical Division of Phosphate Chemical Group have completed the prototype design of seven modules, namely "risk-tier control and hidden danger identification and governance", "work permit and work process management", "enterprise safety database and digital delivery", "training management", "contractor management", "closed management (personnel and vehicle location management)", and "major hazard source management". The module of "risk-tier control and hidden danger identification and governance" has been put into operation to support the Company's management ability and efficiency on risks.



Picture: Production platform of "Industrial Internet plus Safe Production of Hazardous Chemical Substance"



Picture: Aerial photograph of the reclaimed vegetation area of Kunyang phosphate mine, Phosphate Chemical

# 03

## Cherishing the Nature - Protecting Lucid Waters and Lush Mountains

The Company has aligned itself with the national strategic goals of "carbon peaking and carbon neutrality" and has embraced the development concept of "lucid waters and lush mountains are invaluable assets". It has prioritized the issue of climate change and greenhouse gas emissions, persisted in green and high-quality development, vigorously developed green environmental protection businesses, promoted resource recycling, and taken various measures to improve energy efficiency and reduce pollutant emissions.

- 01 Addressing Climate Change
- 02 Environmental Governance
- 03 Use and Management of Water Resources
- 04 Waste Management
- 05 Biodiversity Conservation

## Addressing Climate Change

The maintenance of a stable and sustainable global food supply largely depends on a stable climate environment and a healthy ecosystem. The Company actively shoulders its corporate responsibility in addressing and mitigating the impact of climate change, and is committed to achieving ecological protection and restoration through our technologies and products.

In response to the national strategic goals of achieving "carbon peaking and carbon neutrality" and global climate change, the Company has taken proactive measures to fulfill its responsibilities as a state-owned enterprise, and promoted the formulation of practical action plans in combination with the "14th Five-Year Plan" and the actual situation of the Company.



Carried out carbon-emission capacity building, improved the professional skills of relevant management personnel, assisted in establishing a full-time talent force, and frequently dispatched management personnel to participate in training on carbon emission management organized by the Provincial Development and Reform Commission, the Provincial Environmental Protection Department, and industry associations.



Carried out carbon emission inventory to obtain accurate data on low-carbon business, including basic data of energy consumption, raw material consumption, and product output of enterprises, accounted for carbon emissions, and identified the underlying situation of carbon footprints in accordance with relevant national guidelines and requirements, laying a foundation for analysis and planning. Evaluated the Company's green and low-carbon development needs and potential, and identified the main drivers of carbon emissions.



Organized special training on carbon asset management to effectively improve the business capabilities of practitioners in carbon emission inventory and carbon asset management, a strong talent pool for the Company to effectively carry out carbon management and participate in carbon market construction and trading in the future.



Regularly monitored the market trends of carbon assets and carbon trading, and strengthened research on industrial policies and dynamics. Duly incorporated carbon emissions into the strategic planning and evaluation scope of the Company, and utilized the supply side reform triggered by the new round of energy structure transformation to realize its own strategic transformation.



Set up an internal carbon emission management mechanism in advance, proactively monitored and managed the carbon emissions of relevant industrial sectors, and gradually developed the internal carbon pricing mechanism during the establishment of the national carbon trading system, to achieve orderly and refined management of carbon emissions.

In addition, through CCUS (Carbon Capture, Utilization and Storage) projects carried out by Shuifu Yuntianhua, Tian'an Chemical, and Dawei Ammonia, the Company has also implemented its effort to reduce greenhouse gas emissions by 164,000 tons per year.

## Energy Conservation and Consumption Reduction

The Company has consciously complied with energy-saving laws, regulations, standards, and effectiveness requirements such as the "Energy Conservation Law of the People's Republic of China", and "Energy Conservation Management Measures for Key Energy Users". It has developed a number of internal management systems and implemented an online monitoring system for key energy consumption in accordance with relevant national regulations. On December 19, 2019, the Company passed the inspection of the China Quality Certification Center and obtained the energy management certification (ISO 50001:2011).

Every year, the Company sets annual energy conservation goals, and issues corresponding work plans and production management plans to ensure their strict implementation. For high-energy-consuming products in key areas, the Company specifies index values for comprehensive energy consumption per unit product. At the same time, the Company carries out energy efficiency benchmarking to control the intensity and total amount of energy consumption, as well as carbon emission intensity. It deeply explores the transformation potential of energy conservation and carbon reduction technologies, and continues to promote management measures such as the recovery and utilization of by-product heat and pressure. Every year it analyzes and summarizes the effectiveness of energy conservation efforts, with close monitoring of the implementation of technology transformation projects for energy conservation.

The Company has strategically formulated targets for energy consumption and carbon emission intensity based on its business characteristics. These targets aim to enhance energy utilization efficiency, control the consumption of fossil fuels, optimize the energy consumption structure, and promote the implementation of energy conservation and emission reduction measures.

The energy consumption of the company's total industrial output value in 2022 is **0.49** tce/10,000 yuan, and the carbon dioxide emission intensity of 10,000 yuan of output value is **1.21** tCO<sub>2</sub>/10,000 yuan.<sup>2</sup>



Comprehensive energy consumption per unit product of phosphoric acid was **0.188** tons of standard coal per ton, a year-on-year decrease of **3.1%**;

Comprehensive energy consumption per unit product of methanol was **1.411** tons of standard coal per ton, a year-on-year decrease of **4.2%**;

The comprehensive energy consumption per unit product of yellow phosphorus was **2.49** tons of standard coal per ton, a year-on-year decrease of **19.1%**.

Products such as monoammonium phosphate, diammonium phosphate, and sulfuric acid from Tian'an Chemical, Three Circles, and Phosphate Group have been commended as the "**leader**" of energy efficiency in the petroleum and chemical industry for 8 consecutive years.

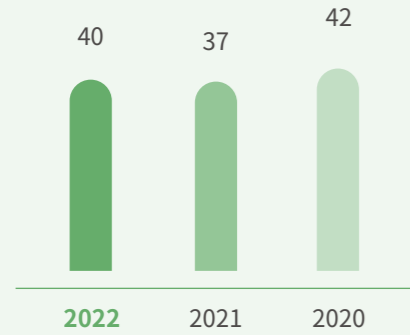
<sup>2</sup> Source of statistics: Company's main manufacturing units (excluding total energy consumption for raw materials).

In addition, in recent years, the Company has actively carried out clean energy replacement to replace dirty energy with clean energy, and low-efficiency energy with high-efficiency energy. It has focused on carrying out emission reduction measures such as hydropower and photovoltaic replacing traditional coal-fired thermal power, natural gas replacing raw coal, and bituminous coal replacing anthracite.

Table Key Performance Statement of Energy Consumption

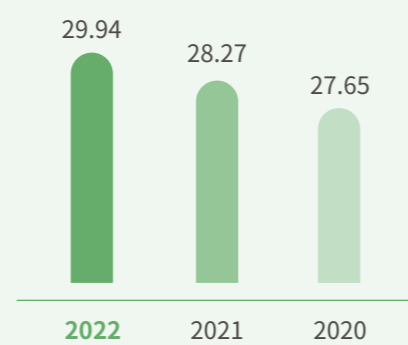
**Electric power (10,000 tons of standard coal)**

Year-on-year Change+3 (10,000 tons of standard coal)



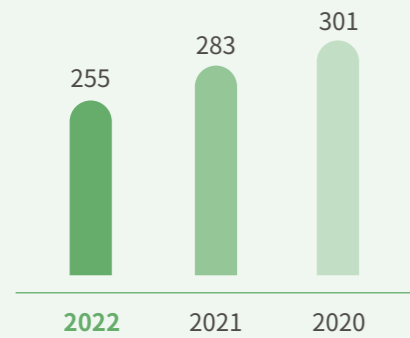
**In which: Purchased clean power (10,000 tons of standard coal)**

Year-on-year Change+1.67 (10,000 tons of standard coal)



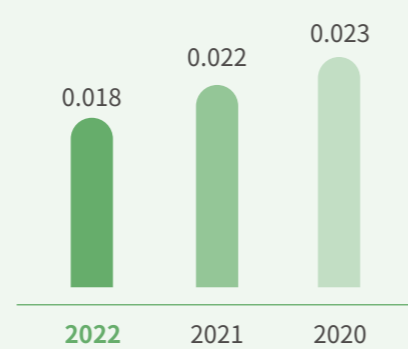
**Fire coal (10,000 tons of standard coal)**

Year-on-year Change-28 (10,000 tons of standard coal)



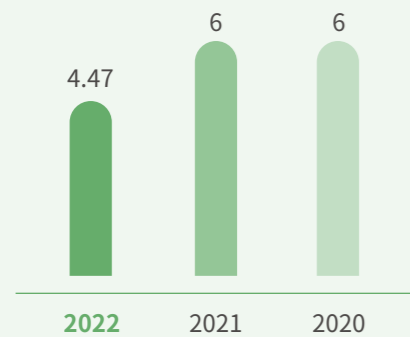
**Petrol (10,000 tons of standard coal)**

Year-on-year Change-0.004 (10,000 tons of standard coal)



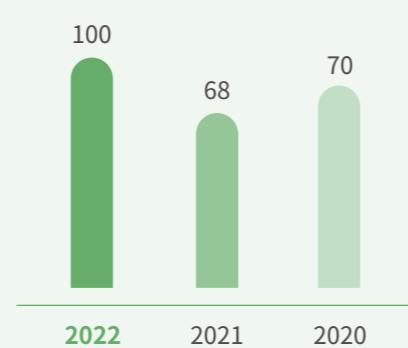
**Diesel (10,000 tons of standard coal)**

Year-on-year Change-1.53 (10,000 tons of standard coal)



**Natural gas (10,000 tons of standard coal)**

Year-on-year Change+32 (10,000 tons of standard coal)



## Developing Clean Technology

In addition to effective resource utilization, the Company attaches great importance to the development of clean technology to improve energy efficiency and reduce emissions through technological innovation. In 2022, the Company focused on carrying out technical innovation around comprehensive recycling and utilization of low-pressure steam, low-level heat energy, utilization of residual pressure of circulating water, technical transformation of production facilities, etc., to explore the potential of energy conservation, and to improve energy efficiency while reducing energy waste.

Table Key Performance Statement on Cleaner Production

Type of energy conservation	Total consumption in 2022
Electric power	3.24 billion kWh
Fire coal	4,463,172 tons
Natural gas	480 mn m <sup>3</sup>
Water	4,421,455 tons
Total energy saved	52,300 tons of standard coal



