



Pursue excellence and create classics in the industry

Zangge Mining Co.,Ltd

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2022 Environmental, Social and Governance (ESG) Report



PURSUE EXCELLENCE AND CREATE CLASSICS IN THE INDUSTRY



ZANGGE MINING CO.,LTD

About this Report

Overview

This is the first Environmental, Social, Governance (ESG) report issued by Zangge Mining Co., Ltd. Designed to systematically describe the principles and concepts, management methods and achievements of the Company in sustainable development.

Scope

This Report covers Zangge Mining Co., Ltd and its wholly-owned subsidiaries, Golmud Zangge Potash Company Limited and Golmud Zangge Lithium Company Limited. The financial data is consistent with the annual consolidated statements of Zangge Mining Co., Ltd. This Report is an annual report with the duration from January 1, 2022 to December 31, 2022 ("reporting period"), and some contents herein may be traceable to previous years.

Basis of Compilation

This Report is compiled in accordance with the guide of Shenzhen Stock Exchange on the preparation of social responsibility reports and with reference to GRI Standards issued by the Global Sustainability Standards Board (GSSB). This report also quotes some recommendations from ISO 26000:2010 Guidance on Social Responsibility issued by the ISO/TC 260 Social Responsibility Technical Committee of the International Organization for Standardization (ISO).

Data Description

The data, management mechanism and cases in this Report are derived from the original operating records or financial reports of the Company. The financial data in this Report is denominated in RMB. The financial data are consistent with the annual consolidated statements of Zangge Mining Co., Ltd. In case of any discrepancy between the financial data and the annual consolidated statements of the Company, the latter shall prevail.

Instructions on Appellation

For readers to understand this document clearly, "Zangge Mining Co., Ltd." in this Report is represented by "Zangge", "Zangge Mining", "Company", "the Company" and "we", "our" or "us". "Golmud Zangge Potash Company Limited" is represented by "Zangge Potash" and "Golmud Zangge Lithium Company Limited" is represented by "Zangge Lithium".

Reliability Commitment

Zangge Mining undertakes that there is no false record, misleading statement or major omission in this Report, and the Board of Directors of the Company shall be jointly and severally liable for the authenticity, accuracy, and completeness of the contents herein.

Acquisition of Report

This Report is released in both printed and electronic forms, of which the printed version is available at the Office of the Board of Directors of the Company, and the electronic version is available on the official website of the Company (<https://www.zanggekuangye.com/>).

Contact Us

Zangge Mining encourages all stakeholders to put forward suggestions or opinions on the sustainable development and social responsibility management of the Company. For any inquiries, please contact zgjf000408@163.com.

Chairman's speech

In 2022, amid the economic development, in the face of COVID-19 and other challenges, enterprises, as the carrier of economic power, took painstaking efforts to seek sustainable development. Zangge Mining, core business is: R&D, production and sales of potassium chloride and battery-grade lithium carbonate. We are committed to boosting agricultural development through stable potash fertilizers production and actively responding to the national strategy of "rural revitalization". By utilizing environmentally friendly technologies, we are able to extract 99.7% of battery-grade lithium carbonate from brine, which provides basic materials for the development and upgrading of new energy and high-end equipment manufacturing which therefore contributes to the global sustainable development goals.

Robust corporate governance is the foundation of corporate development. While constantly building an internal control and compliance management systems, we enhanced corporate governance by perfecting the code of conduct for our directors, supervisors and executives, the working rules of executives, and the management measures on development strategy. Besides, we standardized the division of management powers and responsibilities to enhance the governance efficiency. During the reporting period, we set up ESG management structure and formulated ESG development strategy and governance policies to integrate ESG into business management, we took an important step towards building a global first-class ESG system.

Efficient use of resources is the key to enhancing competitiveness. As a mineral resources developer rooted on Qinghai-Tibet Plateau and standing fast to the principle of comprehensive development and rational utilization, we take diversified models to develop global mineral resources and manage existing resources with information technology in line with digital transformation. We also continue to improve our R&D system and valorously overcome technical problems with the support of professional equipment, platforms, and talents, while exerting efforts to bring more value to the society.

We understand that growth is closely dependent on the environment. We have been proactive in building ecological international brands and self-disciplined in management with high standards and strict requirements. Environmental protection is not only a call for compliance, but also pertinent to the future of the Chinese nation and the fate of the mankind. Guided by the goals of reducing resource consumption, we are moving forwards to the 100% recycling of water resources in the production with the help of technical innovation and resource investment. We will continue to improve our environmental performance and deepen the harmony between human and nature.

To "make talents the backbone for corporate development", Zangge will work harder to create suitable conditions and platforms for employees. To safeguard the legitimate rights and interests of employees, we have been committed to optimizing salary and welfare policies for employees over the years. We have also established specific career development paths for employees for self-development and value realization. In 2021, we initiated Employee Stock Ownership Plan (Phase I) to fully mobilize the enthusiasm of employees, thus seeking common growth of the Company and employees.

We forge ahead with determination. Entering 2023, Zangge will continue to seize the opportunity of industrial transformation and the rapid development of new energy industry to strive forward under the mission of "constantly developing salt lake resources to pioneer green development", boost the sustainable growth of output and performance amid the profound changes unseen in a century, and join hands with all stakeholders for sustainable development in the face of global challenges, towards the goal of building the "world-class mining group".

Xiao Ning, Chairman of the Board of Directors of Zangge Mining Co., Ltd.

 Consolidated Governance

 Technological Innovation

 Environmental Protection

 People-oriented

Major KPI on Sustainable Development



2022

Economic performance

Operating income

8,193.9135 million yuan

Net profit

5,654.8729 million yuan

Total assets

13,536.4599 million yuan

Cash dividends

2,999.6658 million yuan

Product performance

Potassium chloride output

1,306,700 tons

Proportion of potassium chloride products contributing to operating income

46.80%

Lithium carbonate output

10,537 tons

Proportion of lithium carbonate products contributing to operating income

52.76%

Environment performance

Recycling rate of tail fluid for production

100%

Water consumption per unit of potassium chloride lower than environmental protection standard

7.2 tons **0.8** tons/unit product

Training sessions on energy management

10 times

Total area of ecological restoration/environmental treatment by the Company by the of reporting period

81,000 m²

Society performance

Income tax expense

938.1368 million yuan

Amount of investment in social welfare

RMB **4,413,000**

Total investment in employment training

RMB **329,400**

On-duty rate of employees with certificate for special work

100%

Coverage of safety training

100%

Average score of customer satisfaction

100%



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Company Overview

Zangge Mining Company Limited (“Zangge Mining”) is mainly engaged in the research, development, production and sales of potassium chloride and battery-grade lithium carbonate with abundant experience in the development and utilization of mineral resources. Thanks to the mineral resources in the vast mining area of Qarhan Playa (724.35 km²) and with a base of potash fertilizer, an important agricultural resource, Zangge has been dedicated to the innovation and production of lithium raw materials and the establishment of mineral resource reserves, alongside with the enhancement of the resource development capability and the extension in the industrial chain. Zangge keeps enlarging salt lake resources and promoting industrial integration with investment in industrial development funds and equity M&A. Zangge has the mining right of Qarhan Playa (724.35 km²) in Qinghai, the right of development and construction of Mamicuo Salt Lake (115.36 km²) in Tibet, and the exploration right of Mangnai (1400 km²) in Qinghai, which lay a solid foundation for the medium and long-term development of the Company.

Company name (in Chinese): 藏格矿业股份有限公司

Stock code: 000408.SZ

Company name (in English): Zangge Mining Co., Ltd.

Headquarters: Golmud, Qinghai, China

Abbreviation of the company name (in English): Zangge



Mining Right of Qarhan Playa in Qinghai

724.35 km²



Development and Construction Right of Mamicuo Salt Lake in Tibet

115.36 km²



Exploration Right of Mangnai in Qinghai

1,400 km²

Corporate Culture

In the principle of “comprehensive development with focus on potassium”, Zangge has been forging ahead towards its mission to “constantly develop salt lake resources to pioneer green development”. On the path of integrated development and rational utilization in scientific manner, Zangge has been dedicated to topping the global mining industry, while fulfilling its social responsibilities and contributing to global sustainable development with its own actions.



Spirit of Zangge

Hardworking, pioneering, and innovative

Core Values

Science, compliance, innovation, fairness, efficiency, win-win, dedication, integrity, and excellence

Corporate Mission

Integrity in business, scientific development, high quality and efficient, social contribution, value creation for society, and maximum interests for the Company, shareholders and employees

Future Endeavors

Establishing a high-quality end to end journey with greater safety, efficiency and quality.

Vision

Grow into a competitive industry leader

History

- 2002**
 - Golmud Zangge Potash Fertilizer Co., Ltd. established
- 2007**
 - Acquired shares and assets of 13 potash fertilizer manufacturers for salt lake resources integration

- 2009**
 - Independently developed solid-to-liquid technique, and increased the basic reserves of recoverable potassium chloride by 60 million tons
- 2012**
 - Successfully implemented solid-to-liquid project formed a closed-loop circulation system in potash fertilizer production, which greatly promoted the long-term and efficient utilization of resources and achieved zero discharge of wastewater
 - Built a special railway line that reduced the loading pressure of Qarhan Station and safeguard the production and transportation of products

- 2016**
 - Acquired the approval of backdoor listing from CSRC in the stock name: 藏格控股股份有限公司 (in English: Zangge Holding Co., Ltd.)
- 2017**
 - Completed the project titled Application of the Technology to Improve the Potassium Flotation with Carnallite and Fine Salt Separation Effect in cooperation with Qinghai Institute of Salt Lakes, Chinese Academy of Sciences, and produced large-crystal potassium chloride products different from the traditional process, which enhanced the technical strength on potash fertilizer in China

- 2018**
 - Completed the investment and construction of and started the operation of the lithium carbonate project with capacity of 20,000 tons/year, indicating the entry of new energy sector of the Company
 - Refined internal control rules and regulations across the board, which laid a solid foundation for standardized and scientific governance
- 2019**
 - Acquired 37% equity of Julong Copper (to 30.78% by now)

- 2021**
 - Changed company name from “藏格控股 (in English: Zangge Holdings)” to “藏格矿业 (in English: Zangge Mining)” with the change of stock name
 - Established Zangge Mining Investment (Chengdu) Co., Ltd., and acquired 24% equity of Mamicuo Salt Lake in Tibet through Jiangsu Cangqing New Energy Industry Development Fund Partnership (Limited Partnership)
 - Implemented the Employee Stock Ownership Plan (Phase I), and established and improved the benefit sharing mechanism between workers and owners

