

2022

Meihua Holding Group Co., Ltd.

Environmental, Social and Governance Report



Contents

About the Report	02	About Us	06
Chairman's Message	04	Significant Recognitions in 2022 Our Sustainable Development Strategy ESG Performance in 2022	07 08 10
01 ESG Governance		02 Leading Product	
ESG Statement of the Board of Directors	14	Quality Management and Control	24
ESG Management	16	Work Safety	28
Stakeholder Engagement	18	R&D and Innovation	32
Business Ethics and Anti-corruption	20	Customer Service	33
O3 Co-development with Employees		O4 Addressing Climate Change	
Human Rights Protection	36	Governance	44
Employee Incentives	38	Strategy	45
Development Training	40	Risk Management	46
	40	Metrics and Targets	47
05 Green Factory		06 Win-win Cooperat	ioi
Environmental Management	52	Sustainable Supply Chain Management	62
Water Resources Management	53	Community Engagement	65
Waste Management	54		
Recycling of Packaging Materials	58		
GRI Index	66		
Reader's Feedback	70		



About the Report

This is the first environmental, social and governance report released to the public by Meihua Holding Group Co., Ltd. It is a faithful description of the Company's operational, social, and environmental practices and performance in 2022 underpinned by the principles of objectivity, standardization, transparency, and comprehensiveness. It aims for effective communication with stakeholders and systematic responses to their expectations and requirements.



Boundary

This report covers the headquarters and all subsidiaries of Meihua Holding Group Co., Ltd. unless otherwise specified



Sources of Data

Key financial data in this report are cited from the audited Annual Report 2022 of Meihua Holding Group Co., Ltd. Other data are cited from the Company's internal documents and relevant statistics.



Period Covered

From January 1, 2022, to December 31, 2022. Part of the report appropriately traces back to historical data.



Preparation Basis

This report is prepared in accordance with the Notice of the Shanghai Stock Exchange on Strengthening Listed Companies' Assumption of Social Responsibility and Issuing the Guidelines on Listed Companies' Environmental Information Disclosure on the Shanghai Stock Exchange. It also refers to the IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information (Exposure Draft) and the IFRS S2 Climate-related Disclosures (Exposure Draft) published by the International Sustainability Standards Board (ISSB). The information cited in this report's index was reported from January 1, 2022, to December 31, 2022, in accordance with the Global Reporting Initiative (GRI) Standards.



Notes on References

In this report, for the convenience of expression and reading, Meihua Holding Group Co., Ltd. is referred to as "Meihua Group," "Company," and "we/us," and its three subsidiaries, Tongliao Meihua Biological Technology Co., Ltd., Xinjiang Meihua Amino Acid Co., Ltd., and Jilin Meihua Amino Acid Co., Ltd., as the "Tongliao Base," the "Xinjiang Base," and the "Jilin Base," respectively. "Yuan" is the unit of CNY unless otherwise specified.



Cycle

This report is an annual report.



Access

The report is released in both print and online versions. The online version in Chinese and English is available to be browsed and downloaded on the following websites:

The official website of Meihua Group (www.meihuagrp.com):

The website of the Shanghai Stock Exchange (www.sse.com.cn).

For any questions or suggestions, please send an e-mail to mhzqb@meihuagrp.com or call +86 0316-2359652.



Chairman's Message

Meihua Group has transformed from a start-up in the monosodium glutamate (MSG) industry with a base in Hebei to a global leader in amino acid nutrition and health solutions, from a single product structure to a comprehensive and diversified industrial presence. The spectacularly high-speed development has demonstrated the company's great progress in the past twenty years. To respond to the changes in the market pattern along the way, we have carried forward the spirit of "being indignant and innovative" and "making trailblazing efforts with perseverance" to stay committed to development and seek innovation and changes. We are dedicated to our goal and original aspiration of building a century-old brand.

We hope to establish a clear and science-based path of sustainable development with insight into the industry's trends. This was our original goal in publishing this ESG report. Only by looking back can we see where we started, and only by looking forward can we know where the road will take us.

We are focusing on biotechnology in order to create a better future. Our path to sustainable development begins with synthetic biotechnology. We are pragmatic and always driven by innovation in the face of increasing industry competition. We are proactively looking for new growth drivers, such as expanding our footprint into the general area of amino acids and pursuing leapfrog development in the area of new biotechnology. We invested 829 million yuan in research and development (R&D) and maintained an R&D workforce of 304 people in 2022. Furthermore, we established a production technology research institute to conduct in-depth research on processes and technology for the entire industry chain, with the goal of increasing energy efficiency and lowering resource consumption. We use innovation to advance the circular economy, benefit China's agriculture, and blaze a new path to develop biotechnology.