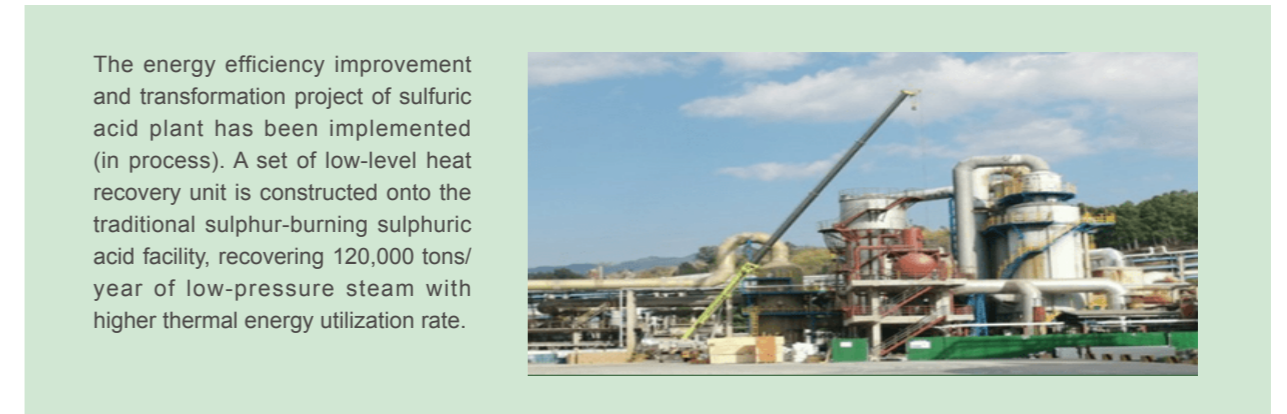
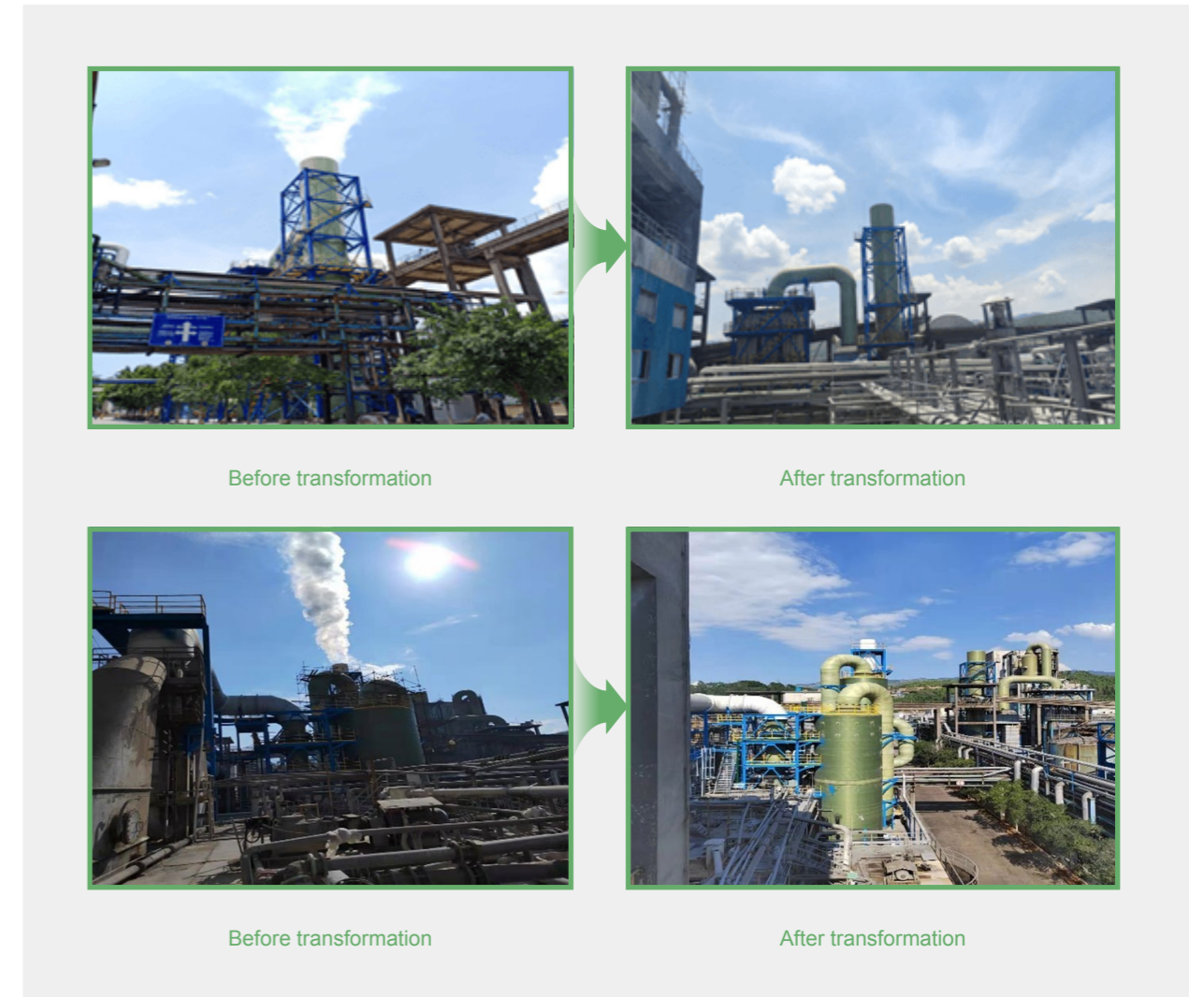
Picture: Tian'an Chemical

Table: Cases of Clean Technology Application and Energy-conservation Effects

Project	Introduction	Effect
<b>Tian'an Chemical - Utilization of residual pressure of synthetic ammonia circulating water</b>	Through energy-saving transformation of the circulating water system of synthetic ammonia, the residual pressure of the existing circulating water will be fully utilized empowered by the technology of utilizing the residual pressure of hydro-electric dual drive. According to the principle of step-by-step implementation of the overall design, it is planned to carry out hydro-electric dual drive transformation for 8 wind turbines.	The transformation on single unit will save about 1.55 million kilowatt hours of power consumption per year, equivalent to cutting electricity costs by over 700,000 yuan/year.
<b>Tian'an Chemical - Recovery of low-level heat energy of sulfuric acid (Phase I)</b>	New heat recovery towers, evaporators, mixers, high-temperature circulating acid tanks, high-temperature circulating acid pumps, boiler water supply systems, deaeration systems, compressed air storage tanks, and heaters are equipped. A total of 300,000 tons of low-level heat energy of sulfuric acid will be recovered in Phase I of the project.	15 tons of steam per hour will be recovered, saving up to 13,000 tons of standard coal per year.
<b>Shuifu Yunhuanian - Pressure boost, energy saving and consumption reduction of raw natural gas.</b>	The original natural gas supply pressure is depressurized through the first and second configurations, and then boosted by the turbine compressor before entering the system, resulting in energy loss, which is not conducive to energy conservation of the device. The project will add a motor-driven natural gas compressor to save energy consumption.	15,000 tons of standard coal will be saved annually.
<b>Three Circles - Recovery of low-level heat energy of sulfuric acid (Phase II)</b>	An HRS low-level heat recovery system is added to the 800,000 ton sulfuric acid plant in Phase II to directly produce saturated steam using the absorption heat of dry absorption sulfur trioxide.	34,449 tons of standard coal will be saved annually.
<b>Three Circles - Technical transformation of product cooling and energy saving for 2×600 kta ammonium phosphate plant</b>	One fluidized bed cooler, two fluidized bed blowers, and one fluidized bed induced draft fan are removed, with a total power of 850kW; A dust-free cooler, a dust-free cooler desalted water circulating pump, a dust-free cooler dehumidification fan, a closed cooling tower (with circulating water pump and axial flow fan), and a belt conveyor have been equipped, with a total power of 96kW.	The total power cut will be 754KW, equivalent to saving 1.99 million yuan/year in electricity costs; The new equipment will reduce the air volume of the tail gas scrubber system by about 100,000 m <sup>3</sup> /h with higher efficiency and lower pollution factors.

Case: Clean Technology

Three sets of fertilizer plants and one set of phosphoric acid plant have undergone in-depth tail gas treatment, after which the tail gas emissions of particulate matter, fluoride, and fluorinated phosphoric acid from the fertilizer plant are below the national emission standards, and white smoke trailing has been significantly improved



The energy efficiency improvement and transformation project of sulfuric acid plant has been implemented (in process). A set of low-level heat recovery unit is constructed onto the traditional sulphur-burning sulphuric acid facility, recovering 120,000 tons/year of low-pressure steam with higher thermal energy utilization rate.



# Environmental Governance

As climate change and environmental pollution continue to pose significant challenges, the Company has become increasingly aware of the importance of corporate environmental governance and its environmental protection responsibilities. To reduce the impact of its business operations on the environment, the Company has implemented a series of measures.

The Company attaches great importance to the application of advanced technology and independent R&D with vast investment being injected in environmental protection.

In 2022, the Company invested a total of over **450** million yuan in its environmental protection undertakings, including the construction, renovation, operation, and maintenance of environmental protection facilities.



Picture: The Green Mine of Dongming Mining

## Environmental Governance System

The Company strictly has complied with laws and regulations such as the *Environmental Protection Law of the People's Republic of China*, the *Regulations on the Management of Environmental Protection of Construction Projects*, and has enacted institutions such as the *Safety and Environmental Protection Responsibility System*, the *Environmental Protection Management Measures*, and the *Environmental Pollution Prevention and Control Management System* within the Company and subsidiaries at all levels.

The Company has attached great importance to improving its corporate environmental governance system. It has established the Safety Committee as the highest responsibility and decision-making body for its safety and environmental protection efforts. At the same time, the Company has adopted a responsibility system for environmental governance, led by the Legal Representative, with the General Manager bearing full responsibility for the work and the Deputy General Manager overseeing production serving as the leader. All affiliated units of the Company have set up work safety committees and environmental protection management departments, with the heads of each front-line workshop and production auxiliary workshop serving as leaders at the grassroots level. Each grassroots unit is staffed with full-time or part-time environmental protection personnel, forming a comprehensive and detailed environmental management network.

The Company regards environmental performance as a metric for executive compensation development and evaluation. It has developed a *Comprehensive Assessment Method for Safety and Environmental Protection*. Each year, under the leadership of the Safety Committee, the Safety and Environmental Supervision Department spearheads the implementation and preparation of the assessment plan, establishing HSE assessment teams, and conducting on-site assessments in the first and second half of the year, mainly through on-site inspection, data review, inquiry, etc. These assessments generate annual evaluation results that form the basis for rewarding or penalizing employees during the year-end performance assessment.

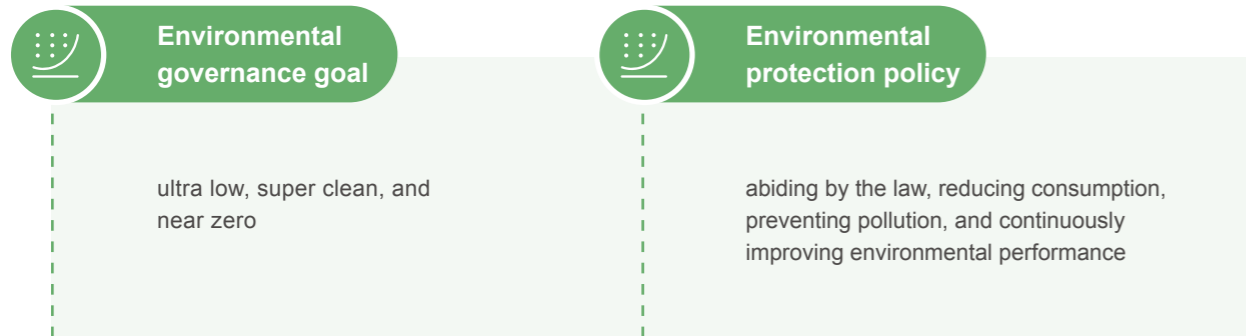
- ◆ Certificate: ISO14001: 2015 Environmental Management System Certification
- ◆ First Certification Date: November 21, 2019
- ◆ Certificate Number: 00119E33494R0M/5300
- ◆ Certified by: China Quality Certification Center



The Company has leveraged the National Environmental Management System Certification ISO14001 to facilitate the continuous development of its environmental management system through regular supervision and audits. All 20 of its subsidiaries have passed the third-party review of the environmental management system and obtained certificates.



Picture: Jinxin Chemical



In the daily practice, the Company has actively fulfilled its environmental protection responsibility, monitored and steered the progress made in achieving the goals, and been committed to promoting environmental management compliance:

- Zero environmental pollution incidents (implemented the classification standard of the National Emergency Plan for Environmental Emergencies);
- 100% integrity rate of environmental protection facilities, operating synchronously with the main devices;
- Pollutant emission met the standards, and the online monitoring device on emission and its data transmission rate met the requirements of environmental protection.

### Assessment of Environmental Impact

The Company holds fast to the "three simultaneous" system for projects under construction, and entrusts a qualified third-party evaluation agency to conduct environmental impact assessments. The assessment results are available on the Company's website and the website of the local ecological and environmental management department.

### Environmental Risk Management

The Company has established and improved a risk prevention and environmental emergency system, and its subordinate production units have issued and implemented the Comprehensive Emergency Plan for Work Safety Accidents and the Emergency Plan for Environmental Emergencies, which have undergone expert review and have been filed with local government authorities. In addition, the Company has established an emergency rescue force, equipped with complete emergency facilities and indispensable emergency supplies, and regularly organized emergency drills to effectively prevent and control various accidents.

### Case: Yellow Phosphorus held emergency drills

During June 8th to 17th, 2022, Yellow Phosphorus carried out a series of on-site emergency drills for environmental accidents, effectively improving the emergency response ability of relevant personnel to avoid significant losses caused by similar events.



Picture: Emergency drill

### Case: Dawei Ammonia undertook emergency drill for sudden environmental events in Qujing City in 2022

At 15:00 on July 27, 2022, organized by Qujing Ecological Environment Bureau, undertaken by Dawei Ammonia, and co-sponsored by Zhanyi District People's Government, an emergency drill for sudden environmental events in Qujing City in 2022 was conducted at the Gasification Plant of Dawei Ammonia. Targeting at the emergencies of radioactive sources, key actions such as radiation source patrol, disposal, and environmental monitoring were exercised. The risks were successfully removed, effectively improving the emergency response ability of personnel in relevant positions.



Picture: Emergency drill for sudden environmental events in Qujing City in 2022

In addition, the Company attaches great importance to foster employees' awareness of environmental risk prevention and control. In 2022, branches and subsidiaries at all levels carried out environmental training for all employees and management to strengthen their environmental awareness and management ability, setting up a bottom-up environmental management system.

## Use and Management of Water Resources

Water shortage is a serious challenge facing the world. Therefore, the Company attaches great importance to the rational and efficient use of water resources. It formulates a water-saving work plan every year, and takes various measures to ensure that water consumption is reasonable and controllable.

In 2022, the comprehensive water consumption per 10,000 yuan output value of the Company stood at 42 tons/10,000 yuan.



With industry-leading water efficiency indicators, Shuifu YTH was awarded "Leader in Water Efficiency" in key water consuming enterprises in 2022.



Planning

The subordinate factories have classified and recycled water resource, actively carried out projects such as reuse of reclaimed water and zero sewage discharge, significantly improving water resource utilization efficiency with lower consumption.



Implementing

Every year, the Company conducts annual risk assessment related to water resource management. It has established an energy conservation assessment and management system to clarify water conservation requirements and indicators with strict implementation.