- 2022**
 - Formulated the Strategic Plan for Five-Year (2022-2027) Development, which specified the development goals in two stages
 - Got listed in the SZSE Component Index Sample and taken as a subject of Shenzhen Connect
 - Got listed in MSCI China A Onshore Index
 - Got included in the FTSE Global Equity Index Series

COMPANY PROFILE

Honors & Awards

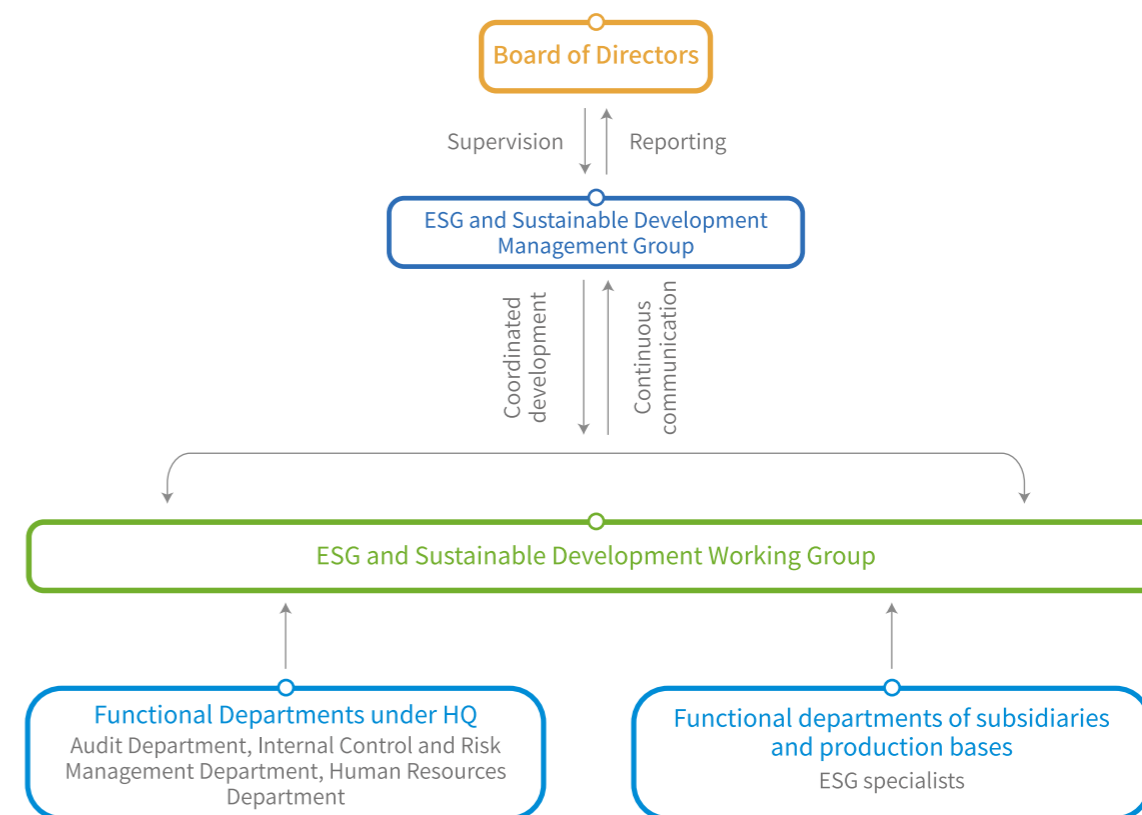
Awards	Issued by
• Top 100 Fertilizer Enterprises in China in 2021	China Chemical Industry Association
• Advanced Member Enterprise	China Inorganic Salts Industry Association
• Focal Enterprise of Chemical Fertilizers in China	Potash Salt and Potash Fertilizer Industry Branch, China Inorganic Salts Industry Association
• A-graded Market Credit Quality Enterprise (AA)	Qinghai Quality Management Society
• Science and Technology Award Certificate of Qinghai	The People's Government of Qinghai Province
• Science & Technology Progress Award	China Inorganic Salts Industry Association
• Vice President Company of the 5th Council of China Inorganic Salts Industry Association	China Inorganic Salts Industry Association
• Top 50 Enterprises of Qinghai in 2022	Department of Industry and Information Technology of Qinghai Province, State-owned Assets Supervision and Administration Commission of the People's Government of Qinghai Province

ESG Management

Environment, social, governance (ESG) has become a major risk and a great challenge for the mining and metal industries. As a mineral resource developer, Zangge Mining has established and continuously improved ESG management mechanism to constantly promote the integration of ESG philosophy with corporate governance and business development, and to boost the sustainable development plans and strengthen communication channels with stakeholders.

ESG Management Structure

During the reporting period, under the guidance of the Strategic Plan of Zangge Mining Co., Ltd. for Five-Year (2022-2027) Development, Zangge formulated the Environmental, Social, Corporate Governance Management System from top down, the Board of Directors as the leading organ, ESG and Sustainable Development Management Group as the group of decision-making, ESG and Sustainable Development Working Group as the group in charge of the routine tasks on environmental, social and corporate governance. The ESG and Sustainable Development Working Group is composed of ESG specialists appointed by functional departments of the headquarters, subsidiaries and production bases, and serves as the basic unit of ESG management to effectively promotes the integration of ESG into the routine operation of the Company.



ESG Strategy and Vision

During the reporting period, given the current risks and opportunities on ESG and sustainable development, to the UN Sustainable Development Goals (SDGs) and achieve the goal of building the “world-class mining group”, Zangge learned from the world-leading ESG management operators to define the strategies covering climate change, natural resources, human capital, business ethics and transparency for the purpose of enhancing ESG management.



Materiality Assessment

Communication with Stakeholders

Upon comprehensive and systematic analysis of the internal and external impacts on operations and referring to GRI Standards and other international standards and guidelines on stakeholder communication, Zangge defined and recognized eight major groups of stakeholders including shareholders, investors, customers, employees, and suppliers while maintaining active communication and developing relevant strategies to meet their demands.

Zangge had 12 pertinent interviews with shareholders, customers, suppliers, and other stakeholders during the reporting period to have a better understanding of their problems and demands, which would be an important reference for issue evaluation.

Words from Stakeholders (excerpt):

“As a shareholder, I give my priority to the performance of the Company. I hope that the business indicators will grow better and the Company could enjoy a steady growth in medium and long term. The other is internal control and compliance. I also expect that the Company can develop a complete system and constantly enhance internal control to become stronger and more stable.”
-- From a shareholder

“We have experienced sluggish economy in 2020 when the lithium carbonate project was ongoing. However, we overcame all the difficulties and invested abundant resources in the lithium carbonate operation. Now Zangge is establishing and improving its own ESG management system, for which we will provide full assistance and participation.”
-- From a supplier

“In the people-oriented principle and spirit of contract, Zangge goes all out to the sustainable and high-quality development using abundant resources.”
-- From a client

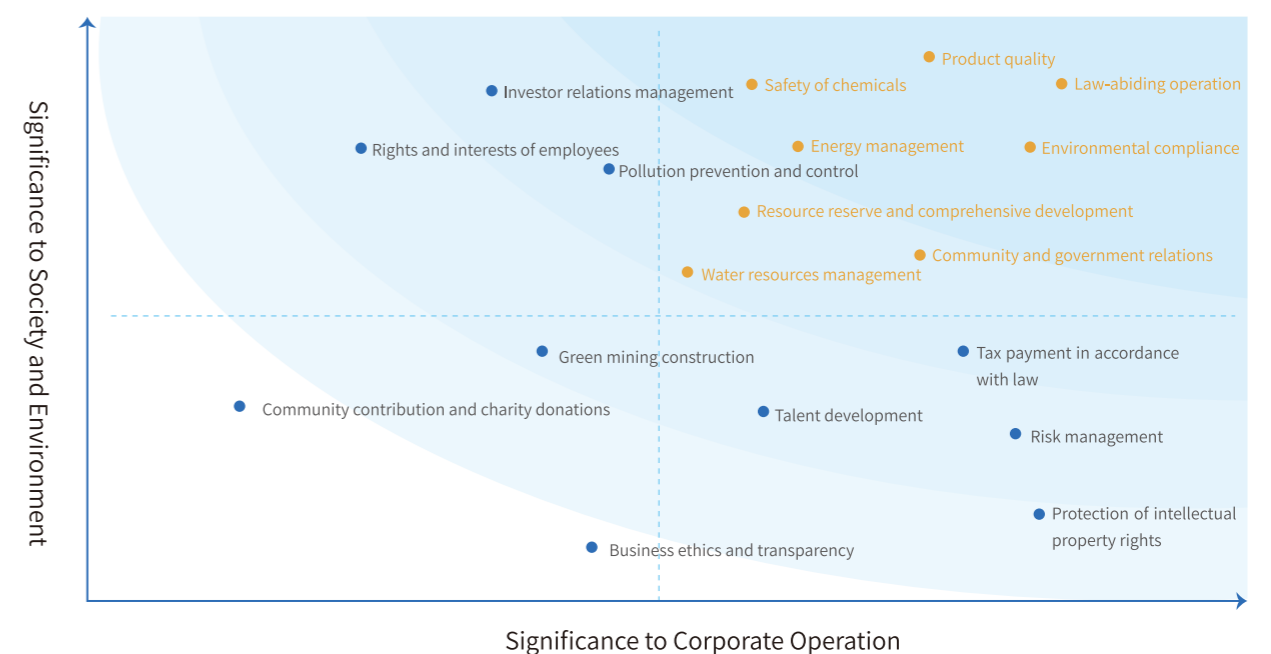
Major Stakeholder	Expectations and demands	Response of the Company
 Shareholders and investors	Economic return Business expansion Standard regulation Sustainable development	Promote business development Improve corporate governance Disclose information timely Formulate sustainable business strategies
 Clients	Product quality R&D and innovation Client service Resource stabilization Clean technology opportunities	Detect product quality Enhance R&D investment Optimize client service Conclude long-term agreement Clean technology R&D
 Employees	Protection of rights and interests Occupational health and safety Training and promotion Salary package	Conclude labor agreements Maintain product safety Improve the training and promotion systems Improve the salary incentive and welfare system
 Suppliers	Agreement fulfillment in good faith Fair, open and just purchase	Fulfill agreements pursuant to law Standardize tendering and purchase procedures Build a responsible supply chain
 Government and regulators	Compliance in operations Tax payment in accordance with law Conformance with business ethics Economic development support Employment support	Observe laws and regulations Pay taxes in good faith Keep table operations Seek local employees
 Partners	Agreement fulfillment in good faith Business ethics and transparency Innovation and R&D Occupational health and safety	Initiate project cooperation Lay emphasis on business ethics improvement Increase investment in R&D and cooperation Strengthen occupational health and safety management
 Communities	Community development Environmental protection Rational use of resources Social contribution	Apply transparent management on resources Boost community exchange Conduct green operation Hold and participate in welfare activities Make charity donations
 The mass and media	Business progress Environmental and social responsibilities	Release news Organize "Open Day" Accept media interviews

Analysis and Appraisal of Substantive Issues



Upon earnest study of the national strategies and the trends of mining and chemical industries, we identified 18 substantive issues that have significant impacts on the Company's development with reference to the substantive analysis process provided by the Global Reporting Initiative (GRI) and the standards of the Sustainability Accounting Standards Board (SASB). The Board of Directors evaluated and ranked the issues by degree of materiality from the perspectives of "materiality to sustainable development of the Company" and "influences to stakeholders", leveraging resources to tackle the most pressing issues for sustainable development.