In order to pursue high-quality development, we bolster our comparative advantages. We are industry leaders in terms of product quality, operational support abilities, and manufacturing capabilities. We improved our quality management program in 2022 and actively encouraged the adoption of a multi-level quality management program. With the help of science-based management techniques, we have enhanced each quality inspection stage and given specific positions and quality responsibilities. Additionally, we have increased the supplier admission threshold, tightened the identification of raw material risks, and accomplished the management objectives of fully traceable and controllable sources of materials.

We have fully supported the state's strategic goals of carbon peaking and carbon neutrality over the last year. We identified and analyzed climate change-related risks and established medium- and long-term greenhouse gas (GHG) emission targets under a commitment to researching and promoting low-carbon operations in our manufacturing and operations. At the same time, we put the concept of green development into practice. We vigorously progressed waste management, pollution prevention, and water and packaging material recycling. We fulfilled our environmental responsibilities as corporate citizens and created a green brand in every way.

I am fully aware that the Company's growth is dependent on the tireless struggle and hard work of all employees. They enable the company to excel in its social responsibility. I always believe that only by providing employees with a broad development vision, a vast development platform, and a work-life balance will we be able to achieve a brighter future for both employees and the company. We believe in "associating by honesty; improving by attitude; thriving by integrity; and lasting by unity and harmony." We adequately protect employees' rights and interests and address their concerns and problems with the utmost care, guided by the Meihua spirit.

As a responsible business, Meihua Group is always mindful of its mission to give back to society and assist the underprivileged while improving economic benefits. We care about the people and give back to society. We have gathered internal and external resources to form the Tibet Meihua Public Welfare Foundation. We are constantly working on rural revitalization, charity donations, community building, and COVID-19 prevention. Meihua Group donated 4.32 million yuan to public welfare in 2022, which people from all walks of life acknowledged.

I'd like to express my heartfelt appreciation to all of our partners, shareholders, managers, and employees for their faith, understanding, and support. Meihua Group will continue its efforts in the great cause of amino acids in the future. We will work together with all stakeholders to fulfill social responsibility while adhering to the circular economy and sustainable development. We will rise to challenges and strive for success and accomplishments in the current



In the future, Meihua Group will continue its efforts in developing the great cause of amino acids and join hands with stakeholders to fulfill social responsibility. We will adhere to the circular economy and sustainable development, rise to challenges, and strive for success and more splendid glory in the trend of the



Chairman of Meihua Holding Group Co., Ltd. March 2023









About Us

Meihua Group is a full-chain synthetic biology company mainly engaged in amino acid products. Its core competence covers all segments from strain design, construction, fermentation, separation, and extraction, to products. Through 20 years of surpass and innovation, the Company stands at the forefront of the industry in the integration of research, production, and sales, and is one of the world's largest amino acid manufacturers. It boasts the industry's most advanced integrated production line for comprehensive utilization of resources. Meihua Group has three production bases in Inner Mongolia's Tongliao, Xinjiang's Wujiaqu, and Jilin's Baicheng, and two R&D centers in Langfang and Shanghai.

We leverage synthetic biotechnology and give full play to our experience and advantages in industrialization. With a comprehensive array of research, production, supply, and sales services, we adaptably address the diverse needs of worldwide customers and their pursuit of rapid innovation. We are committed to becoming a global leader in synthetic biology. In 2022, our operating income reached 27.937 billion yuan with a net profit of 4.406 billion yuan. Our feature products are as follows.

Amino acid products for animal nutrition

Lysine, threonine, tryptophane, feedgrade valine, residue of MSG, starch byproduct-based feed fiber, corn germs, microbial protein, etc.

Taste optimization productsa for food

MSG, disodium 5'-ribonucleotide, glutamate acid, monosodium glutamate, disodium inosinate, food-grade xanthan gum, trehalose, natamycin, etc.

Pharmaceutical amino acids for human

Glutamine, proline, leucine, isoleucine, pharmaceutical-grade valine, inosine, guanosine, adenosine, pullulan, Vitamin B2,

Colloidal polysaccharide

Xanthan gum, trehalose, pullulan, oil drilling grade xanthan gum, etc.