Examining

It has strengthened the operation and maintenance of production devices to ensure "stable, long-term, and optimal" operation of the devices, ensuring that the energy efficiency of the devices is at an optimal state while the consumption of raw materials is at a minimum.



Improving

It has reinforced the management of "running, emitting, dripping, and leaking" occurring in the production plants, to reduce or avoid unplanned discharge based on the principle of "early detection and early treatment", and implement recycling, transformation, and reuse.

Table: Key Performance Statement on Water Resource Consumption

Type of water resource	Total consumption in 2022 (10,000 tons)
Fresh water	5,911.09
Recycled water	2,505.242

## Waste Management

The Company is committed to promoting the rational and effective use of resources and reducing its environmental impact through standardized waste management and water resource management, as well as the recycling of key waste resources such as phosphogypsum. The Company has strictly complied with laws and regulations such as the *Environmental Protection Law of the People's Republic of China*, the *Air Pollution Prevention and Control Law of the People's Republic of China*, the *Water Pollution Prevention and Control Law of the People's Republic of China*, and the *Law of the People's Republic of China on the Prevention and Control of Environmental Pollution Caused by Solid Waste*. Furthermore, it has formulated a *Pollutant Discharge Management System*, *Solid Waste Classification Management Method*, *Solid Waste Management System* and *Radiological Work Safety Management System* within the Company and its branches and subsidiaries at all levels.

During the reporting period, the pollutant emission concentration of the Company was far below the national standards with intact environmental protection equipment and facilities, 100% synchronized with the main device. The pollutant emission standards were met, projects under construction have strictly implemented the "three simultaneous" management regulations, and solid waste has been duly disposed of and transferred. The Company has steadily carried out hidden danger investigation and remediation, and conscientiously implemented a set of environmental protection measures. No pollution incidents have occurred throughout the year, achieving the goal of "zero pollution".

### Waste Gas Management

In 2022, the Company actively carried out ultra-low emission control of waste gas, and established strict emission standards and emission reduction targets in accordance with emission permits and relevant national standards on industrial pollutant emission, such as waste water discharge standards for synthetic ammonia and phosphate fertilizer industries. We have strived to achieve a "double reduction" in emissions and concentrations, with emissions of SO<sub>2</sub>, NO<sub>x</sub>, and particulate matter decreasing by 3%, 3%, and 10% year-on-year.

At the same time, the Company incorporated the above objectives into the HSE target statement, and strictly implemented them in accordance with the Company's *Comprehensive Assessment Method for Safety and Environmental Protection* based on the assessment results. During the reporting period, the Company has forwardly driven the implementation of the thorough treatment for tail gas from the chimney of some devices in the phosphorus and compound fertilizer production enterprises with elaborate maintenance, a successful realization from both engineering and management.



2022 emissions reduction targets:

SO<sub>2</sub>, NO<sub>x</sub> and particulate matter emissions decrease by **3%**, **3%**, and **10%** year-on-year

Table: Key Performance Sheet of Principal Air Pollutant Emitters

Pollutant Type	Year-on-year change	Total emissions in 2022 (ton)	Total emissions in 2021 (ton)	Total emissions in 2020 (ton)
SO <sub>2</sub>	-12%	2,241	2,550	2,552
NO <sub>x</sub>	-19%	1,834	2,290	2,614
PM	-13%	569	652	907

## Wastewater Management

In 2022, the Company perseverely carried out the internal gradient utilization of wastewater with a combination of measures, optimizing its wastewater management, and promoting the discharge reduction of wastewater and sewage.

- 01 Nitrogen fertilizer manufacturers - "Wastewater utilization and discharge reduction" and the crystallization and salt separation of concentrated brine project.
- 02 Tian'an Chemical - Rainwater drainage system project for the east area of No.1 phosphogypsum storage yard, Yangjiaqing
- 03 Zero discharge of wastewater from phosphate compound fertilizer manufacturers

Table: Key Performance Sheet of Water Pollutant

Pollutant Type	Year-on-year change	Total emissions in 2022 (ton)	Total emissions in 2021 (ton)	Total emissions in 2020 (ton)
Total discharge of industrial wastewater	-2.2%	3.60 mn	3.68 mn	3.84 mn
COD	-6.9%	80.54	86.53	80.23
Ammonia nitrogen (NH <sub>3</sub> -N)	+8.3%	3.9	3.6	4.5

Picture: Shuifu Yuntianhua

## Solid Waste Management

The Company strictly regulates the classification, collection, storage, and disposal management of various types of solid waste, ensuring that waste is discharged up to standard, and further mitigating environmental impact. It has duly set up a temporary storage room for hazardous wastes, which are strictly managed in accordance with the principle of "two person and two locks". The Company has established and improved the internal management system for hazardous waste, formulated standards and procedures for hazardous waste disposal to ensure that the entire process of waste collection, storage, transfer, and disposal is reasonably controlled. It has entrusted a fully qualified entity to dispose hazardous waste complying with the regulations.

The general solid wastes generated by the Company in 2022 mainly included coal ash, cardboard boxes, wooden boxes, metals, household garbage, etc. The primary hazardous wastes were waste engine oil, waste catalysts, etc.

In 2022, the general solid wastes involved in the company mainly include fly ash, cartons, wooden cases, metals, household waste, etc., while the hazardous wastes involved mainly include waste oil, waste catalyst, etc. (entrusted a fully qualified institute to carry out compliance disposal).

Table: Key Performance Sheet of General Solid Waste

General solid waste	Total emissions in 2022 (ton)
coal ash	1,082,100
cardboard boxes	2.32
wooden boxes	31.25
metals	1,616.55
household garbage	194.15
other wastes <sup>3</sup>	104,872.72

Table: Key Performance Sheet of Hazardous Waste

Waste catalysts	Total emissions in 2022 (ton)
waste engine oil	335.267
waste catalysts	788.55
other waste catalysts <sup>4</sup>	10,871.895

<sup>3</sup> Other wastes include medium pressure filtration slag, sulfur slag, furnace slag, construction waste, etc.

<sup>4</sup> Other hazardous wastes include sludge, phosphorus residue, waste ceramic filler, paint bucket, oil bucket, laboratory waste liquid, waste resin, waste activated carbon, waste battery, kettle residue, arsenic residue, organic waste liquid, acid containing waste liquid, waste chemicals, etc.



**Case: Shuifu Yuntianhua held special training on "Management Requirements on General Industrial Solid Waste"**

In order to normalize the Company's account records of general industrial solid waste and improve the management of the entire process from generation to disposal, Shuifu Yuntianhua conducted a special training, targeting relevant production personnel and environmental protection management personnel, on *Management Requirements on General Industrial Solid Waste* in July 2022 for personnel relevant to production and environmental management.

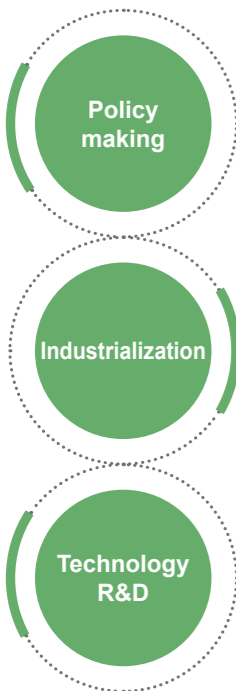


Picture: Training of Management Requirements on General Industrial Solid Waste

This training focused on relevant laws, regulations, and policies, which were interpreted in detail. The trainer has minutely explained the requirements for the account records of general industrial solid waste and management requirements for the entire process of industrial solid waste generation, collection, storage, transportation, utilization, and disposal, and analyzed amply the risks of the Company's solid waste management and countermeasures.

**Comprehensive Utilization of Phosphogypsum**

The Company has vigorously promoted the reduction of industrial solid waste sources and its comprehensive utilization in a large-scale and efficient fashion, enhanced the high-value recycling of renewable resources, focused on the utilization of solid wastes such as phosphogypsum, to improve the utilization efficiency of industrial resources and the comprehensive utilization level of solid wastes. Currently, the utilization of solid wastes such as phosphogypsum in YTH covers various products such as ecological restoration, cement retarders, gypsum boards, construction gypsum powder, gypsum mortar, and sub-grade water stabilized materials, carving out a new path for the comprehensive utilization of phosphogypsum, and consolidating the cornerstone of the Company's green, healthy, and sustainable development.



It has formulated internal policies such as *Management Measures for Comprehensive Utilization of Phosphogypsum* and *Safety Management System for Tailings Pond, Phosphogypsum Slag Yard, and Reservoir*, and encouraged affiliated production units of phosphogypsum to expand diverse utilization through multiple channels.

It has given full play to the Company's scientific research capabilities and strengths, integrated internal and external resources and technical forces to carry out comprehensive utilization of phosphogypsum in a professional fashion, and coordinated the planning, technological innovation, research and development, and industrialization of the comprehensive utilization of phosphogypsum, so as to achieve harmless and efficient utilization of phosphogypsum, and advance the Company's circular economy.

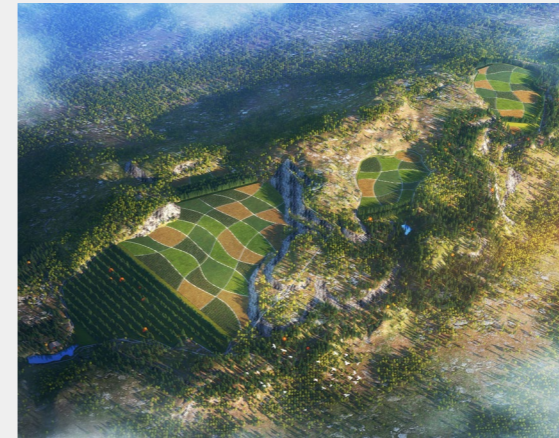
The industry and market status was thoroughly studied, and five paths were designed for the utilization of phosphogypsum, including "ecological restoration, cement retarder production, building materials production, acid production, and polymer fillers";

13 research and development projects were launched on the comprehensive utilization of phosphogypsum. It has replaced clay by independently developing new ecological remediation materials that are phosphogypsum based, achieving "one solution for two challenges" of the comprehensive utilization of phosphogypsum and ecological restoration of abandoned mines, and forming a complete set of integrated technologies for ecological restoration of abandoned mines with modified phosphogypsum.



**Case: Ecological remediation project of Yunlong Phosphate Mine**

The ecological remediation project of Yunlong Phosphate Mine, in cooperation with the government, has provided a new approach for the Company to replicate and promote the large-scale utilization of phosphogypsum. In 2022, the ecological remediation of Yunlong Phosphate Mine produced 3.3 million cubic meters of modified products of backfill phosphogypsum, totaling 4.3 million tons.



Design sketch of the ecological remediation of Yunlong Phosphate Mine



**Case: Experimental demonstration project for stony desertification control**

Cooperating with Yunnan Academy of Environmental Sciences, the Company has actively explored the possibility of phosphogypsum-based modified products for stony desertification, carving out new ways for the large-scale utilization of phosphogypsum.



Experimental area for stony desertification control

## Biodiversity Conservation

The Company is committed to reducing its impact on the ecological environment and actively maintaining natural resources and biodiversity through a set of measures such as green and sustainable operations, products innovation and upgrading, as well as educating customers and farmers to use fertilizers accurately.

### Construction of Three Green Projects

The Company has unremittingly promoted the construction of the "three green" project and has established a steering group for ecological environment remediation and governance, with grassroots units as the main implementation body, to promote the restoration and management of ecological environment in mines, green factories, and the R&D of green products. In 2022, two more subordinates were awarded the title of "Green Factory" by the Petrochemical Federation.



As of the end of the reporting period, the Company owns **17** green factories (including **3** national level, **14** associations), **7** green mines, and **180** green products (state and association), forming a industry cluster with green manufacturing.

### Green Mines

The Company has forwardly practiced the concept put forward by President Xi Jinping of "lucid waters and lush mountains are invaluable assets", firmly followed the development path of green mines, and invariably adhered to the principle of "developing with protection". Upholding to the requirements of "larger green restoration area than the newly disturbed area, and faster mine restoration than mining", it has faithfully implemented the slogan of "where it is mined, the vegetation will be reclaimed" in real work.

Considering the mining schedule, the Company has taken a full account of the ecological landscape of the original plot when formulating an implementation plan for ecological restoration and governance. It has actively conducted secondary development and utilization of land resources in reclaimed vegetation areas, which has upgraded the ecological restoration and governance, bringing about a salutary exploration in the construction of national mining parks.

In addition, the Company has earnestly implemented key engineering projects of the country and Yunnan Province such as the *Research and Demonstration of Comprehensive Control Technology for Ecological Restoration of Abandoned Mining Areas*, where it has formed a certain scale of ecological forests, economic forests, and landscape forests inside the land reclamation and vegetation areas to rebuild a scenic mining environment.

Achievements in pursuing green mines has continued to consolidate in 2022, and its effort in ecological civilization construction was fully recognized by governments at all levels.