Identification and Appraisal of Substantive Issues

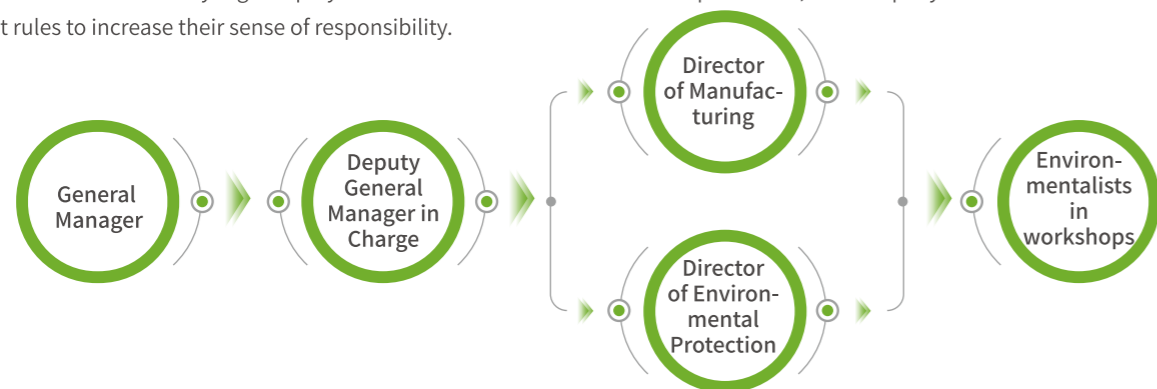


02 | Environmental Protection

Zangge Mining, a national pilot of green mining, actively shoulders the responsibility of environmental protection and develop recyclable and renewable resources and promote the development and utilization of mineral resources. While boosting the environmental protection and business development, Zangge also emphasizes the coordinated development of mineral resources and environmental protection to lead the green and sustainable growth of the industry.

Environmental Management

In the principle of “priority to protection, emphasis on prevention, integrated governance, public participation and liability assumption”, the Company, in accordance with the prevailing environmental laws and regulations of all the countries and regions with businesses under operation, has established a set of environment-related systems, including *Environmental Protection Regulation and Measures of Management on Environmental Protection Facilities*, to maintain potential environmental impacts under control. The General Manager of the Company, in charge for environmental protection, makes reports at weekly meetings for further discussion. In order to effectively urge employees to fulfill duties on environmental protection, the Company detailed incentive and punishment rules to increase their sense of responsibility.



▲ Environmental Management Structure

KPI:

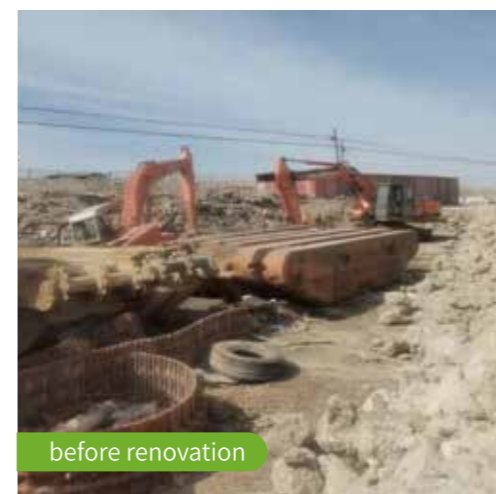
- During the reporting period, the Company released the *Environmental Protection Policy*, undertaking to coordinate the business development and environmental protection and enhance natural resources management in a responsible manner.
- The Company organized **12 meetings** for environmental management agencies/organizations.
- The Company invested **RMB1.526 million** in environmental protection.
- The Company recorded **ZERO environmental** incident caused by excessive or illegal discharge of pollutants.
- The Company registered **ZERO unforeseen** event on environment.
- The Company involved in the formulation of the group standard - *Specifications for Evaluating Green Factories in Potassium Chloride Industry* and the chemical industry standard - *Evaluation Requirements for Green Factories in Potash Salt Industry* by Chinese Industrial Co-operatives, in a bid to further strengthen the environmental protection for such industries.

Mineral Resources Management

Since 2014 when Zangge was defined as a national pilot of green mining, efforts have been made to forge green mines and develop mineral resources in a scientific and rational manner. The full utilization of precious mineral resources lays a solid foundation of resources for the sustainable development of the Company.

KPI:

- During the reporting period, the Company formulated the Implementation Plan of Geological *Environment Protection of Mines and Land Reclamation in 2022*, invested **RMB595,000** to renovate the mining area, and reduced the damages to mines arising from construction and production by means like repairing roads with salt piles.
- In 2022, the Company started to make the development plan for mineral resources every five years to keep annual output of finished potassium chloride products no less than **1 million tons** and lithium carbonate at **1 million tons** while the original brine grade remains unchanged.
- The Company set the resource recovery target pertinent to the grade of original mineral resources: the recovery rate of potassium chloride reaches **62.5%** by 2022 from **60%** in 2020, and that of lithium carbonate exceeds **95%** after technical upgrading.



before renovation



after renovation

▲ Environmental governance for green mining construction – Renovation of the areas for end-of-life vehicles

Management of mineral resources



Planning of mining area:

Upon the analysis of the existing ore dissolving canal, brine mining canal, resource endowment and ecological environment features of the mining area, the Company renewed ore dissolving plans and started exploitation in turn by closed-end in consideration of economic and social benefits to promote the healthy development of ecological conditions and mineral resources.

Comprehensive development of resources:

The Company adjusted the extraction mode of mineral resources with focus shifted from solid potash to brine potash, which significantly reduced energy consumption and waste discharge. Meanwhile, we strengthened efforts in scientific and technological innovation projects on sodium, magnesium, lithium, boron and other resources for comprehensive development and utilization.



Lower unit consumption of raw ore:

In view of the decreasing mining depth and grade of salt lake brine, the Company successfully lowered the unit consumption of carnallite by improving production technology, replacing automation equipment and purchasing salt tailings.

Higher utilization efficiency:

The Company formulated such management measures as raw brine recovering standards and raw ore sampling methods and initiated quarterly performance appraisal on raw ore, consumables, water resources and energy consumption to develop and enhance employees' awareness on efficiency. The Company continued to purchase automation equipment while optimizing accuracy control and operation to avoid waste of resources from manual operations.

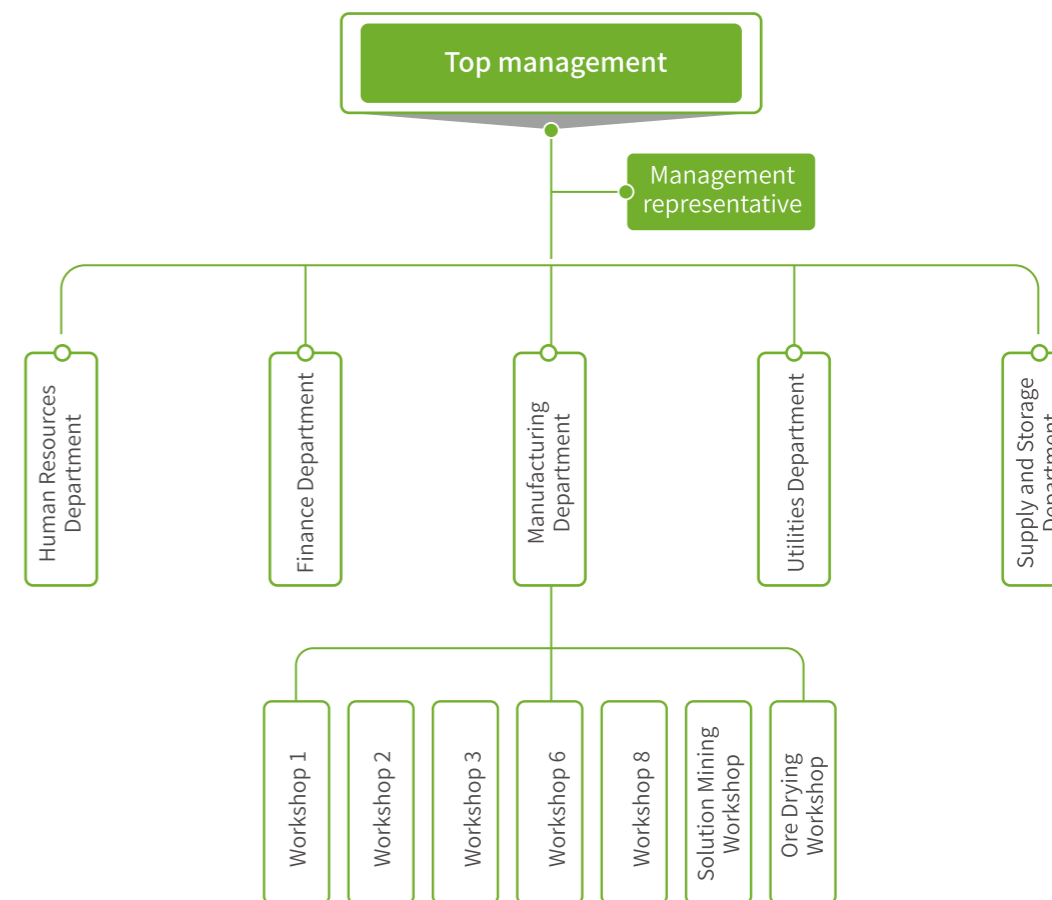


Climate Change

Confronting the opportunities and challenges on climate change, the Company adjusted and optimized the energy structure to improve energy efficiency, reduce greenhouse gas emission, and enhance the ability to address relevant risks under the national “dual carbon goals”.

Energy conservation and consumption reduction

For effective energy management, the Company formed an energy management system working group led by the General Manager in 2014, formulated the procedures like *Energy Management Regulations* and *Energy Performance Parameter Control Procedure*, and established an energy management system under ISO 50001, in order to reinforce the energy management within the Company, set a benchmark for the industry, and earnestly fulfill its social responsibilities and commitments.