Other products

Bioorganic fertilizers, etc.

Our Mission

Develop recycling economy, benefit Chinese agriculture



Our Strategic Goal

Committed to becoming a leading enterprise in synthetic biology



Our Core Values

Associating by honesty; improving by attitude; thriving by integrity; lasting by unity and harmony



Our Vision

Focusing on biotechnology, building and sharing better future

Significant Recognitions in 2022



Top 100 Science & **Technology Enter**prises in China Light Industry

China National Light Industry Council



Top 50 Enterprises in China Food Industry

China National Light Industry Council



Top 200 Enterprises in China Light Industry

China National Light **Industry Council**



Leading Enterprise in Energy Conservation and Environmental Protection in the Chinese Biotech Fermentation Industry

China Biotech Fermentation Industry Association (CBFIA)



Top 10 Enterprises in China Fermentation Industry

China National Light Industry Council





Following the Xinjiang Base and the Tongliao Base, Jilin Meihua passed the High and New Technology Enterprise certification in December 2021

Our Focus:

Focus on the high-quality growth of the main business and become a leader in synthetic biology

Pursue sustained profitability growth instead of blind capacity expansion

An industry leader with the strongest core competitiveness



Our Driving Forces:

Leading technology and leading management

Rely on the core competitiveness built with technology and management instead of a large scale, single element, low costs, or individual experience

Our Persistence:

We insist on creating and sharing

The organic combination of corporate development and personal interests

We insist on customer-centricity

Market-oriented service awareness and the awareness of internal-external and upstream-downstream

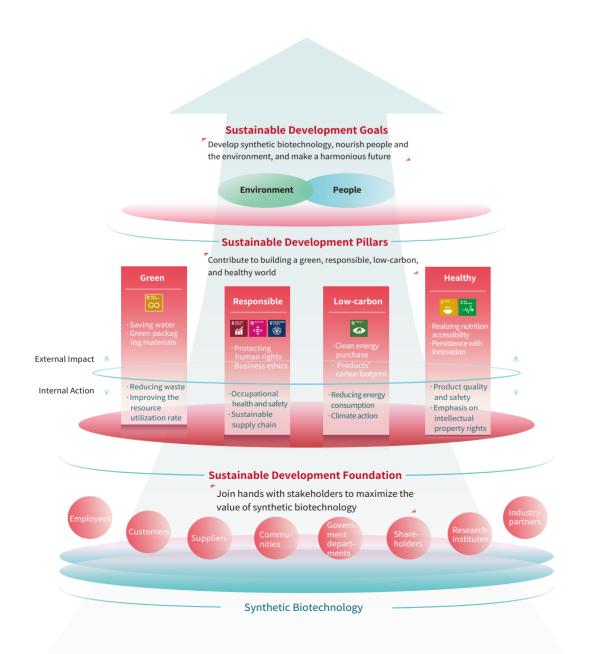
We insist on integrity

Adhering to a holistic perspective for the long term

Our Sustainable Development Strategy

We have combined ESG into our vision of "focusing on biotechnology, building and sharing better future". We analyze the external environment and context, sectoral needs, peer benchmarking, stakeholders' appeals, and the Company's strategic development needs to gain insight into four strategic aspects: the focus, the goals, the path, and the needs. Based on our findings and the United Nations Sustainable Development Goals (SDGs), we have developed our ESG strategy of GROWTH.

The GROWTH strategy aims for "developing synthetic biotechnology, nourishing people and the environment, and making a harmonious future" and relies on four pillars: Green, Responsible, Low-carbon, and Healthy. It is fully integrated with all sustainable development topics that the Company's stakeholders and the society are concerned about.



nur Sustainable Development Goal 🔞

We draw the resources we need from the nature. By developing synthetic biotechnology, we produce a variety of amino acid products to ensure people's healthy life and promote human's sustainable development. We hope that everyone will care more about the environment, improve the environment, and achieve harmonious co-existence.

🥵 Our Sustainable Development Pillars 🏩

On the road to a harmonious future between human beings and the environment, we need to carry out specific and effective actions to ensure the realization of Meihua Group's ultimate goal:

The Green action route is our principle, which ensures that we minimize our impact on the natural environment and is the foundation of our development.

The **Responsible** action route is our foundation, which ensures that the trust between us and stakeholders continues to go deeper and is the premise for us to work together.