A total of **1.3** billion yuan has been invested in vegetation restoration

with **58,000** mu of trees being planted

and a land reclamation rate of **94%**

## Cases of ecological restoration in mining area

Project	Introduction	Effect
<b>Phosphate Group - Ecological restoration project of Kunyang Phosphate Mine</b>	Ecological restoration of mines on both sides of the goaf, waste dump, and transportation roads were carried out. With improved mining and stripping production process, discharge of mining stripping materials were concentrated to the goaf. It has established a topsoil reservoir, and carried out ecological restoration through backfilling, compaction, and leveling of earthwork and topsoil. Trees such as winter melon, Huashan pine, fragrant wood, multiflorated rose, camphor, walnut tree, cherry tree, geranium, and yew were planted, and grass seeds in areas that did not meet the conditions for planting seedlings were sowed. A professional greening team was founded, forming a planting, management, and maintenance model to improve the survival rate and greening coverage of seedlings. On the basis of traditional greening, it has actively explored the secondary development and utilization of land, and rebuilt the ecological environment of mines.	An "Aurora Geological Ecological Park", a 600 mu cherry blossom garden (24,000 plants), a football field with an altitude of 2,260 meters, a 200 mu oil peony garden (370,000 plants), and a 115 mu lavender garden were constructed.
<b>Haikou Industrial Park (Subdistrict) - Restoration project of mining areas of Yunlong Phosphate Mine</b>	Ecological restoration, in cooperation with government, for privately excavated and disorderly mined mines were carried out, where vegetation for ecological materials, and landforms were restored. Measures such as slope treatment, pit seepage prevention and backfilling, construction of water interception and drainage system, and vegetation restoration were taken to carry out ecological treatment and restoration for the four remaining pits (No.1-No.4). The mine pit was backfilled with ecological restoration materials produced from phosphogypsum, with a total backfill volume of 8.178 million m <sup>3</sup> .	The risk of geological disasters was eliminated in the remaining mining area of Yunlong Phosphate Mine. It has restored regional vegetation, and improved not only water and soil conservation, but also the ecological environmental quality.



Haikou Industrial Park (Subdistrict) - Restoration project of mining areas of Yunlong Phosphate Mine (in process)



Phosphate Group - Ecological restoration project of Kunyang Phosphate Mine

### Green Products

The Company has abidingly advanced the effort of "lower fertilizer, higher efficiency". It has implemented green management throughout the product life cycle, developed and produced safe, efficient and energy-saving products that are environmentally friendly with low consumption, and reduced resource consumption and environmental impact through both clean production and green products of high quality.

By the end of 2022, the number of its green products had reached 180 (including 84 national level). The Company's has formed a scaled demonstration cluster for its products with green manufacturing and design. Five units have passed the supervision and assessment for the Certification of Eco-friendly Product with Ecological Fertilizers, and five units have been awarded the National Pilot Unit for the Production of Environmentally-Friendly Agricultural Inputs with High Quality (fertilizer products).

云天化股份  
YUNTIANHUA CO., LTD

云天化农业绿色投入品  
洱海流域水稻试验示范基地

Green product input - Erhai experimental demonstration base

Green phosphate fertilizer products

### Green Factory

Green factory refers to the factory that has realized intensive land use, harmless raw materials, clean production, waste recycling, and low-carbon energy. The green factory is the main implementation body of the Company's green development, and also an important part of its green manufacturing system. In 2022, Dawei Fertilizer and Honghai Phosphate Fertilize under YTH won the title of "Green Factory in the Petroleum and Chemical Industry of the Year", scaling new heights for the Company's green manufacturing.



Picture above: The ammonia synthesis plant of Tian'an Chemical



Picture below: Jinxin Chemical long conveyer of coal



# 04

## People-oriented - Promoting Employee Growth

The Company is committed to respecting and protecting the legitimate rights and interests of all employees. It values diversity and provides various training mechanisms, a healthy and safe work environment, and an expansive platform for growth and development to treat every employee with respect and recognition.

- 01 Protection of Employee Rights and Interests
- 02 Promoting Employee Development
- 03 Considerate Care for Employees

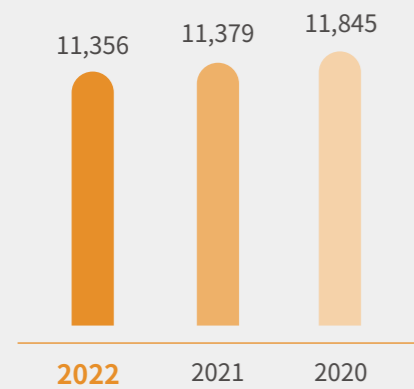


## Protection of Employee Rights and Interests

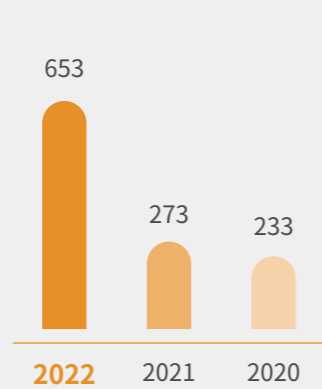
The Company has confirmedly adhered to the principle of being "people-oriented", and attached great importance to the first resource project. It has strictly abided by various national labor laws and regulations, responsibly protecting the rights and interests of employees. The Company strives to foster a business community of "joint creation and sharing" in accordance with the principles of "attracting, retaining, and employing talents". We strictly prohibit the use of child labor and forced labor, and forbid discrimination based on gender, appearance, age, marital and reproductive status. During the reporting period, no violations or complaints such as child labor or forced labor have been reported.

According to the corporate strategy and business development requirements, the Company has dynamically adjusted and managed employee positions. A special recruitment process has been designed based on a series of dimensions to incorporate qualifications into the evaluation criteria for proposed positions to enhance recruitment effectiveness.

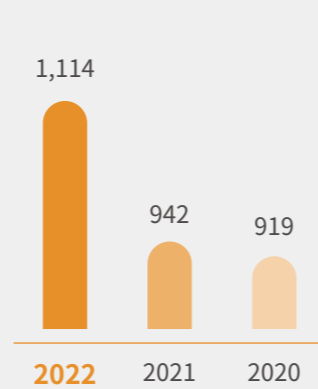
### Total number



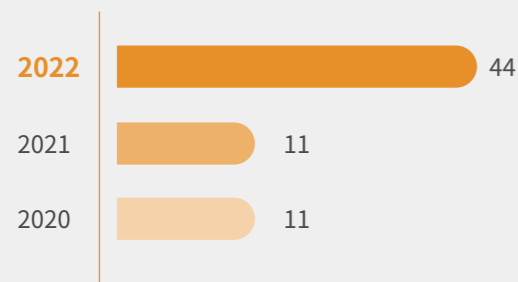
### New recruits



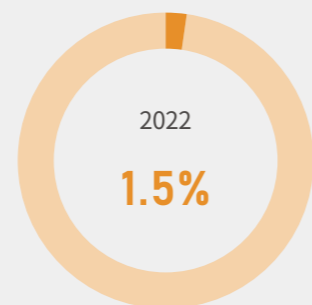
### Non-Han nationality



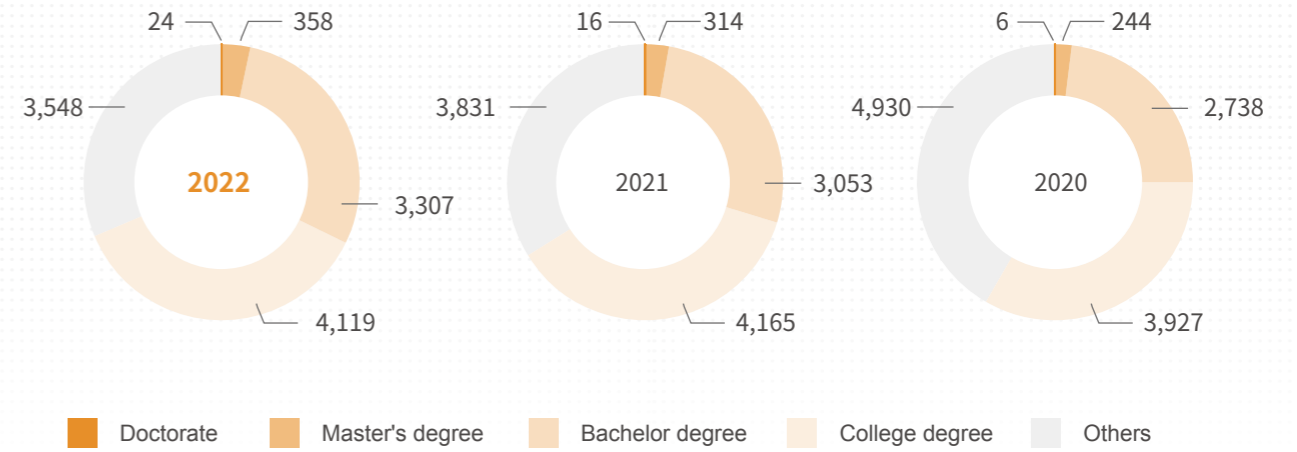
### Employees with mobility barriers



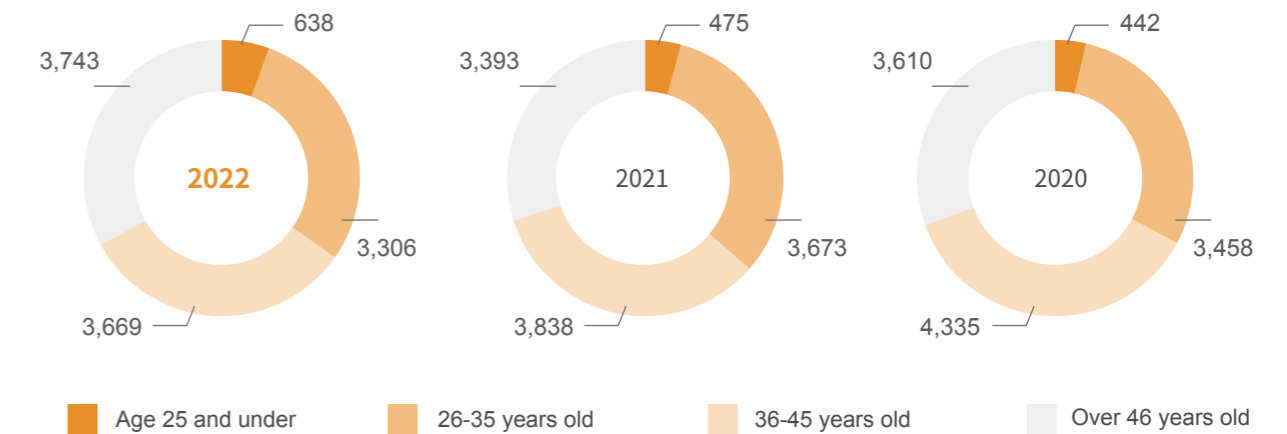
### Turnover rate



## Educational Background



## Age



## Responsibility

Responsibility	2022	2021	2020
Production personnel	7,406	7,264	7,593
Sales personnel	976	985	1,012
Technical personnel	1,437	1,257	1,223
Financial personnel	295	289	248
Administrative personnel	1,242	1,584	1,769

# Promoting Employee Development

The Company has formulated internal management systems such as the *Yunnan Company Co., LTD Guide to Career Development and Employment Management*, *Administrative Measures for Employee Education and Training*, and *Business School Management System of Yunnan Company Co., LTD*. to standardize employee qualifications and promotion mechanisms, improve the talent training system, create a professional team, and provide support for talent planning, selection, cultivation, employment, and retention.