▲ Organizational Structure of Energy Management



Production Energy Consumption



Note: The statistical range of the above-mentioned quantitative data is consistent with the coverage of this Report.

During the reporting period

- Organized **10** training sessions on energy management.
- Provided energy management training for **372** persons.
- Replaced solar street lamps in the factory, saving **12,960** kWh of electricity every year.
- Saved **50,447,518** kWh power every year with air source heat pumps.
- Saved a total cost of **RMB1.26** million thanks to the energy-saving projects like air compressor station cooling, heat source reuse, and afterheat utilization and transformation at lithium deposition workshops.

Under the policy of “lawful energy conservation, constant improvement, innovative development, lower cost and higher efficiency”, the Company has set the goals on energy consumption for 2022 and 2025 and implemented several projects on energy conservation and emission reduction to achieve such goals.

Energy Objectives and Accomplishment

Energy Performance Index	Energy Objectives for 2022	Actual Accomplishment in 2022	Energy Objectives and Index for 2025
Comprehensive energy consumption per unit of potassium chloride	≤ 70.49 kgce/t	56.49 kgce/t	≤ 46.71kgce/t
Natural gas consumption per unit of potassium chloride	≤ 25.58m³/t	18.49 m³/t	≤ 11.16m³/t
Electricity consumption per unit of potassium chloride	≤ 298.18kwh/t	257.25 kwh/t	≤ 245.38kwh/t
Diesel consumption per unit of potassium chloride	≤ 1.696kg/t	1.37 kg/t	≤ 1.676kg/t
Gasoline consumption per unit of potassium chloride	≤ 0.2kg/t	0.16 kg/t	≤ 0.196kg/t

Energy Management Measures



Identification of the needs and expectations of stakeholders

Upon sorting out the links of energy use in operations, the Company accurately identified ten stakeholders including partners of energy management contract, government regulators and customers. And we identified their needs and expectations as well as relevant countermeasures, such as meeting the requirements of energy quotas and reducing the energy costs, and gave a fair evaluation of the control and effectiveness of such measures.



Energy review and analysis

The Company reviewed and analyzed energy efficiency, figured out the current status of energy management, energy consumption structure and energy consumption level, and determined the opportunities of energy use and energy performance improvement.



Energy management training

In order to improve the performance of energy use and enhance employees' awareness of energy conservation, the Company organized all the department heads to participate in the training programs like the interpretation of standards on energy management system, and assessed the training contents by means of Q&A.



Energy conservation and emission reduction projects

The Company implemented several energy conservation and emission reduction projects, such as eliminating old transformers, renovating lighting system in factories, transforming heating technologies, cooling air compressor stations and reusing heat sources. During the reporting period, the Company purchased 140 energy-saving power equipment and one energy-saving natural gas equipment.



Energy management system improvement

The Company, with focus on the operation quality of the energy management system, control of energy risks, and accomplishment of the expected energy conservation and emission reduction, started to rectify relevant problems to improve the energy management system.

Carbon emission management

Maintaining strict control over CO₂ emissions for global warming alleviation, the Company compiles annual *Greenhouse Gas Emission Report* to provide statistics of emissions under different operations and total CO₂ emissions of relevant enterprises, and takes active part in formulating national standards for carbon emissions to help regulate carbon emissions of the industry.

KPI

Index	Unit	Data in 2021	Data in 2020
Total greenhouse gas emissions	Ton/ton CO ₂ equivalent	281,097	252,085
Greenhouse gas emission density	Ton/RMB' 0,000 revenue	0.78	1.32

*Note: The statistics of greenhouse gas emissions in 2022 are still not yet formed. Please refer to the follow-up report.

Water resources management

The Company set up a Steering Group for Water Conservation led by the head of Production Department and established *Water Conservation Management Regulations* and *Ecological Water Protection Regulations* to deepen environmental protection and reduce water consumption and wastewater discharge in the production process, thereby lowering operating costs in virtue of sustainable development and utilization of water resources and promoting the growth of economic and environmental benefits.

KPI

of water for production

Index	Unit	Data in 2022	Data in 2021	Data in 2020
Total water consumption	m ³	48,615,271.39	44,729,013.18	56,574,011.18
Water consumption density	m ³ /RMB' 0,000 revenue	59.33	123.47	297.21
Recycled water/reused water	m ³	47,256,915.50	43,851,981.00	56,004,424.00
Emission of chemical oxygen demand (COD)	Ton	0.1680	0.0806	0.0614
Emission of suspended solids (SS)	Ton	0.0704	0.0148	0.0085

Measures for water resource management

Ecological conservation

Under the guidelines of “overall planning, rational layout, comprehensive utilization, conversion of the harmful into the useful”, the Company takes effective measures to protect water sources, providing no destruction to vegetation, regularly testing and managing the quality of water source .

Water conservation

The department in charge of water conservation formulates annual water conservation index and plan and further details the plan and key tasks to the departments concerned for effective implementation, including water quota, water conservation promotion and education, collection of condensed water evaporated via mechanical vapor recompression (MVR), and regular inspection.

Wastewater discharge

The Company has been trying to maximize the utilization of wastewater with continuous innovation of techniques and strengthen the recycling of water resources to achieve 100% recycling of water for production. The Company also requires the temporary wastewater storage sites to take anti-seepage and containment measures prevent water pollution.

Rational intake

The Company demonstrated the water resources at Bairiqiligou and the water supply project at Galatan, Dagele Township, and analyzed the rationality of water use, conditions and impacts of water intake and other factors to better meet the reasonable demands of water for projects, provide scientific basis for water intake permit for projects, and guarantee efficient utilization and management of water resources.

Recycling

With constant technological innovation, the Company collected the exterior drainage for recycling through high-pressure reverse osmosis system with higher recovery and less consumption of fresh water, which laid the foundation for building a sustainable economic ecosphere for salt lakes.

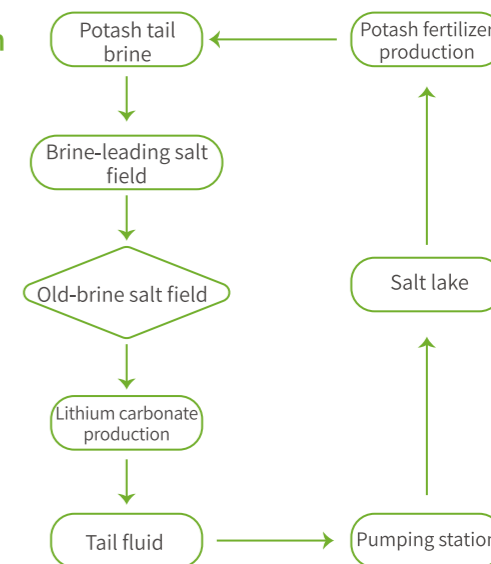


“World Water Day” and “China Water Week” activities

Case

Brine recycling to improve resource utilization

The Company utilized the tail liquid in ore dissolving with 100% recycling. The old brine discharged from potash fertilizer workshops in all mining areas are led to the old-brine salt field of lithium industry through brine diversion canal as the basis of lithium adsorption and extraction. The old brine generated after lithium extraction will return to the potash fertilizer salt field through the brine transportation canal for solid-liquid transformation, dissolving the solid magnesium, lithium and potash ore into liquid and improving brine quality. In the whole process of recycling, the Company keeps improving the ecological conditions at salt lakes while maintaining production for the growth of both economic and environmental benefits in pursuit of civilized development.



▲ Schematic diagram of tail fluid recycling

Waste Management

For higher efficiency of environmental governance of “three wastes”, the Safety and Environmental Protection Office in charge of supervision and management of waste gas, wastewater and solid waste control equipment takes effective measures to reduce waste emissions, thereby lifting the capability of environment governance.

Waste management

Waste gas



- The Company uses bag collectors to recover hydrogen chloride gas and converts it into dilute hydrochloric acid as flotation reagent for reusing.
- Whilst strictly controlling the emission of nitrogen oxides, the Company has been managing the emission of particulate matters with the help of cyclone, water bath and cloth bag dust removal equipment, with filtration rate of dust particles from waste gas reaching 98%.

Solid waste



- The Company set fixed sites for discharging tail salt and used tail salt to build dams. The Company also built salt-leaching workshops to improve the utilization of potassium resources.
- The plastic woven bags for sodium carbonate were transferred to the qualified third party for disposal, so as to avoid waste stacking and achieve 100% recycling.



▲ Cyclone, water bath and cloth bag dust removal equipment



03 | Communities and Humanistic Care

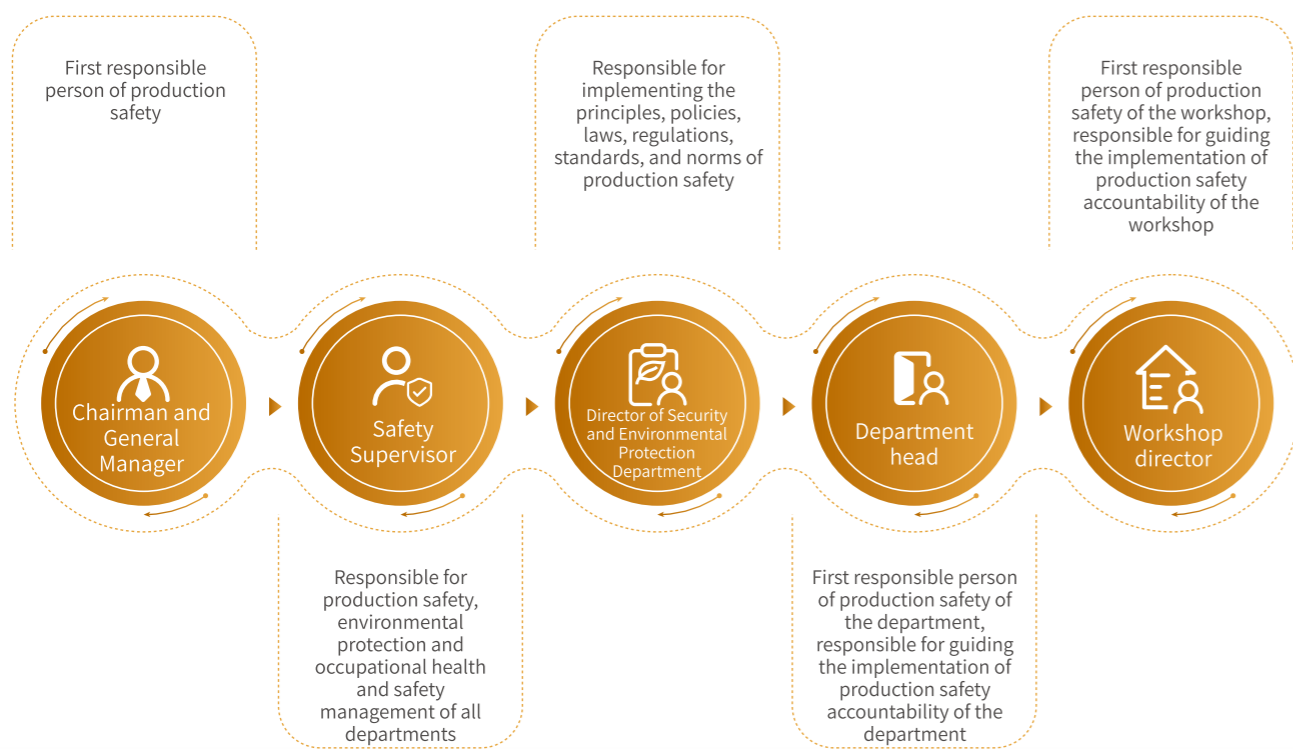
Since its establishment, Zangge has been standing fast to its social responsibilities in pursuit of “serving the society with great dedication” and endeavoring to provide decent jobs for employees to satisfy their demand for a better life, while seeking coordination among employee development, community construction, and corporate growth.