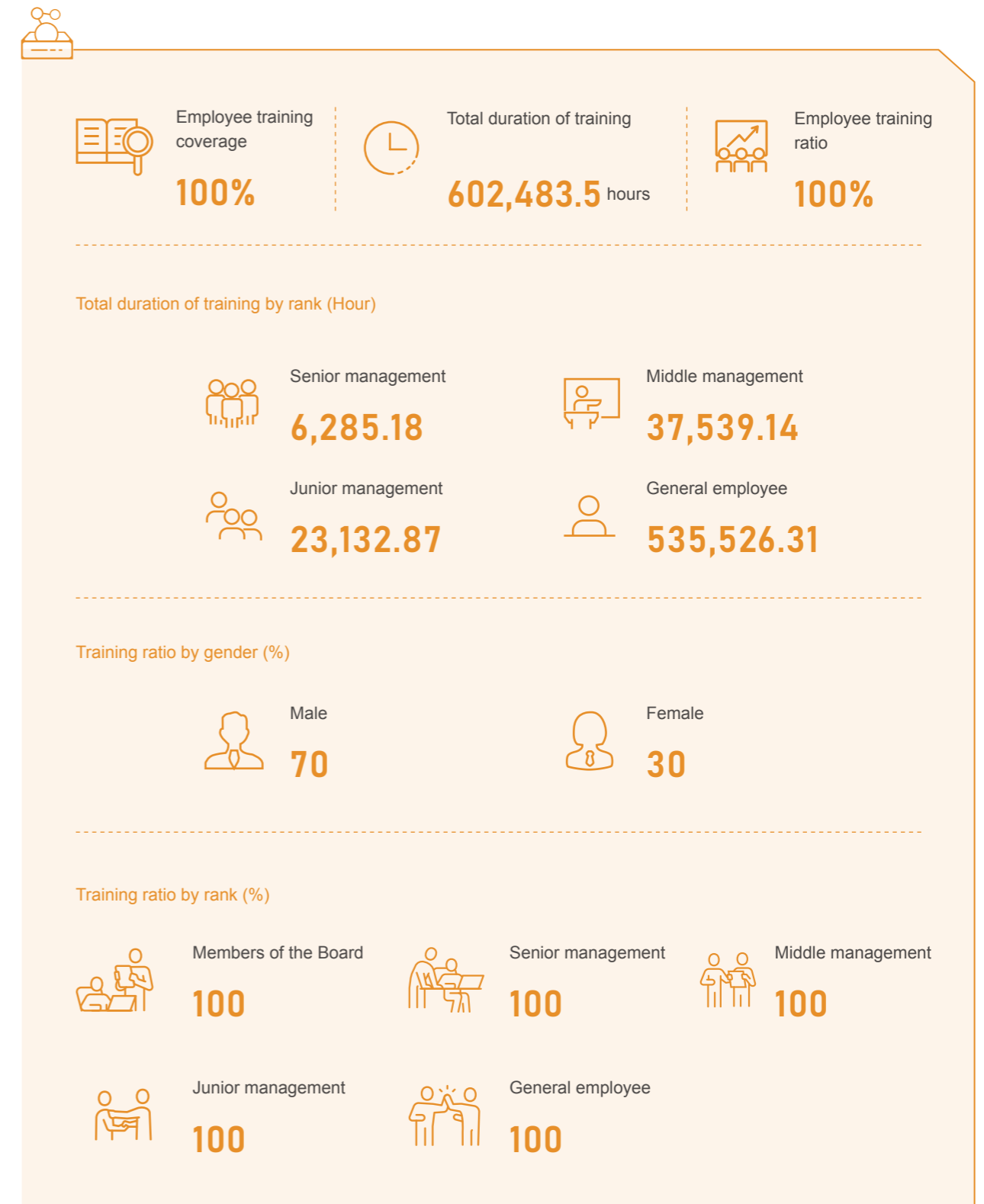
We have launched three major programs for talent introduction and training, namely "Lieying", "Yunji", and "Yunxi", to further strengthen the Company's talent bank and optimize the talent structure. At the same time, we have ardently supported employees in obtaining qualification certification. After submitting supporting materials and passing the exam, employees will receive corresponding certificates.

Taking its business school as the core, the Company has established an open, sharing, and professional talent training platform, and conducted diversified activities such as online quiz competitions and reading competitions, effectively supporting the Company's desideratum for a better employment of talents. The Company has carried out the "2022 Individual Development Plan (IDP) for Headquarters Employees", which is conducive to offering customized training, narrowing the knowledge gap, and improving employee capabilities with the learning resources from the HQ.

Table: Business School Key Initiatives in 2022

Hierarchical classification has been explored with the establishment of a training system for four types of talent:
It has established a training system for four types of talent, namely "enterprising" management talents, "innovative" technical talents, "excelsior" technical talents, and "professional" business talents. An online training framework for four types of talent has also been established, forming a training model for progressive talent pool which is categorized into second-level high-potential talent, newly inaugurated manager, first-level high-potential talent, and reserve talents for managers.
Four mechanisms have been established to ensure efficient operation of the platform:
<ul style="list-style-type: none"> <li>○ Internalization of lecturer resources: a team of experienced, willing, and capable internal trainers has been formed to impart teaching experience;</li> <li>○ Specialization of curriculum resources: based on actual job requirements, pertinent curriculum has been improved through internal development and external integration;</li> <li>○ Comprehensive knowledge hierarchy: business schools for management, Party construction, safety and environmental protection, and distribution were set up, as well as an online reading platform to dynamically update and improve the existing knowledge hierarchy;</li> <li>○ Standardization of training operation: efficient and standardized operation of training projects has been rolled out from four aspects, namely project operation, course management, institutional implementation, and evaluation and tracking.</li> </ul>
Focusing on demand for talents and forging a sound talent echelon:
Based on the Company's strategic layout and talent strategy, three mechanisms for precise talent cultivation have been formulated, namely "orientation class", "joint training class", and "management trainees", to empower business growth.
Improving the talent evaluation and training mechanism:
Established a talent competence model, implemented assessment on professional quality and ability, carried out customized talent training, and established a characteristic talent evaluation and training mechanism.

During the reporting period, the Company has launched 178 talent cultivation projects for new managers, experienced managers, senior managers, and innovative and entrepreneurial talent.



# Considerate Care for Employees

## Remuneration, Benefits and Basic Security

The Company has formulated the *Guidelines on Remuneration Management Standards* in view of the market salary level and its own realities, to establish a unified, standardized and transparent basic salary system. For technical personnel and skilled personnel, we have set up special payments to hearten them refining their professional skills. For core and key employees, we have improved a diversified incentive mechanism that combines short, medium, and long-term development, binding the personal development of employees with company development, stimulating endogenous motivation, and promoting high-quality development of the Company.

The Company has strictly abode by national laws and regulations. In addition to salary and benefits, we also provide non-salary benefits including annual leave, marriage leave, maternity leave, medical leave, birth control surgery leave and other non-salary benefits to effectively protect the basic rights and interests of our employees.



- Labor contract signing: **100%**      Number of vacations in 2022: **12,000** times
- Social insurance coverage: **100%**      Accumulated (estimated) leave duration: **150,000** days
- Employee physical examination coverage: **100%**

## Care for Employee

The Company eagerly carried out the construction of "Employee Service Station". In 2022, 27 post stations, bookstores, fitness and leisure projects were approved with a special subsidy of 1.27 million yuan.



### Case: Spiritual Station

The Company has created a spiritual station that provides mental health education, evaluation and consultation, training and counseling to employees as a "resting place" and a "gas station", offering a warm harbor for employees.



Picture: Spiritual Station



### Case: Phosphate Chemical Group held singing contests and DIY activities for female staff



## Employee Assistance

The Company regards employees as family members that it cares for everyone and pays close attention to and solves the difficulties faced by employees.

### Special fund

It has distributed or forwarded **630,000** yuan of condolence fund and autumn grant, as well as **127,300** yuan of assistance fund to employees.

### Leisurely recuperation

**34** employees in tough industries, **71** front-line employees, and **10** excellent technical and skilled personnel were sent for to a leisurely recuperation.

### Festival visits

Paid on-site visits to employees, model workers, and staff stationed in villages (for the strategy of "rural vitalization") in **14** units who stood fast and remained at their posts. Goods and materials were given as a token of gratitude.

### Daily visits

**125** visits were paid to needy workers and **34** model workers.



Case: Li Guangliang, Deputy Secretary of the Party Committee and Chairman of the Labor Union, visited and comforted the workers in need

On August 24, 2022, Li Guangliang, Deputy Secretary of the Company's Party Committee and Chairman of the Labor Union, visited and comforted the needy employees of Shuifu YTH to optimistically fight for the children's rehabilitation treatment and sturdily face the difficulties. He promised that the Company's Party Committee and the Labor Union would make every effort to exclude their difficulty and anxiety.



Picture: Deputy Secretary of the Party Committee and Chairman of the Labor Union visited the needy worker

### Care for Women

The Company pulls for "Women Power". It has organized diverting activities for female staff and handled concrete affairs in a down-to-earth manner to make the female staff feel cared by the Company and the labor union.



Case: Yunnan Female Worker Maker Competition

In 2022, the Company sent 7 projects to compete in the Female Worker Maker Competition, where the two projects, "Flower Fertilizer Plus - Promoting The Flower Industry of Yunnan", and "Research and Application of Key Technology for Preparation of Flotation Collector of Phosphate Ore and Associated Resources", which were selected by the Research and Development Centre and the Phosphate Group, respectively, won the third prize in the Innovation Group. This fully demonstrates the firm beliefs and combatant spirit of the female workers, and gives full expression to the appealing mien of women in the new era.



Picture: Female Worker Maker Competition



Case: Lectures on health, appointment for cervical cancer vaccine and special vaccination services

On March 8, 2022, Haikou Phosphorus Industry held a lecture on cervical cancer prevention and treatment, and provided vaccine reservation services for 78 female workers. Guided by the "Warm Heart Project", this event further enhanced the health awareness of female workers and advocated a healthy lifestyle.



Case: Nursing Room

In order to facilitate the special needs of female workers during breastfeeding and menstrual period, Jinxin Chemical built a nursing room with complete facilities and a reassuring environment for female workers, which has effectively improved the sense of gain, happiness and security of the female workers.



Picture: Nursing room of Jinxin Chemical

### Staff Communications and Exchanges

Workers Congress is the basic form for the Company to implement democratic management, the main vehicle for the business affairs to be made public and the main institution for the workers to exercise the right of democratic administration. The Company has actively listened to the employees' opinions and suggestions on the production, operation and management, issues concerning the vital interests of the employees and so on. During the reporting period, a total of **7,784** employee engagement questionnaires were collected, representing a coverage rate of **70%**, and employee engagement has continued to improve.



Picture: Academician Zhang Fuluo, chief scientist of plant nutrition, inspected the rice demonstration base of YTH

# 05

## Shoulder to Shoulder - Improve the People's Wellbeing

While realizing the vigorous development, the Company has always borne in mind its social responsibilities, committed itself to ensuring adequate supply and stabilizing market prices, and corporate transformation, actively protected the rights and interests of customers, maintained continuous communication with partners, and engaged in public welfare and charity undertakings, so as to contribute to the social development and a brighter future.

- 01 Ensuring Adequate Supply, Stabilizing Market Prices
- 02 Innovative Research and Development
- 03 Customer Service
- 04 Supply Chain Management
- 05 Social Responsibility

# Ensuring Adequate Supply, Stabilizing Market Prices

The Company has overcome the difficulties resulted from the epidemic, such as sluggish supply of raw materials and sharp fluctuations of prices, made every effort to ensure smooth production and operation, and gave priority to meeting the domestic demand. Positioning itself as the "national team" for food security, it has borne in mind the responsibility and mission of an SOE, and firmly fulfilled the corporate responsibility of "ensuring adequate supply, stabilizing market prices".

## Production

Through measures such as production process optimization and plant overhaul, the control and optimization of production costs of major products were strengthened, so that plant capacity was effectively capitalized and fertilizer plants achieved stable production at full load. During the reporting period, the average daily production of YTH fertilizer reached over 20,000 tons; the annual production of urea reached 1.97 million tons, an increase of 330,000 tons year-on-year. And with 25% of phosphate fertilizer capacity to meet 30% of fertilizer demand, the cumulative supply of diammonium phosphate in 2022 was 4,606,800 tons, an increase of 114,000 tons year-on-year, providing sufficient fertilizer supply for cultivation in spring.

## Supply

Capitalizing on the advantages of 5A logistics enterprises, it flexibly adjusted the transport capacity resources, opened up a "green channel" for the transportation of fertilizers for spring cultivation in such aspects as carriage, storage, loading and unloading, and delivery, and transported the produced fertilizers to various end markets through multiple channels. During the reporting period, An'ning Logistics Park of Tianchi Logistics alone has transported over 19,000 trucks of fertilizers to the whole country, with a total cargo volume of 1.21 million tons.

## Stabilizing market prices

The Company fully tapped its internal efficiency and gave full play of industrial chain advantage of "Mineralization integration" and the advantages of a centralized procurement platform to mitigate the pressure of rising prices of sulfur, coal and other bulk raw materials, minimize production costs and reduce the burden on farmers. We also issued a pledge to the whole industry to "ensure adequate supply, stabilize market prices and benefit farmers with integrity", actively appealed to our peers to maintain stable price and supply, and collaborated with phosphate fertilizer manufacturers such as Guizhou Phosphate & Chemical (Group) Co., Ltd. and Hubei Yihua Chemical Industry Co., Ltd. to set prices for adequate supply and take the lead in putting price stabilization measures into practice. During the reporting period, the Company received a letter of appreciation from MIIT in recognition of our contribution in ensuring adequate supply and stabilizing market prices.



### Case: YTH took up the important task of ensuring adequate supply and stabilizing market prices

YTH has been fully committed to ensuring the supply of fertilizer for spring cultivation, giving full play to its advantages of large-scale nitrogen and phosphorus fertilizer plants in terms of scale, technology, safety and environmental protection, and taking periodic, planned, and preventive control measures to ensure that fertilizer plants achieve stable production at full load. In the Packaging Workshop of Tian'an Chemical, 11 packaging lines are operating at full capacity. The Company has continuously optimized all aspects of loading and unloading operations to ensure a stable supply of fertilizer products by increasing the frequency and quality of inspections.



Picture: Company's fertilizer inventory



Picture: Company's products are shipped by rail



Picture: transportation of products

# Innovative Research and Development

The Company has adhered to the corporate value of "seeking excellence through pragmatism and pursuing lofty goals through innovation", invariably taken innovative R&D as the core to constantly stimulate and release new impetus for strategic transformation and industrial upgrading. Relying on a sophisticated technological innovation platform and robust research and development system, it has efficaciously promoted the high-quality development.

## System of Innovative Research and Development

The Company has formed an innovative R&D system with its R&D Center as the leader, under the overall guidance of the Technical Committee, with several research and development centers forming a joint and integrated operation, to achieve a high-degree concentration of R&D resources with a coordinated and efficient operation in synergy, and promote the efficient operation and implementation of the Company's innovation cause. In addition, a technology innovation department was newly established in the R&D center in 2022, which is mainly responsible for technology innovation, industrial incubation and management of science and technology innovation.

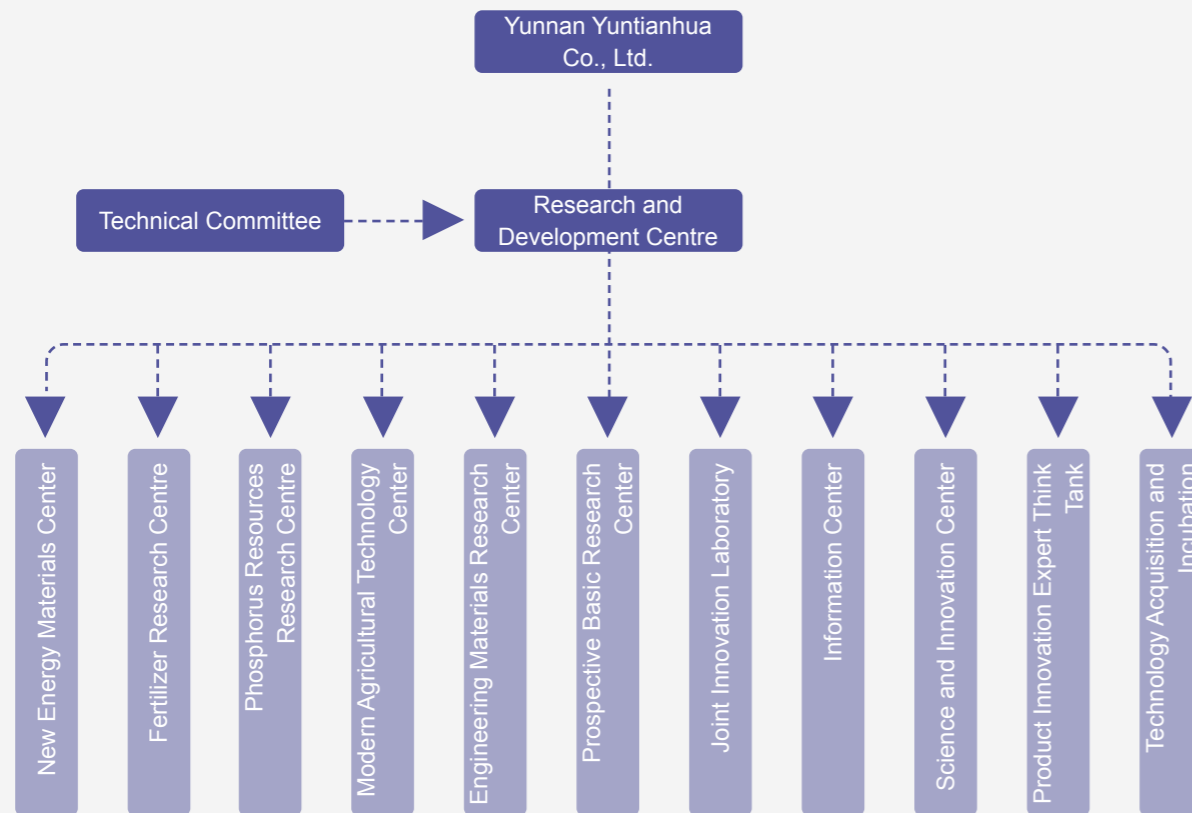


Chart: Structure of Innovative R&D

## Mechanism Construction

The Company has formulated internal mechanisms such as the *Administrative Measures for Research and Development*, *Administrative Measures for Production Technology Innovation*, and *Administrative Measures for Incentive Management of Scientific and Technological Innovation* to stimulate employees to take part in the innovation of product technology research and development, the results of which will be rewarded. In order to improve the efficiency of R&D resource allocation, mobilize the enthusiasm and creativity of R&D personnel in a wider range, stimulate innovation vitality, and accelerate major scientific and technological breakthroughs and the transformation of research and development achievements, the Company has formulated the *Administrative Measures for Publishing the List of Successful Scientific and Technological Projects (for Trial Implementation)* (the Administrative Measures for Publishing the List), based on which the R&D Center of the Company shall carry out scouting, evaluation, publishing and post-list management of projects and supervise the whole executive process.

According to *Administrative Measures for Incentive Management of Scientific and Technological Innovation*, the Company provides bonus incentives for projects eligible for the project pool, and bonus funds will be distributed to research and development teams in an incremental-tiered royalty mode. During the reporting period, in accordance with the relevant incentive measures, the Company has cashed a bonus incentive of 5 million yuan for product technology development and production technology innovation achievements that are prominent, such as the research and development project of key technologies for the recycling of flotation phosphorus tailings.

## Resources and Investment in Innovate Research and Development

In terms of talent introduction and cultivation, the Company has developed internal mechanisms such as the *Administrative Measures for Grading and Classification for Technical and Skilled Talents (Talent Pool)* and *Administrative Measures for Leading Talents (Technical and Skilled Talents)* to strengthen the foundation of talent introduction and cultivation systems. During the reporting period, the Company has newly introduced 50 highly skilled talents (including 43 postgraduate, 6 doctoral, and 1 undergraduate), and has jointly trained more than 30 senior agricultural talents with a number of universities.

In industry-university-research cooperation, the Company has continued to strengthen the cooperation with research institutes and universities to carry out thematic researches, delivering a number of exemplary technology R&D projects.



### Case: The Company cooperated with Shanghai Institute of Organic Chemistry to develop anhydrous technology of fluorinated nitrobenzene products

The project has developed a fluorinated anhydrous washing process, eliminated short steam washing and post treatment washing procedures, and streamlined operating procedures. After small-scale and scale-up tests, it has been verified that this technology can not only solve the problem of wastewater treatment in the production of fluorinated devices from the "source", but also improve the operating efficiency of the device, increase production capacity, and reduce the production cost of the entire plant, making the Company's fluorinated nitrobenzene products more competitive in the market.



Picture: Fluorinated nitrobenzene pilot plant



**Case: YTH cooperated with Xi'an Jiaotong University to carry out research and development project of automatic crushing, sorting and recycling process equipment for waste lithium-ion batteries**

The fully automatic crushing, sorting and recycling line for retired lithium-ion batteries has a high level of automation and an original pyrolysis bypass system, ensuring the universality of the production line. The research and development of the safety monitoring and disposal system for the recovery line, and the application of the intelligent negative pressure system and the waste heat utilization system have ensured the safe, stable, and low energy consumption of the recovery line, reduced downtime and maintenance time, lowered environmental investment in the later stage, and effectively controlled the operating cost. Currently, the project is in the pilot stage of research and development.



Picture: Automatic crushing and sorting recycling line for waste lithium-ion batteries

In 2022, the Company completed the construction of the "analysis, testing and experimental platform for new energy materials" and "growth test and verification platform of special fertilizer for flowers", and has 7 research platforms including a complete set of flame retardant R&D and application platform and electronic chemical professional research platform. We will accelerate the construction of a test platform for fine chemical and pharmaceutical intermediates and a platform for deep processing of modern agricultural products.

By the end of 2022, the Company had invested 485 million yuan in research and development in technology and product innovation, an increase of 181 million yuan compared to the previous year, accounting for approximately 1.4% of the sales revenue of self-produced products. In the future, the Company will continue to raise investment in innovation and research and development, support the continuous updating and iteration of its product technology so as to provide customers and society with high-quality products and services, manifesting the responsibility of state-owned enterprises.

Looking forward, the Company will put forth effort to inject more resources into phosphorus resources development and solid waste resource utilization, R&D for new fertilizer and modern agricultural technology, extended utilization of fine phosphorus chemical industry, development of fluorine chemical industry, engineering materials product, and new energy materials, so as to strive for more breakthroughs.



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products

## Conspicuous Achievements

In 2022, the Company focused on technological innovation in new fertilizer products and modern agriculture, new energy materials, engineering materials, fine phosphorus chemicals, and other aspects. The annual sales revenue of wet process purified phosphoric acid alone reached over 500 million. During the reporting period, the Company has cumulatively applied for 202 new patents, including 97 patents for invention, 101 patents for utility models, and 4 design patents; A total of 125 new patents have been granted, including 24 patents for invention, 96 patents for utility models, and 5 design patents, an increase of 30% compared to 2021.

In addition, the Company carried out the annual declaration and review of technology and product innovation achievements within the Company in terms of technology import, comprehending and localization, technology improvement and optimization, energy conservation and consumption reduction, comprehensive utilization of resources, new product research and development, product quality improvement, etc. A total of 345 awards for technological innovation achievement were granted, including 51 project achievements, 13 exemplary individual, 108 patents, 163 excellent technical papers, 7 standards (products, technologies), and 3 government science and technology supporting projects.



**Case: YTH's newly-developed green and intelligent fertilizers are officially put into production**

The green and intelligent special fertilizer for core and potato jointly developed by the Company and the expert team of academicians Zhang Fusuo have been successfully put into production in YTH, solving the challenges restricting the green development of the fertilizer industry such as low utilization efficiency in the entire chain of industrial production and agricultural application, emissions, and mismatching between fertilizer products and agricultural demand, and injecting new impetus into accelerating the green transformation of agriculture in a sustainable way.



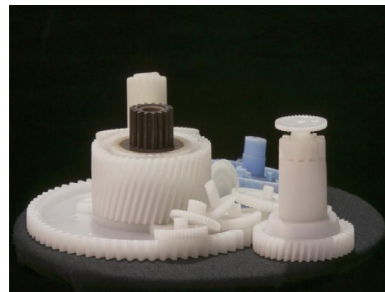
Picture: YTH's newly-developed green and intelligent fertilizers are officially put into production





**Case: Development and application of key technologies for ZAT copolymer formaldehyde**

Copolymer formaldehyde is one of the five major engineering plastics, a high-tech product, known as "super steel". It has been widely used in electronic and electrical, machinery, instrumentation, daily light industry, automobiles, building materials, agriculture, medical technology, sports equipment, and other fields. The project focuses on the research, development, and application of polymerization reactor operation stability, product thermal stability, reduction of surface formaldehyde emissions, product yellowing resistance, and crystallization performance, greatly improving product quality, and promoting the import substitution of domestic high-end polyformaldehyde products, which has good economic benefits.



Picture: Application of polyformaldehyde - electrometer accessories



Picture: Polyformaldehyde fiber products



Picture: Polyformaldehyde application: polyformaldehyde plate bar



**Case: Demonstration project of technical route and industrialization - independent development of iron phosphate materials by the Company for public welfare**

The new material project team has conducted basic research on two process routes, "iron method" and "ammonia method", for the precursor products of iron phosphate cathode materials that are widely favored by the market. Through systematic research, the two process routes have been quickly established to achieve stable synthesis of iron phosphate materials at the kilogram level. By the end of 2022, the pilot project demonstration of the "iron method" process route with an annual output of 1,000 tons and the industrialization of the "ammonia method" process route with an annual output of 100,000 tons have been achieved.



Picture: 1,000-ton iron phosphate process pilot plant

**Intellectual Property Protection**

The Company attaches great importance to IPR. In accordance with the *Trademark Law of the People's Republic of China*, the *Patent Law of the People's Republic of China*, and other laws and regulations, the Company has internally formulated rules and regulations such as *Administrative Measures for Intellectual Property*, *Administrative Measures for Trademark*, *Administrative Measures for Research and Development*, and *Administrative Measures for Patent*, to standardize the management of the Company's trademarks, patents, copyrights, and effectively support the construction of its innovative research and development system, providing institutional guarantee for the smooth development of the Company's innovative research and development.

In 2022, the Company was successfully selected as a National Superior Enterprise in Intellectual Property. The Company's management system continues to operate effectively and has completed the annual supervision and audit of Intellectual Property Management System Certification. It was also awarded the title of "Little Giant" enterprise in Yunnan Province.



Picture: The Company was selected as a National Superior Enterprise in Intellectual Property



Picture: Intellectual Property Management System Certification



Picture: YTH has been awarded "Little Giant" enterprise that is professional, unique and superior in Yunnan Province

As of the end of the reporting period, the Company has obtained a total of 559 authorized domestic patents, including 150 patents for invention, 364 patents for utility models, and 45 design patents. Meanwhile, 217 trademarks and 6 copyright registrations have been accomplished, including 9 newly registered trademarks in 2022.

In addition, the Company has attached great importance to strengthening employees' awareness of intellectual property protection. It has held various special trainings on IPR, covering relevant personnel in key positions.