Occupational health and safety

Occupational health and safety is a major social responsibility and important foundation for the sustainable operation of the Company. The policy of "safety first, focus on prevention, and integrated control" guarantees safe and reliable working conditions for employees.

Production safety management system

On the deep-rooted concept of safety development, Zangge gives the safety of employees the top priority. By establishing and perfecting the safety production system and continuously investing resources, Zangge shoots for the health and safety of all the employees.



▲ Flow Chart of Safety Production Accountability at Zangge Potash Fertilizer

Rules and regulations

Zangge introduced and constantly improves safety production related systems in accordance with the *Production Safety Law of the People's Republic of China*, *Law of the People's Republic of China on the Prevention and Control of Occupational Diseases*, and safety production standards, and completed the revision of the *Production Safety Management Regulations of Golmud Zangge Potash Fertilizer Co., Ltd.* during the reporting period. In line with the production safety management regulations, Zangge takes such measures as safety agreement, performance appraisal, and awareness enhancement to build a defense line for safeguarding employees.

Organization

Zangge set up the Safety Production Committee, and defined the General Manager, department head and workshop director are the first responsible persons for safety production at respective level. Safety and Environmental Protection Office is responsible for the implementation of production safety accountability in coordination with the departments concerned as per the production safety plan and requirements.

Safety investment

Zangge organizes annual physical examinations and occupational disease examinations for employees and renews labor protection articles for employees per month, including dust masks, goggles, labor protection shoes, electric welding gloves, and ear protectors. Each employee of production is given a labor protection card that specifies the labor protection articles required for the work.

Safety risk prevention and control

The Company constantly improves the mechanism of safety risk grading control and potential risk investigation, management and prevention, and regularly organizes safety drills to improve employees' ability against disasters; prepares emergency plans and procedures for production.

Measures of safety risk prevention and control

Risk prevention

- The Company formed and maintains an emergency team and formulated emergency plans, such as wearing eye washers and purchasing anti-corrosion fiber-reinforced plastic (FRP) and storage tanks for hydrochloric acid, and installing anti-leakage equipment.
- The Company continuously strengthens the management of hazardous chemicals, installing surveillance equipment to monitor the storage and use of hydrochloric acid around the clock in the collaboration with public security organs.

Risk identification

- The Company keeps identifying and evaluating hazard sources and classifying risks by four grades in different colors.

Risk elimination

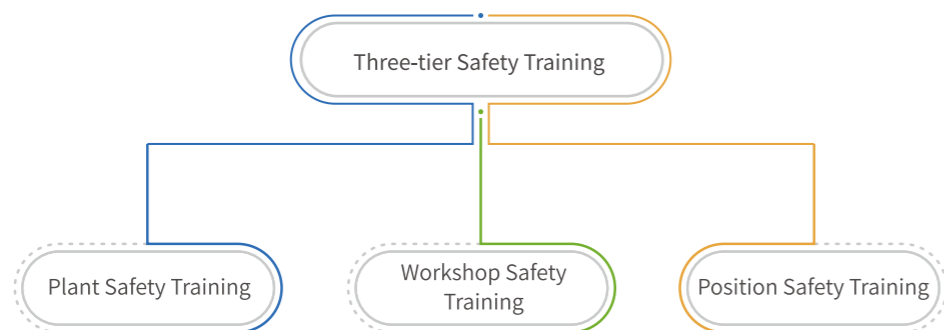
- The Company conducts potential risk identification on weekly basis to avoid risks from production.
- Under closed-loop management, the responsible person(s) must identify and rectify with signature any problem detected by the safety officer who is responsible for the review and recognition of the rectification.

Safety awareness enhancement

Being "serious as usual, strict as always and insistent as routine", the Company conducts quarterly safety assessment for each department and workshop and links safety production to performance, in order to further strengthen the safety awareness of all departments and workshops . In addition, the Company concluded the *Production Safety Management Agreement* with the outsourcing companies, require them to pay the production safety deposit to further reinforce safety awareness for production.

Safety training

Zangge has organized various training programs to strengthen the safety capability of employees, such as the orientation training lectured by senior executives, regular in-service training, daily release of warning videos, safety quiz shows and forums. At the same time, the Company organized all construction units to participate in safety training to further create a good atmosphere of safety production.



▲ Three-tier Safety Training



▲ Orientation training for new employees at Zangge Lithium



▲ Production safety training at Zangge Potash Fertilizer



Troubleshooting

The Company has established a two-tier prevention mechanism featuring regular investigation and elimination of potential risks from high-risk areas, and implemented the "double investigation" mechanism for such hidden risks as hazardous chemicals leakage, electric shock and drowning to urge timely and promptly rectifications. The department in charge inspects the accommodation areas of the Company and the construction units for any potential risks in the use of electricity and gas, and requires all the teams to report the potential safety hazards in the workplaces each month to enhance employees' vigilance on hidden risks.



Emergency drills

For improving employees' response to safety emergencies, the Company set an emergency organization system at the levels of the Company and workshop with regular updated emergency plans. Moreover, the Company also organizes production units to hold emergency drills on CPR, fire control, and etc. The Company supplies emergency resources as needed, and checks the effectiveness of on-site solutions twice a year to effectively safeguard employees.



▲ Emergency drills at Zangge Lithium


Staff management

In the principles of equality, justice and compliance, the Company integrates human resources and business to build a competitive salary and performance evaluation system to further enhance the management ability of employees.

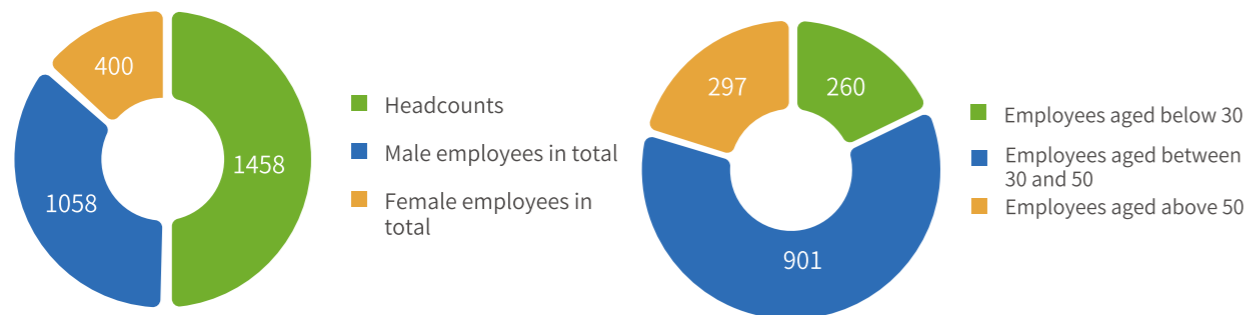
Compliance in employment

Zangge, in strict accordance with *Labor Law of the People's Republic of China* and other national laws and regulations, formulated employee management policies such as the *Management Regulations on Recruitment* and *Internal Transfer Regulations*, in order to deeply implement the concept of compliant employment and continuously build harmonious labor relations.

The Company upholds the philosophy of equality, diversity and inclusion, anti-discrimination, gender equality, and prohibition of child labor. We make every effort to safeguard the legitimate rights and interests of employees, such as purchasing social insurance and housing funds for employees, applying national requirements on standard working hours, and providing statutory holidays as stipulated by law.

 The Company was recognized by the Department of Human Resources and Social Security of Qinghai Province as Class-A Enterprise of Law-abiding and Integrity in Labor Security.

KPI in 2022



Employees with disability **14 Person**

Note: The data on the table above is sourced from Zangge Mining Co., Ltd., Golmud Zangge Potash Fertilizer Co., Ltd., and Golmud Zangge Lithium Co., Ltd.

Incentive and welfare

The Company formulated the *Salary Management Measures*, *Management Measures on Performance Appraisal and Salary for Senior Executives*, and other regulations, and developed a salary structure integrating work performance, measurement, annual salary, and special remuneration. During the reporting period, the Company objectively and comprehensively evaluated the contribution of each employee by the International Position Evaluation (IPE) System to flexibly adjust the salary, and fully motivated employees with variable compensation system and employee stock ownership. The Company also established a performance communication and reporting mechanism to guarantee the fairness and transparency of the performance appraisal.

In 2021, to further stimulate the sense of identity and belonging of managers and key technicians, the Company launched the employee stock ownership program (Phase I) to further enhance welfare and unity of employees, and share the fruits of corporate development with employees

Employee welfare



- The Company provides employees with free accommodation and meal subsidies for daily life.
- The Company provides holiday benefits to employees, such as the gifts and supermarket coupons for female employees for the Women's Day.



- The Company provides reading rooms, bookstores and a party-mass activity room for employees.
- The Company provides public spaces for recreation, such as basketball courts, billiards rooms and table tennis rooms.



- The Company conducts satisfaction surveys among employees regularly to clarify their demands for better services on work and daily life.

Talents Training

To “make talents the backbone for corporate development”, Zangge has formulated annual training programs for employees in accordance with the *Management Measures of Employee Career Development and Training Management Measure*.

Zangge constantly optimizes campus and social recruitment process and enhances talents training with increasing investment in all business sectors by providing appropriate paths and sufficient space of career development on management, professionalism, technique, marketing, and operation.



Community Relations

In pursuit of “serving the society with great dedication” and guided by the tenet of “supporting those in need and serving the public for a better world”, Zangge is actively building a relationship with communities for mutual benefits with contributions to rural revitalization, education and targeted poverty alleviation.

Support COVID-19 control at Golmud

Since the major businesses are operated in the areas of weak economy and insufficient infrastructure, the Company, regardless of the outbreak of pandemic, actively fulfilled its corporate responsibilities to tide over difficulties with communities.

The Company strictly observed the requirements issued by Golmud Command Center for COVID-19 Prevention. A group of 73 volunteers, including party members, cadres and other staff, threw themselves in the pandemic prevention for communities and factories, and RMB2 million was also donated to the Red Cross Society of Golmud.



▲ Volunteers from Zangge to support COVID-19 prevention



▲ Volunteers from Zangge to support COVID-19 prevention in communities

Rural revitalization

The Company over the years has made great donations for targeted poverty alleviation for villages and towns, while providing public services in communities to achieve shared growth in building a beautiful home.

Major social welfare activities of Zangge in 2022

- In response to the strategy of “100 Enterprises Supporting 100 Villages”, Zangge concluded an assistance agreement with Xinhua Village, Guolemude Town, Golmud, donating **RMB 250,000** for village renovation and **RMB 13,000** to villager Menggen as a subsidy for damages.

- Zangge donated **RMB 1 million** to Datong County through the Red Cross Society of Qinghai Province to support the victims from the flood.



- During the reporting period, Zangge donated **RMB 2 million** to the Red Cross Society of Golmud to support the fight against COVID-19.

- Zangge organized employees to volunteer for Golmud section of the “Tian You De Cup” the 21st Tour of Qianghai Lake 2022, and donated **RMB 150,000** to purchase special masks.



Zangge donated RMB1 million to the 18th Sports Games of Qinghai Province and the Fourth International Fitness Conference of Qinghai Province through the Red Cross Society of Qinghai Province, and sponsored the track and field events at the two events.

04 | Value Creation

An efficient value creation system lays a solid foundation for listed companies to boost the sustainable development of the society. Any enterprise needs an up-to-date governance system and trustworthy products to earn the future. While constantly enhancing corporate governance and regulation and strengthening innovation and R&D, based on the cooperation with peers from upstream and downstream, Zangge strives to promote industrial development with safe and high-quality products to contribute to the society.

Corporate Governance

A scientific and standard corporate governance system is of significance to improve corporate value. The Company continuously optimizes corporate governance structure and system and reinforces compliance and risk prevention for efficient and standardized operation.

Governance structure

In strict compliance with the *Company Law of the People's Republic of China*, *Securities Law of the People's Republic of China*, *Code of Corporate Governance for Listed Companies* and *Articles of Association*, Zangge established a governance structure consisting of general meeting, Board of Directors and special committees, Board of Supervisors and senior management. The Board of Directors rules four special committees: Strategy Committee, Nomination Committee, Audit Committee, and Remuneration and Appraisal Committee. Zangge also developed the *Code of Conduct for Directors, Supervisors and Senior Executives* to motivate the managers to enhance the legal and modern enterprise management awareness. A well-established corporate governance structure helps protect shareholders' rights and interests and enhance corporate value.

During the reporting period, Zangge revised and updated 15 governance regulations, including the working rules for professional committees under the Board of Directors, and compiled *Procedures for General Meeting*, *Instructions for the Board of Directors*, *Instructions for the Board of Supervisors*, and *Instructions for Special Committees under the Board of Directors*, for the purpose of further enhancing corporate governance.



Meetings on corporate governance

Meeting of the Board of Directors 8 times	Meeting of the Board of Supervisors 7 times	General meeting 3 times	
Meeting of the Strategic Committee under the Board of Directors 1 times	Meeting of the Nomination Committee under the Board of Directors 3 times	Meeting of the Remuneration and Evaluation Committee under the Board of Directors 2 times	Meeting of the Audit Committee under the Board of Directors 3 times

Internal control and compliance management

Compliance is the lifeline for the long-term growth of a company. During the reporting period, the Company systematically revised its rules and regulations with a focus on strengthening corporate governance, updating the work rules for executives and adjusting the management methods of development strategies. Under the leadership of the new management, the Company continued to strengthen the construction of internal control system and enhance risk prevention and control capability.

Compliance management



In accordance with the *Basic Norms for the Internal Control of Enterprises* and *Supporting Guidelines for Internal Control of Enterprises*, Zangge established such internal control regulations as *Management Measures on Internal Control Evaluation* and *Management Rules for Internal Audit Management* and optimized the core links of operations for more efficient internal management in compliance with law.

In 2022, Zangge revised 18 internal control rules and procedures to further standardize and institutionalize internal organization and management.

Compliance and internal management procedures



Prevention

- The Company keeps optimizing compliance rules and procedures as needed for business operation and suggested by internal departments.
- The Company continues to improve SAP-centered information system to cover all the businesses.
- The Company compiles internal control documents for core business flows concerning safety, environmental protection, and product quality to strengthen the awareness of internal control among all employees by setting control objectives and defining control frequency and departments in charge.
- The Company provides training on organization and management for the personnel in charge of compliance and control for a greater proficiency.

- The Company monitors and inspects capital and financial activities each month to identify compliance-related risks.
- The Company appoints a professional third party for auditing to further intensify compliance management.
- During the reporting period, the Company conducted daily audits of the Group and subsidiaries to urge reforms for compliance management.



Audit



Rectification

- The audit results are timely reported to the Board of Directors and senior executives that offer opinions and suggestions, of which the department(s) in charge will monitor the implementation.



Business Ethics and Anti-fraud



Zangge set the Audit Committee for evaluation and Audit Department for administration of business-related issues in strict accordance with the *Company Law of the People's Republic of China*, *Anti-Unfair Competition Law of the People's Republic of China*, and relevant laws and regulations and in the principle of "fair competition and anti-corruption". In daily management, Zangge requires anti-fraud training and education on laws, regulations and integrity ethics for new employees, and enhances employees' moral awareness and standardizes their professional behavior by tools such as employee handbooks, training and publicity.

KPI

- Zangge properly settled two complaints received during the reporting period through data collection, investigation and evidence collection, and review by the Management.
- During the reporting period, no lawsuit related to corruption and bribery was recorded.

Reporting and settlement flow of Zangge Mining

Reporting

Hotline: 0979-8950668

E-mail: liangwenke@email.zanggekuangye.com

Handling of reports and complaints

- **Report received:** The General Manager's Office accepts the report, and the Audit Department assists in the investigation if necessary;
- **Investigation completed:** Several departments work together to deal with violations: making decisions on personnel involved and urging the departments concerned to optimize management process while protecting the reporter(s).
- **Handling completed:** The handling result is confirmed with the reporter (s), and, if necessary, report to the Labor Dispute Mediation Committee of the labor union for further processing.

Risk management

Risk management is a key to the steady operation of a company. By scientific methods and processes, Zangge actively conducts risk identification, assessment and response to improve the capability of risk management and control.

Risk management process



Risk prevention

- The Company adopts the risk management policies balancing risks and benefits for effective risk management.
- The Company formulated the *Letter of Responsibility for Internal Control and Risk Management Objectives* that specifies the objectives for all employees, with an aim to enhance employees' vigilance and awareness to risks.
- The Company provides risk control guidance and training programs on procedures, methods and measures for subsidiaries to hoist the resistance against risks.

Risk recognition and assessment



- The Company established the *Management Measures for Risk Assessment* that defines the basic procedures for setting objectives and identifying and analyzing risks.
- The Company comprehensively sorts out the approval process of each department, and recognizes and defines the risks in each business process through interviews, case analysis and professional consultation.
- The Company applies professional tools and methods like 9-box grid, questionnaire, and expert review for risk assessment and classifies risks as critical, important, and general.

Risk response



- With classified management, several departments join hands to guarantee the effectiveness of risk management.
- The Company forms a "risk control matrix" with definite risk response measures as reference for all the departments in daily management.

Information disclosure and investor relations

The Company maintains close communication with shareholders, investors and other stakeholders, and safeguards the right of shareholders to know, supervise and participate from multiple channels and in a responsible manner pursuant to *Articles of Association* and *Management Regulations of Company Information Disclosure* for the purpose of a higher transparency in business operations. During the reporting period, the Company actively participated in the training of the China Association for Public Companies and other institutions and the Reception Day for Investors by Qinghai Bureau of China Securities Regulatory Commission, organized online and offline investor researches, and made timely replies to investors at irm.cninfo.com.cn. In addition, the Company held earnings presentations with the assistance of Yuediaoyan to strengthen management over investor relations, and established a management system consisting of WeChat official account, Mini-program and websites to help investors acquire information about the Company, thus gaining more credit amongst investors.

KPI

Information disclosure

On-site investigations by institutional investors
6 times

Communication with investors/potential investors like institutional shareholders and public funds
41 face-to-face talks **30** online talks

External reports
8 reports

Temporary announcements
127 reports

Phone calls from investors
221 times

Value Chain Management

To offer high-quality products and services, Zangge has been strengthening the management in the whole process from raw materials to product delivery for sustainable purchase and development while improving R&D innovation and quality assurance and optimizing customer service. Zangge works with partners to promote industrial development and bring more benefits to the industry, the country, and the global community.

Supply chain management

As a supplier of mineral products, Zangge strives to achieve sustainable supply chain management by constantly improving the management system with focus on risk prevention and promoting suppliers to fulfill their social and environmental responsibilities. Zangge is also working with partners to create a sunny and green supply chain towards a win-win outcome.