Picture: National Engineering and Technology Research Center for Development and Utilization of Phosphorus Resource

# Customer Service

The Company genuinely adheres to the original aspiration of "customer oriented", gives ear to customers' voices, takes seriously and properly handles every customer feedback. With their suggestions as the guidance, we have continuously optimized the quality of our products and services, improving customer satisfaction, and protecting customer rights and interests.

The Company has special personnel receive customer inquiries and complaints through the hotline, and specifies the handling process for customer complaints in the *Administrative Measures for Agricultural Technical Services*. In 2022, only one customer complaint was received. The Company strictly followed the process, responded timely and resolved the complaint properly, further enhancing customer trust and confidence with a responsible attitude.



The *Customer Management Measures* of the Company explicitly requires a customer satisfaction survey at least once a year with analysis, based on which a customer satisfaction survey report should be compiled. In this way, the Company has effectively understood the current market of its products, obtained valuable suggestions from customers and supply chain stakeholders, and laid a solid foundation for the Company to optimize product and service quality in the future and continuously improve customer satisfaction.



## Case: YTH customer satisfaction survey in the first Quarter of 2022

From March 15 to April 15, 2022, the Company conducted a customer satisfaction survey of the Company's products with dealers, outlets, direct users, and non-corporate customers/users in the four major regions of Yunnan, Guizhou, Sichuan, and Chongqing. A total of 1180 valid questionnaires were collected. In a total of 20 questions, respondents' recognition of the Company's product effectiveness reached 98%, and the satisfaction rate with the performance of stores and service staff was 97.20%. The respondents also provided valuable opinions and suggestions on the Company's future development and research and development of new products. The analysis report has been sent to each responsible department with the requirement to formulate a response and improvement plan with strict implementation.

# Customer Privacy and Information Security

The *Customer Management Measures* of the Company sets security and confidentiality provisions for customer privacy and information security, stipulating that the Company's customer policies and related information recorded are commercial secrets, and shall be managed in a hierarchical way. It explicitly requires relevant personnel to strictly implement the Company's confidentiality system. In the period and scope of confidentiality, any form of illegal use and disclosure is prohibited, in order to standardize the management of customer privacy.

## Quality Service

The Company remains true to the original aspiration and adheres to the responsibility of "building solid foundation with integrity". By providing high-quality products and various types of plants, the Company has attentively striven for common development with customers. In 2022, the Company carried out 1,953 activities to deliver high-quality agricultural materials to the countryside, and superior products to users; A total of 1,190 farmer meetings and observation tours have been held to provide technical training to farmers; Through living streaming, Tiktok, Kuaishou and other media, scientific planting techniques were advertised with cumulative number of viewers over 883,000.



In 2022, the Company carried out

**1,953**

activities to deliver high-quality agricultural materials to the countryside



## Case: Promotion project of magnesium diboron in Linyi

Centering on the advantages of magnesium diboron, such as neutrality, trace element content, no biuret content, and long fertilizer efficiency, the project focused on the effects of magnesium diboron on the safety of sowing corn seeds and fertilizer together, no defertilizing in later period, and full grain without bare-tip. Through pre-fertilization meeting, experimental demonstrations during the fertilizer season, tracking effects after fertilization, and follow-up visits, as well as continuous promotion and recommendation in the form of observation tours and live broadcasts, an important step has been taken for the promotion of magnesium diboron products.



Picture: Observation tour of the promotion project of magnesia diboron products



Picture: China-Lao Railway successfully launched the enterprise-owned container special train for YTH

## Supply Chain Management

The Company has invariably adhered to the coordinated development with the industry, wholeheartedly committed to building a compliant supply chain management system, and creating a healthy supply ecosystem with long-term cooperation, mutual benefit and trust with win-win results. The Company has complied with laws and regulations such as the *Bidding Law of the People's Republic of China*, the *Anti-Unfair Competition Law of the People's Republic of China*, and the *Specification for State-Owned Enterprises Procurement Management*. It has developed relevant regulations such as the *Material Procurement Management System*, *Supplier Management System*, and *Carrier Safety Management System* to reinforce the policy foundation of supply chain management.

### Supplier Access

YTH strictly examines and confirms various indicators such as supplier qualifications, supply capacity, and quality during the admission process. The Company also attaches great importance to the ESG related management and practical capabilities of suppliers, encourages and supports suppliers to improve their management level through ISO certification in key issues such as environment, safety, quality, and compliance management, and gives priority to suppliers that have obtained ISO certification in the selection and admission process.

Table: Key Performance Sheet of Suppliers for Centralized Purchasing

Indicators	2022	2021	2020
Number of suppliers of bulk raw materials with centralized purchasing	105	107	98
Number of direct suppliers	50	50	59
Number of indirect suppliers	55	57	39
Number of suppliers who have signed Anti-Corruption Agreement (or letter of commitment)	105	107	98
Proportion of suppliers who have signed Anti-Corruption Agreement (or letter of commitment)	100%	100%	100%
Number of suppliers evaluated in the year	105	107	98
Number of disqualified suppliers	1	9	11
Number of suppliers whose cooperation was terminated for ESG matters in the year	0	0	0
Number of suppliers trained for ESG matters in the year	13	10	7

## Supplier Evaluation

After the suppliers are admitted, the Company will continue to evaluate and manage the suppliers regularly in a comprehensive way throughout the whole process. In addition to access qualification evaluation, suppliers are required to complete various certifications, including sample certification, field certification, special certification, etc. The Company regularly evaluates the process operation of suppliers, such as quality assessment, key index assessment and contract performance rate for coal suppliers, and takes measures such as suspension of supply and rectification for problematic suppliers. The Company also regularly evaluates suppliers' contract performance, quality assurance, procurement cost, service and response, and comprehensive evaluation of safety and environmental protection on an annual basis, and eliminates unqualified suppliers.

In addition, the Company requires all new suppliers to sign the "Supplier Profile", and the signing rate was 100% in 2022. If a supplier provides false information and materials, a "negative list" will be invoked according to the Supplier Management Measures; If the supplier violates the field management system of the receiving unit, the supplier shall bear corresponding responsibilities according to the terms agreed in the contract, which will also lead to credit deduction in the annual evaluation according to the specific circumstances.

## Business Ethics of Suppliers

The Company requires all suppliers to sign a *integrity Contract* while signing business contract. The Company has "zero tolerance" for violations of business ethics and will terminate cooperation with any supplier violating the provisions of the integrity Contract, who will be listed as unqualified supplier. The Company has a hotline for violations of business ethics, which is directly handled and investigated by the Company's Discipline Inspection Commission Office. In addition, the Company will also issue "integrity prompt letter" to suppliers during major holidays to prevent violations from the source.

### Supplier Communication and Training

The Company has continued to strengthen communication and exchanges with suppliers, and provided assistance to suppliers through various visits and training events, joining hands with suppliers to achieve synergetic development. The Company also attaches great importance to the occupational health and safety of suppliers. It has reinforced the requirements and management of occupational health and safety of suppliers through inspection, evaluation, and training at the admission stage and daily management.



#### Case: YTH conducted safety education and training for hazardous chemicals carriers

On June 15, 2022, on the occasion of the national "Work Safety Month", YTH held a safety education and training for all the hazardous chemical carriers involved in liquid ammonia, sulfuric acid, and liquid alkali in the Company. The training provided a detailed introduction to the safety operation process, transportation safety, potential hazards during transportation, potential production accidents, and emergency rescue measures.



Picture: Safety education and training for hazardous chemical carriers



Picture: Phosphate Chemical held a special meeting on safety production for non-coal mines and contractors

### Green Purchasing

The Company heartily practices green purchasing, requiring suppliers to incorporate green concepts in various aspects such as product design, raw material selection, production and processing, packaging, logistics and transportation, to reduce the impact of the supply chain on the environment.



Develop and implement green purchasing standards; give priority to low-consumption, low-emission, or zero-emission products.



Strictly observe environmental protection requirements during procurement such as storage and transportation to avoid environmental pollution.



Strengthen in-factory inspection, strictly control product quality, and interview, rectify, punish and adjust suppliers with unqualified products to ensure the effective operation of the green supply system.

## Social Responsibility

Be gratitude for the source of benefit and giving it back to the society is the social responsibility we harbour. The Company has been actively engaged in social welfare undertakings, carrying out activities such as empowering farmers with science and technology, co-construction by both villages and enterprises, and charity donations, to promote virtuous interaction between enterprises and society.

### Empowering Farmers with Science and Technology

The Company has established 29 small scientific and technological academies nationwide. Through cooperation with 26 key scientific research institutes and 76 industry experts and professors, it has conducted research on 43 crop systems in eight major regions around agricultural production patterns and characteristics of soil fertilizer supply, carried out research and development on new fertilizers, promoted technical systems, and innovated models, generating 98 technologies and 65 sets of technical regulations. It has helped local farmers solve various problems encountered in the planting process through the model of agrochemical products+services.

In 2022, science and technology academies of YTH successively established 98 technical service stations. Acting up to the principle of "Going Out and Bringing In", the Company has employed local soil experts, pesticide dealers, and young fertilizer dealers as "special commissioners" of the academies, making its agrochemical services more pragmatic and detailed. It has devoted itself to empowering farmer through science and technology. During the reporting period, the Company conducted more than 180 science and technology activities in the countryside, providing 16,126-times services directly to farmers to boost their production and income.



During the reporting period, the Company conducted more than

180

science and technology activities in the countryside

providing

16,126-times

services directly to farmers to boost their production and income

云天化·中国农大|26个科研院所合作单位全国分布图



Picture: National distribution map of cooperation units between the Company and scientific research institutes.



Picture: National distribution map of the Company's science and technology academies.



Case: increasing production and income through scientific and technological assistance

In May 2022, yet another science and technology academy was settled in Yuhe Town, Xiongxiang Town, Zhaotong City, Yunnan Province, equipped with advanced equipment and instruments for soil testing and agrochemistry, and stationed professional and technical personnel to provide on-site services. The Company conducted six practical planting training sessions in Yuhe Town, including field management of pepper and kiwi planting, disease and pest control, and scientific fertilization and fertilizer use, with over 280 participants. This academy is the 26th science and technology academy established by YTH. During the reporting period, it has successively taken 11 science and technology tours to the countryside to promote rural revitalization through industry.



Picture: Activities held by science and technology academy



Case: YTH science and technology academy serves farmers through technical training

The expert think tank of YTH science and technology academies have gathered over 200 core experts, regional technical experts, and cattle growers, with a cumulative technical training of over 3,000 times, with up to 150,000 trainees. It has built more than 300 service stations and organized farmers to participate in more than 15,000 observation tours. Through in-depth field research, the academies have obtained more than 4,000 pieces of test soil, focused on over 50 crop systems, developed 1,221 sets of plant formulas, and built a database covering over 200 crops, 6,084 diseases and insect pests, and national land, forming a comprehensive model of "scheme+agricultural materials+guidance+continuous optimization" for solution implementation, which has served 30 million mu of agricultural industry, helping farmers achieve standardized and high-quality planting.

The targeted trainings have reversed the wrong concept of fertilizer application of farmers, such as the combination of fertilizer and farmyard manure, excessive application and unreasonable application, not only improving the efficiency of fertilizer application, but also reducing excessive intrusion on the land, greatly improving the local ecological environment.



Picture: Field class

Picture: Technical training

Picture: Carry out field service to bring science and technology to the countryside

Co-construction by Both Villages and Enterprises

Capitalizing on the advantages of both villages and enterprises, YTH supports the rural public welfare undertakings, promotes employment of farmers, increases rural income, and strives to achieve a win-win collaboration among enterprises, villages and farmers.



Case: The green mine co-constructed by both village and enterprise

After years of practice and exploration, a co-construction model between enterprise and local government of "harmonious development that is integrity based, economic bonded, cultural centered, and mutually beneficial" has been formed between the Kunyang Phosphate Mine affiliated to the Phosphate Group and the Hanying Village Committee in Jinning District. The "Yunnan Phosphate Group-Hanying Model" with distinctive characteristics and harmonious development influence in the domestic industry has gradually been formed, creating a new pattern of harmonious and mutually beneficial development empowered both by enterprises and local government. In 2022, an additional 1,219.82 mu of mine ecological restoration area was accomplished.



Picture: Aerial photography of reclaimed vegetation area of Kunyang Phosphate Mine



Case: Continuously improve the "last mile" weak link

Based on the most concerned issues with the direct and realistic interests of the masses, combined with the development strategy of agricultural industry of Yuhe Town, the Company has invested a total of RMB 1.2104 million during the reporting period.

The Company has implemented a road widening and reconstruction project for the machine farming industry in Yuhe Town, with three new machine farming road branches built, totaling over 700 meters; expanded and hardened one main road, with a length of over 1,600 meters, providing strong support for the mechanized cultivation of over 600 mu of land for villagers, and creating favorable conditions for the subsequent large-scale, specialized, and intensive promotion and planting of high value-added crops. More than 200 farmers have benefited directly from this endeavor.