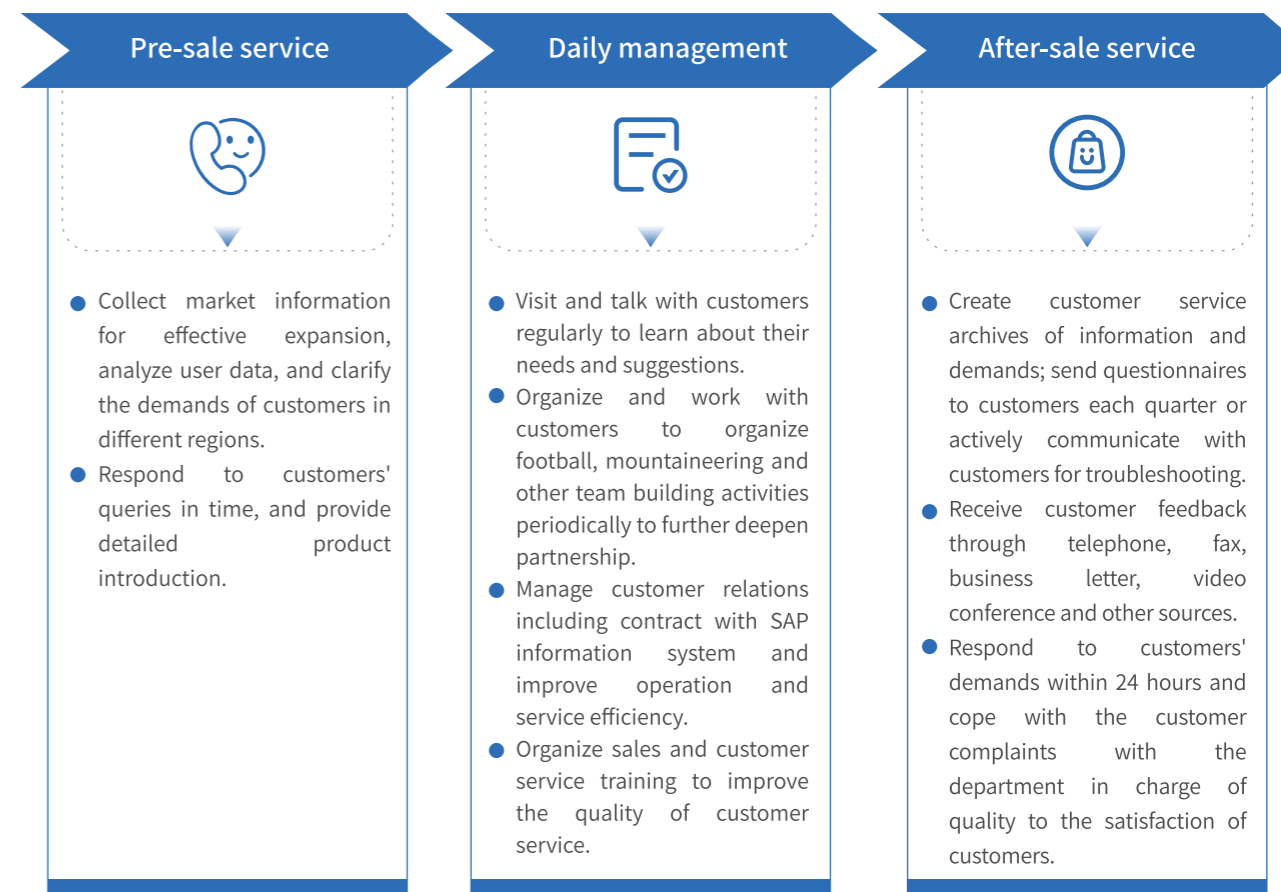
Building a sustainable supply chain


 <h4>Responsible purchasing</h4> <ul style="list-style-type: none"> The Company regulates purchase procedures with <i>Purchase Management Regulations</i> and <i>Bidding Management Regulations</i> in the principles of openness, fairness, and impartiality, and sets up a bidding committee with the General Manager as the director to ensure the standardization of purchase procedures under a clear management system. The Company organizes training for purchasing staff to enhance the sense of responsibility and proficiency. 	 <h4>Supply chain management</h4> <ul style="list-style-type: none"> The Company formulated <i>Supplier Management Regulations</i> that clarifies the management process and requirements of supplier investigation, review, and performance evaluation. The Company arranges personnel to examine and investigate suppliers on samples and test reports to select appropriate suppliers, and has established a List of Qualified Suppliers. The Company applies classified management to suppliers from various aspects, especially quality and environmental effects of materials. The Company annually evaluates all the suppliers to verify their operations and update the suppliers' files to keep information effective. 	 <h4>Risk control</h4> <ul style="list-style-type: none"> The Company adopts classified management of raw materials, and takes measures for essential materials (Class A) to ensure supply continuity. The Company details the violations in the process of purchase, and forms punishment documents to regulate employees' behaviors and minimize the risks of fraudulence in purchase and supply chain management.
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Customer service

Zangge has launched the *Customer Management Regulations* and *Procedures for Measuring Customer Satisfaction* to further improve customer service and complaint response management, and maintains efficient communication with customers to better satisfy their demands.

Customer service flow




KPI

Customer Service

Number of complaints from customers 0 times	Customer satisfaction 100%	Negative events due to customer health and safety 0 event
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Product Liability

Product innovation and high quality guarantee the sustainable development of a company. Zangge, focusing on product, technology, and process innovation, seeks cooperation with other enterprises to improve the product quality management system for the low-carbon and sustainable development of the society with high-quality products.

Technological innovation

Zangge, under the strategy of "comprehensive development with focus on potassium", undertakes R&D towards high added value, high technical content, and low competitiveness and constantly improves the innovation management system by multi-pronged approaches.

KPI

The Company independently developed and completed the project of *Industrialization Research on Extracting Lithium from Ultra-low Concentration Brine to Prepare Battery-grade Lithium Carbonate*, which proposes the world's first one-step approach to purify battery-grade lithium carbonate from ultra-low concentration brine regardless of the extraordinary challenge among the globe. It is a great stimulus to advance salt lake lithium extraction technology in China and a great achievement to the green development of the industry and society.

Innovation vitality stimulation

01 R&D management enhancement

- The Company established a number of R&D management regulations like *Management Rules on Project Research and Development and Measures of Performance Appraisal and Incentive for R&D Personnel* to inspire employees and increase earnings to the Company.
- The Company set a specific R&D management structure featuring "General Manager-Chief Engineer-Department in Charge of Technological R&D", and strives to introduce professional and technical talents with the support of R&D laboratories to complete the R&D system.
- The Company organizes regular/irregular reporting on projects and R&D issues on latest technologies and R&D progress.

03 Greater innovation for greater results

- The Company increased investment in R&D to solve technical problems in production, and developed a "process package" from pilot testing and R&D flows to make full preparations for future projects.
- The Company took active part in the preparation of industry standards and reports by means of data provision and on-site investigation. During the reporting period, the Company participated in the formulation of the group standard - *Specifications for Evaluating Green Factories in Potassium Chloride Industry* and the chemical industry standard - *Evaluation Requirements for Green Factories in Potash Salt Industry*.
- The Company deepened cooperation with outstanding enterprises and research institutes at upstream and downstream of the industrial chain and joined national and provincial science and technology projects to contribute to industrial development.

02 Building of innovation culture

- The Company organized external and internal training to improve the proficiency of R&D personnel and actively participated in technical exchanges on the latest R&D achievements and industrial trends.
- The Company set reward mechanism to encourage employees to brainstorm for new ideas and methods for R&D and innovation.

04 Protection of intellectual property rights

- The Company developed the *Management Measures on Intellectual Property Rights* and concluded non-disclosure agreements with core technical staff to safeguard R&D achievements.
- The Company sought professional advises from external institutions for timely detection of potential infringements and audited intellectual property measures to maintain the compliance of intellectual property management.

Case

Centrifugal extraction technology

Since lithium has been widely applied in the sectors of new energy vehicle (NEV), aerospace, energy storage, and electronic consumption, it becomes a challenge to the industry to improve resources recycling and reduce cost in the preparation of lithium carbonate.

Zangge Lithium independently developed a new centrifugal extraction technology to directly extract lithium from the sinking lithium liquor with extraction rate exceeding 95%. The rate of impurity removal is over 90%, and the purity of lithium carbonate is above 99.5%.

The Company has overcome the difficulties in large consumption of chemical reagents and redundant impurities with such technology featuring automatic operation with less cost in manpower and building and higher efficiency in extraction. It is of great significance for the development of both the lithium and new energy sectors.



▲ Pilot test equipment for centrifugal extraction

KPI

Innovative R&D

R&D investment	Total number of patents applied	Total number of effective patents	Number of copyrights
20.5367 million yuan	16 Piece	11 Piece	4 Piece

Product quality

Under the policy of "care for customers with higher quality; all involvement for continuous improvement; greater value for a better society", Zangge established a sound quality management system to improve product quality and performance.

Zangge also formulated the *Quality Management Regulations*, *Control Procedures on Corrective Measures*, and *Letter of Responsibility on Quality Objectives*, developed a three-level management structure led by the Deputy General Manager, while optimizing technical quality specifications via "self-improvement and self-correction" for the standardized management on quality objectives, quality standards and process control. Zangge passed ISO 9001 certification and was rated as a well-known trademark of China in 2014.

Quality management in whole process



Saltern

- The Company set a percentage of pass for raw ore resources, and conducted regular inspections to urge the workshops below the benchmark to take corrective and preventive measures.
- The Company keeps monitoring salterns in the whole process, especially the changes of brine, formed quality archives for each saltern with monthly verification.



Purchase

- The Company compiled the *Regulations on Incoming Material Acceptance* to define the quality standards of purchased materials.
- The Company carried out annual statistics and evaluation of the quality of incoming materials as the reference for qualified suppliers, thus fundamentally improving the quality of raw materials.



Manufacturing

- The Company set the key indicators for manufacturing and optimizes the process quality control.
- The Company recognized the potential quality problems via self-inspection, re-inspection and reporting for inspection to identify potential risks of product quality on weekly basis for quality assurance.
- The Company made annual statistics and analysis on quality objectives (percentage of pass and defective rate), conducted quarterly performance appraisal, and rectified the products or production process that failed to meet control requirements.
- The Company formulated the management measures for chemicals to avoid the use of toxic chemicals and controlled the use of hydrochloric acid and other chemicals through index assessment to guarantee product quality and safety.



Sales

- The Company established the *Ex-warehousing Acceptance Regulations* to guarantee the quality of products at the time of ex-warehousing and delivery.
- The Company invited customers to evaluate the production information like packaging, content, weight and logo to promote the product quality.
- The Company conducted annual internal audit for problems on products and implementation to strengthen quality management.

Case

Application of information technology to improve quality management efficiency

Given the lengthy management line for potassium chloride products, in order to improve management efficiency, Zangge has made great efforts in digital transformation, integrating information technology into product quality management.

During the reporting period, Zangge invested nearly RMB350,000 in "Quality Traceability Card", an information tool to track product quality with the unique packaging code. It can facilitate the response and solution of quality-related problems reported by customers.

Information technology supports product management

Product quality tracking: The packaging code helps track quality problems at production link, time, or workshop and the location of crux, making it an efficient support for quality improvement.

Workshop process quality tracking: System parameters for different flows are established to monitor the whole process for adjusting bias data to prevent quality problems.



▲ A digital "unmanned workshop" of Zangge Lithium under the Master Control Room effectively reduced labor costs and improved production quality.

KPI

Product quality assurance

Percentage of pass **99.89%**

Product recall **0 event**



OUTLOOK FOR 2023

Given the uncertainties amid social development in 2023, Zangge will move forward with the society under the sustainable development strategy.

Scientific and efficient governance for compliance management.

Zangge will continue to optimize internal control and risk prevention mechanism under compliance management; perfect the ESG governance system to create greater value for all stakeholders.

Comprehensive resource utilization to lead industry development.

Zangge will seize the opportunities of new energy sector and circular economy to boost the development of new technologies, new processes and new products, while maximizing the utilization of salt lakes. Zangge will go all out to boost digital transformation for the sustainable management of mineral resources.

Low-carbon development in response to climate change.

Zangge will continue to complete the environmental management system, regulate the energy use while strengthening pollution prevention and control, further apply energy conservation and emission reduction in all operations including green mining construction to support the “dual carbon goals”.

Modern talent system for a better future.

Zangge will continue to support talents to fulfill its social responsibilities with more comfortable working and living conditions, while bringing more benefits to communities as a responsible corporate citizen.

Continuous efforts to create a promising future.

Zangge in the new year will continue to forge ahead towards the goal of becoming a world-class mining enterprise with remarkable contributions to the sustainable future.

KPI on Sustainable Development performance

Economic performance

Index	2022	2021	2020
Operating revenue (RMB' 0,000)	819,391.35	362,259.43	190,348.71
Net profit attributable to shareholders of listed company (RMB' 0,000)	565,487.29	142,733.99	22,888.75
Basic earnings per share (RMB)	3.57	0.73	0.11
Total assets (RMB' 0,000)	1,353,645.99	1,062,452.03	867,763.86
Asset-liability ratio (%)	10.44	11.02	8.76
Weighted average return on net assets (%)	50.09	16.39	2.93
Income tax (RMB' 0,000)	93,813.68	26,758.27	7,855.13

Environment performance

Index	2022	2021	2020
Number of meetings by environmental management institutions/organizations (times)	12	8	5
Total investment for energy conservation (RMB' 0,000)	126	93	70
Total investment in pollution prevention and control (RMB' 0,000)	10	10	10
Coverage of environmental protection training on employees	100%	100%	100%
Number of environmental punishments due to excessive or illegal discharge of pollutants	0	0	0
Amount of environmental punishments due to excessive or illegal discharge of pollutants	0	0	0
Number of environmental emergencies	0	0	0
Emission of ammonia nitrogen (ton)	0.0264	0.0136	0.0048
Phosphorus in total (ton)	0.0006	0.001002	0.0004
NOx emission (ton)	6.7558	14.7172	5.8622
SOx emission (ton)	0.0741	0.1304	0.181
Emission of particulate matters (ton)	22.0512	41.2558	128.3350
Discharge of non-hazardous waste (ton)	8	6	5
Density of non-hazardous waste discharged (ton/RMB 0,000 revenue)	0.00001	0.00001	0.00003
Discharge of hazardous waste (ton)	0	0	0



Society performance

Index	2022	2021	2020
Staff management			
Total number of employees	1,458	1,330	1,310
Total number of male employees (person)	1,058	960	940
Total number of female employees (person)	400	367	370
Number of employees aged below 30 (person)	260	242	263
Number of employees aged between 30 and 50 (person)	901	827	809
Number of employees aged above 50 (person)	297	261	238
Number of foreign employees (person)	438	395	392
Number of employees with disability (person)	14	14	13
Total staff turnover rate (%)	21	22	10
Turnover rate of backbone (%)	0	0	0
Supply chain management			
Number of suppliers	614	497	/
Production safety			
Number of safety incidents	0	1	0
Number of employees injured or dead for work-related causes (person)	0	0	0
Number of working days lost due to work-related injuries	0	365*	0
Production safety fund (RMB' 0,000)	4,018	2,432	2,460
Number of employees receiving occupational disease examination (person)	85**	868	1,009
Total investment in safety training (RMB' 0,000)	18.6	17	14
Duration of safety training (hour)	94	94	90
Coverage of safety training (%)	100%	100%	100%

Note: The statistical range of the above-mentioned quantitative data is consistent with the coverage of this Report.




*: An employee is unable to continue his original work due to work-related injury, and the Company arranged another suitable position for him with proper compensation.




** : Zangge Potash Fertilizer in 2022 failed to organize occupational disease examination for employees due to macro control.

Report Index

Report Framework	GRI Standards	SASB	SDGs
About this Report	2-2: Entities included in the organization's sustainability reporting (from GRI 2: General Disclosures 2021) 2-3: Reporting period, frequency and contact Point (from GRI 2: General Disclosures 2021)		
Chairman's Statement	2-11: Chair of the highest governance body (from GRI 2: General Disclosures 2021) 2-22: Statement on sustainable development Strategy (from GRI 2: General Disclosures 2021)		
KPI Highlights of Sustainable Development	201-1: Direct economic value generated and Distributed (from GRI 2: General Disclosures 2021) 304-3: Habitats protected or restored (from GRI 2: General Disclosures 2021)		
About Zangge Mining			
Company Overview	2-1: Organizational details (from GRI 2: General Disclosures 2021) 2-6: Activities, value chain and other business relationships (from GRI 2: General Disclosures 2021)		
· Corporate Culture			
· History			
· Honors & Awards			
ESG Management			
· ESG Management Structure	2-12: Role of the highest governance body in overseeing the management of impacts (from GRI 2: General Disclosures 2021) 2-13: Delegation of responsibility for managing impacts (from GRI 2: General Disclosures 2021)		
· ESG Strategy and Vision	2-22: Statement on sustainable development strategy (from GRI 2: General Disclosures 2021)		

Report Framework	GRI Standards	SASB	SDGs
· Materiality Assessment	2-14: Role of the highest governance body in sustainability reporting (from GRI 2: General Disclosures 2021) 2-29: Approach to stakeholder engagement (from GRI 2: General Disclosures 2021) 3-1: Process to determine material topics (from GRI 3: Material Topics 2021) 3-2: List of material topics (from GRI 3: Material Topics 2021)		
Environmental Protection			
Environmental Management	307-1: Non-compliance with environmental laws and regulations (from GRI 307: Environmental Compliance 2016) 419-1: Non-compliance with laws and regulations in the social and economic area (from: GRI 419: Socio-economic compliance 2016)	RT-CH-530a.1	
Mineral Resources Management			
Climate Change	201-2: Financial implications and other risks and opportunities due to climate change (from GRI 201: Economic Performance 2016)	RT-CH-130a.1	   
· Energy conservation and consumption reduction	From GRI 302: Energy 2016 302-1: Energy consumption within the organization 302-3: Energy intensity 302-4: Reduction of energy consumption 302-5: Reductions in energy requirements of products and services		
· Carbon emission management	305-4: GHG emissions intensity (from GRI 305: Emissions 2016)		
Water resources management	From GRI 303: Water and Effluents 2018: 303-1: Interactions with water as a shared resource 303-2: Management of water discharge related impacts 303-3: Water withdrawal 303-4: Water discharge	RT-CH-140a.1	
Waste Management	From GRI 306: Waste 2020: 306-1: Waste generation and significant waste-related impacts 306-2: Waste generation and significant waste-related impacts 306-3: Waste generated		

Report Framework	GRI Standards	SASB	SDGs
Communities and Humanistic Care			
Occupational health and safety	From GRI 403: Occupational Health and Safety 2018:	RT-CH-320a.2	
· Production safety management system	403-1: Occupational health and safety management system 403-8: Workers covered by an occupational health and safety management system		
· Safety risk prevention and control	403-2: Hazard identification, risk assessment, and incident investigation 403-3: Occupational health services 403-5: Worker training on occupational health and safety 403-6: Promotion of worker health		
Staff management			
· Compliance in employment	2-7: Employees (from GRI 2: General Disclosures 2021) 405-1: Diversity of governance bodies and employees (from Diversity and Equal Opportunity 2016)		
· Incentive and welfare	201-3: Defined benefit plan obligations and other retirement plans (from GRI 201: Economic Performance 2016) 401-2: Benefits provided to full-time employees that are not provided to temporary or part-time employees (from GRI 401: Employment 2016)		
Talent training	404-2: Programs for upgrading employee skills and transition assistance programs (from GRI 404: Training and Education 2016)		
Community Relations		RT-CH-210a.1	
· Assistance in COVID-19 control at Golmud			
· Rural revitalization	203-1: Infrastructure investments and services supported (from GRI 203: Indirect Economic Impacts 2016) 203-2: Significant indirect economic impacts (from GRI 203: Indirect Economic Impacts 2016)		
Value Creation			
Corporate Governance			
· Governance structure	2-9: Governance structure and composition (GRI 2: General Disclosures 2021) 2-12: Role of the highest governance body in overseeing the management of impacts (GRI 2: General Disclosures 2021)		

Report Framework	GRI Standards	SASB	SDGs
<ul style="list-style-type: none"> Internal control and compliance management 	205-1: Operations assessed for risks related to corruption (from GRI 205: Anti-corruption 2016) 205-2: Communication and training about anti-corruption policies and procedures (from GRI 205: Anti-corruption 2016) 205-3: Confirmed incidents of corruption and actions taken (from GRI 205: Anti-corruption 2016) 419-1: Non-compliance with laws and regulations in the social and economic area. (from GRI 419: Socio-economic compliance 2016)		
<ul style="list-style-type: none"> Risk Management 			
<ul style="list-style-type: none"> Information disclosure and investor relations 			
Value Chain Management			
<ul style="list-style-type: none"> Supply Chain Management 			
<ul style="list-style-type: none"> Customer service 	416-2: Incidents of non-compliance concerning the health and safety impacts of products and services (from GRI 416: Customer Health and Safety 2016)		
Responsibilities for Products			
<ul style="list-style-type: none"> Technological innovation 			
<ul style="list-style-type: none"> Product quality 	417-1: Requirements for product and service information and labeling (from GRI 417: Marketing and Labeling 2016)	RT-CH-410b.2	
Vision			
KPI on Sustainable Development performance	2-27: Compliance with laws and regulations (from GRI 2: General Disclosures 2021) 201-1: Direct economic value generated and distributed (from GRI 201: Economic Performance 2016) 305-7: Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions (from GRI 305: Emissions 2016) 306-5: Waste directed to disposal (from GRI 306: Waste 2020) 403-9: Work-related injuries (from GRI 403: Occupational Health and Safety 2018)	RT-CH-120a.1 RT-CH-140a.2 RT-CH-320a.1	
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Feedback

Thank you for reading this 2022 *Environmental, Social and Governance Report of Zangge Mining Co., Ltd.* In order to provide you and other stakeholders with more valuable information and enhance the capability and efficiency of the Company to fulfill its social responsibilities and sustainable development, we are expecting your comments and suggestions on this Report.



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