Picture: Road widening and renovation project



Case: Free distribution of fruit tree seedlings to broaden income channels with green action

In January 2022, the YTH stationers in Longjing Village, Yuhe Town carried out a "green action" - free distribution of fruit tree seedlings in the village, distributing over 1,600 high-quality fruit tree seedlings such as crispy persimmons, loquats, figs, cherries, and so on. At the same time, in order to improve the survival rate of fruit tree seedlings, the stationers also invited agrochemical technicians to provide a planting training on the field to explain the seedling planting techniques to the villagers.



Picture: Green Action

### Harmonious Community

Adhering to the corporate mission of "creating harmony and prosperity together", YTH has taken practical actions to promote social development and forwardly responded to the call to carry out activities including helping students realize their dreams, donations for epidemic fighting, donations of fertilizers, and caring for the society.



Case: Voluntary blood donation

Donate the blood, share the love. On December 15, 2022, after receiving the emergency notice of blood inventory in Kunming, YTH's subsidiaries in Haikou District, joining hands with Kunming Blood Center of Yunnan, carried out voluntary blood donation. The total amount of blood donated by our staff has reached 25,700 milliliters.



Picture: Voluntary blood donation



Case: Helping students realize their dreams

YTH has committed to "helping students realize their dreams", providing education aid ranging from 2,000 to 3,000 yuan to rural students from low-income families who have passed the national college entrance examination in Yuhe Town and Wanchang Town, Zhenxiang County. During the reporting period, we have distributed 469,000 yuan of financial aid to 225 students, further consolidating the achievements of poverty alleviation and education assistance.



Picture: education aid

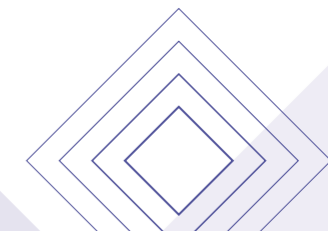


Case: YTH donated 25 tons of fertilizer to Taiping Town in Yao 'an County for rural revitalization

On September 1, 2022, Taiping Town, Yao'an County was hit hard by the once-in-a-century rainstorm. 231 households in Taiping Village and Geju Village were seriously affected. 451 mu of grain area was affected with total crop failure of about 101 mu. Two village roads were damaged, resulting in economic losses of about 780,000 yuan. YTH donated 25 tons of fertilizer worth over 80,000 yuan to Taiping Town, manifesting a responsible state-owned enterprise.



Picture: YTH donated fertilizer to Taiping Town



## Future Prospects

Over the past year, the political and economic landscape throughout the world has evolved at a faster pace, with ups and downs in the bulk market and numerous adjustments and changes in industrial policies. The Company has surmounted a series of negative influence and grim challenges brought by the objective environment, and its business performance has reached a record high. The transformation and upgrading has scaled new heights, and the deepening reform has gone further and deeper. The green and high-quality development has shown a vigorous trend.

In 2023, we will continue to devote ourselves to transformation and upgrading. While elaborately operating the fertilizer business, we will accelerate the layout of new energy, fine chemicals and modern agriculture industries, optimize the industrial structure of our products, increase our market share and create new profit growth points.

In 2023, we will comprehensively promote green and sustainable development, continuously improve our intrinsic safety and environmental protection capabilities, empower green manufacturing with information technology, abidingly enhance production efficiency, reduce production energy consumption, and manifest the good image of a benchmark enterprise in advanced manufacturing.

In 2023, we will continue to bench mark first-class management practice to deepen the reforms, unremittingly adjust the industrial structure, capital structure, product structure and market structure, improve the corporate governance mechanism, employment mechanism and incentive mechanism, enhance the management ability and scientific and technological innovation ability, and accelerate the new round of three-year action of state-owned enterprise reform.

In 2023, we will always bear in mind the mission of state-owned enterprises, vigorously promote the culture of responsibility, actively fulfill our social responsibility and take the lead in ensuring the spring cultivation with adequate fertilizer supply and stable prices, and contribute to safeguarding the supply of agricultural materials for spring cultivation and food security with practical actions. The Company will continue to participate in social welfare, and unceasingly carry out activities such as empowering farmer through science and technology, co-construction by both villages and enterprises and donations, so as to be gratitude for the source of benefit and give it back to the society.

Victory is ensured when people pool their strength; success is secured when people put their heads together. We will continue to adhere to the general tone of seeking progress while maintaining stability, fully implement the new development concept, bear in mind our responsibilities and missions, join hands to make the Company a "flagship listed company", actively assume corporate social responsibility, and unceasingly deliver the "warmth of YTH".

## GRI Standard Index

<b>Instructions for use</b>	Yunnan Yuntianhua Co., Ltd reported the information cited in this GRI Index with reference to the GRI Standards from 1 January 2022 to 31 December 2022.		
<b>GRI 1 used</b>	GRI 1: Foundation 2021		
<b>Disclosure issue/item</b>	<b>Disclosure title</b>	<b>Sections</b>	<b>Pages</b>
<b>GRI 2: General Disclosure 2021</b>		<b>About This Report</b>	<b>P1-2</b>
<b>The organisation and its reporting practices</b>			
2-1	Organisational details	About Us	P5
2-2	Entities included in the organisation's sustainability reporting	About Us	P5
2-3	Reporting period, frequency and contact point	About This Report	P1-2
2-4	Restatements of information	About This Report	P1-2
<b>Activities and workers</b>			
2-6	Activities, value chain and other business relationships	Stakeholder Engagement	P11-14
2-7	Employees	Protection of Employee Rights and Interests	P61-68
2-8	Workers who are not employees	Supply Chain Management	P81-83
<b>Governance</b>			
2-9	Governance structure and composition	Corporate Governance	P19-21
2-10	Nomination and selection of the highest governance body	Corporate Governance	P19-21
2-11	Chair of the highest governance body	Corporate Governance	P19-21
2-12	Role of the highest governance body in overseeing the management of impacts	Corporate Governance	P19-21
2-13	Delegation of responsibility for managing impacts	Corporate Governance	P19-21
2-14	Role of the highest governance body in sustainability reporting	Corporate Governance	P19-21
2-15	Conflicts of interest	Corporate Governance	P19-21



Disclosure issue/item	Disclosure title	Sections	Pages
2-16	Communication of critical concerns	Corporate Governance	P19-21
2-17	Collective knowledge of the highest governance body	Corporate Governance	P19-21
2-19	Remuneration policies	Protection of Employee Rights and Interests	P65
2-20	Process to determine remuneration	Protection of Employee Rights and Interests	P65
<b>Strategy, policies, and practices</b>			
2-22	Statement on sustainable development strategy	Corporate Governance	P20
2-23	Policy commitments	Corporate Governance	P20
2-24	Embedding policy commitments	Corporate Governance	P20, P22
2-25	Processes to remediate negative impacts	Stakeholder Engagement	P11-12
2-26	Mechanisms for seeking advice and raising concerns	Stakeholder Engagement	P11-12
2-27	Compliance with laws and regulations	Corporate Governance	P19
2-28	Membership associations	Innovative Research and Development	P73-78
<b>Stakeholder engagement</b>			
2-29	Approach to stakeholder engagement	Stakeholder Engagement	P11-12
<b>GRI 3: Material Topics 2021</b>			
3-1	Process to determine material topics	Stakeholder Engagement	P13-14
3-2	List of material topics	Stakeholder Engagement	P14
3-3	Management of material topics	Stakeholder Engagement	P13-14
<b>Economic</b>			
<b>GRI 201: Economic Performance 2016</b>			
201-2	Financial implications and other risks and opportunities due to climate change	Addressing Climate Change	P39
201-3	Defined benefit plan obligations and other retirement plans	Considerate Care for Employees	P65-68

Disclosure issue/item	Disclosure title	Sections	Pages
<b>GRI 205: Anti-corruption 2016</b>			
205-2	Communication and training about anti-corruption policies and procedures	Anti-bribery on Commerce	P23-24
205-3	Confirmed incidents of corruption and actions taken	Anti-bribery on Commerce	P23-24
<b>GRI 206: Anti-competitive Behaviour 2016</b>			
206-1	Legal actions for anti-competitive behaviour, anti-trust, and monopoly practices	Anti-bribery on Commerce and Supply Chain Management	P23, P81
<b>Environmental</b>			
<b>GRI 302: Energy 2016</b>			
302-1	Energy consumption within the organization	Addressing Climate Change	P40-41
302-3	Energy intensity	Addressing Climate Change	P40
302-4	Reduction of energy consumption	Addressing Climate Change	P40-44
302-5	Reduction in energy requirements of products and services	Addressing Climate Change	P42-44, P57
<b>GRI 303: Water and Effluents 2018</b>			
303-1	Interactions with water as a shared resource	Use and Management of Water Resources	P49, P51
303-2	Management of water discharge-related impacts	Use and Management of Water Resources	P49, P51
303-3	Water withdrawal	Use and Management of Water Resources	P49, P51
303-4	Water discharge	Use and Management of Water Resources	P49, P51
303-5	Water consumption	Use and Management of Water Resources	P49, P51
<b>GRI 304: Biodiversity 2016</b>			
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Biodiversity Conservation	P55-56
304-2	Significant impacts of activities, products, and services on biodiversity	Biodiversity Conservation	P55-56
304-3	Habitats protected or restored	Biodiversity Conservation	P55-56



Disclosure issue/item	Disclosure title	Sections	Pages
<b>GRI 305: Emissions 2016</b>			
305-4	GHG emissions intensity	Addressing Climate Change	P40
305-5	Reduction of GHG emissions	Addressing Climate Change	P39
305-7	Nitrogen oxides (NO <sub>x</sub> ), sulfur oxides (SO <sub>x</sub> ), and other significant air emissions	Addressing Climate Change	P50
<b>GRI 306: Waste 2020</b>			
306-1	Waste generation and significant waste-related impacts	Waste Management	P50-54
306-2	Management of significant waste-related impacts	Waste Management	P50-54
306-3	Waste generated	Waste Management	P50-52
306-4	Waste diverted from disposal	Waste Management	P52-53
306-5	Waste directed to disposal	Waste Management	P52-53
<b>GRI 308: Supplier Environmental Assessment 2016</b>			
308-1	New suppliers that were screened using environmental evaluation criteria	Supply Chain Management	P81-83
308-2	Negative environmental impacts in the supply chain and actions taken	Supply Chain Management	P81-83
<b>Social</b>			
<b>GRI 401: Employment 2016</b>			
401-1	New employee hires and employee turnover	Protection of Employee Rights and Interests	P61-62
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	Considerate Care for Employees	P65-68
401-3	Parental leave	Considerate Care for Employees	P65
<b>GRI 403: Occupational Health and Safety 2018</b>			
403-1	Occupational health and safety management system	Safety Management and Occupational Health and Safety	P27, P32
403-2	Hazard identification, risk assessment, and incident investigation	Safety Guarantee and Chemical Safety	P28, P34-35

Disclosure issue/item	Disclosure title	Sections	Pages
403-3	Occupational health services	Occupational Health and Safety	P32-34
403-4	Worker participation, consultation, and communication on occupational health and safety	Occupational Health and Safety	P32-34
403-5	Worker training on occupational health and safety	Occupational Health and Safety	P33-34
403-6	Promotion of worker health	Occupational Health and Safety	P32-34
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Occupational Health and Safety	P32-34
403-8	Workers covered by an occupational health and safety management system	Safety Management and Occupational Health and Safety	P27, P32-34
403-9	Work-related injuries	Occupational Health and Safety	P32-34
403-10	Work-related ill health	Occupational Health and Safety	P32-34
<b>GRI 404: Training and Education 2016</b>			
404-1	Average hours of training per year per employee	Promoting Employee Development	P64
404-2	Programs for upgrading employee skills and transition assistance programs	Promoting Employee Development	P63
404-3	Percentage of employees receiving regular performance and career development reviews	Promoting Employee Development	P63
<b>GRI 405: Diversity and Equal Opportunity 2016</b>			
405-1	Diversity of governance bodies and employees	Corporate Governance and Protection of Employee Rights and Interests	P19, P61
<b>GRI 406: Non-Discrimination 2016</b>			
406-1	Incidents of discrimination and corrective actions taken	Protection of Employee Rights and Interests	P61
<b>GRI 413: Local Communities 2016</b>			
413-1	Operations with local community engagement, impact assessments, and development programs	Social Responsibility	P84-88
<b>GRI 418: Customer Privacy 2016</b>			
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	Customer Service	P80



## Reader Feedback

Dear readers,

Thank you very much for reading the Company's 2022 Environmental, Social and Governance Report. We highly value your comments on the report. In order to promote our endeavor in environmental, social, and governance work, you are thankfully asked to provide your comments and suggestions on this report for further improvement.

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1. What is your capacity to the company?

- Government     Employee     Partner     Public     Media  
 Environmental Protection Agency     Others (Please specify)\_\_\_\_\_

2. What is your overall evaluation of this report?

- Excellent     Good     Normal     Poor

3. What do you think of the structure and presentation of this report?

- Very reasonable     Reasonable     Normal     Poor

4. What do you think is the quality of the information disclosed in this report?

- Excellent     Good     Normal     Poor

5. Other suggestions or opinions on the Company's 2022 Environmental, Social and Governance Report.



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