The **Low-carbon** action route is our direction, which ensures that we stay calm in the face of climate change, our most prominent risk, and is the guarantee for us to clear the obstacles in the future.

The Healthy action route is our main battlefield, which ensures that we can maximize the influence of the Meihua Group and is the core of our sustainable development for human.

We take internal and external perspectives. Internally, we aim higher to the best of our ability. Externally, we extend the value chain and promote the sustainable development of the industry and society through collaboration to achieve the best action results.

🤹 Our Sustainable Development Foundation 🛭 🔞



Synthetic biotechnology is the starting point of Meihua Group and our sustainable development actions. The cause of sustainable development requires the joint efforts of stakeholders. In the process, we hope to convey the concept of sustainable development to everyone.

Based on the sustainable development pillars of Green, Responsible, Low-carbon, and Healthy, we have developed a specific sustainable development action plan. We will set measurable sustainable development goals and continue to steadily advance the Company's sustainable development undertakings under our ESG governance system.

• ESG Performance in 2022

ESG Governance

Litigation case involving corruption concluded ()

Business ethics and anti-corruption incident reported ()

Leading Product

100 % of the production

bases have passed the ISO 9001 quality management system and ISO 22000 food safety management system certifications

Products' ex-factory pass rate

Co-development with Employees

100 %

Work-related employee fatality **()**

All hazardous chemicals have been filed for management

R&D investment

226 million yuan

Authorized invention patents 27

Newly-filed patent applications 12

Customer satisfaction

94.27 %

Addressing Climate Change

A development strategy set for addressing climate change and reducing greenhouse gas emissions from 2020 to 2025

Renewable energy consumption

43,731,262 kWh

Leading the setting of the organization standard Requirements for greenhouse gases emission accounting and reporting Biotech fermentation manufacturing enterprises proposed by CBFIA

62 suppliers engaged in climate action

Green Factories

Achieving full coverage of the ISO 14001 system certification, with a certification rate of 100 %

The closed-loop recycled utilization rate of some water resources being over 93 %

The Tongliao Base achieved 100 % comprehensive utilization of amino acid activated carbon

The MSG workshop and refining workshop of the Tongliao Base reduced water consumption per unit by

67 % and **74** % respectively

The total weight of packaging materials is expected to be reduced by **234** metric tons by the end of 2023

After two years of weight reduction efforts, the weight of packaging materials was reduced by an average of

716 metric tons per year, and an average of

981 metric tons of materials were recycled every year

Win-win Cooperation

Human rights violation 0

Proportion of women among senior executives

40 %

Coverage of human rights assessments for employees

75.5 %

Overall employee satisfaction score

3.5

Total training hours of employee

1,969,451 hours

Average training hours per employee

151.31 hours

Proportion of employees that received training **98.28**%

100 % products made of raw materials that can be traced back to the place of origin

763 suppliers having gone through ESG assessments

1,744 hours spent in participating in community charity campaigns such as students' aid and environmental protection

Donated to public welfare

4,320,323 yuan



ESG Statement of the Board of Directors

Meihua Group's Board of Directors warrants that the Company and its Board of Directors continuously improves the Company's Environmental, Social and Corporate Governance (ESG) management system in accordance with the China Securities Regulatory Commission's Code of Corporate Governance of Listed Companies and the SSE's mandates. The Board of Directors will devote greater attention to overseeing and engaging in the Company's ESG affairs and proactively integrate ESG into the Company's development strategy, major decisions, and production operations.

As the highest decision-making body of ESG, the Strategic Development Committee of the Board of Directors bears the ultimate responsibility for Meihua Group's ESG strategies and disclosure. The Strategic Development Committee oversees and reviews the Company's sustainable development progress and offers recommendations. To ensure the execution and implementation of day-to-day ESG management, the Company has established an ESG Leadership Group. Authorized by the Strategic Development Committee of the Board of Directors, the ESG Leadership Group progresses the Company's ESG undertakings as a whole and regularly reports to the Board of Directors. Moreover, the Company has established a Sustainable Development Office. As a department dedicated to the management of ESG affairs, it communicates between and coordinates functional departments and facilitates the steady execution of ESG undertakings.

We prioritize determining material ESG topics and the communication and exchanges of ideas with stakeholders. We regularly identify and assess material ESG topics, and discuss and review

the results at the Strategy Committee of the Board of Directors to determine the ESG materiality matrix for the year.

In 2022, we actively responded to the state's goals of carbon peaking and carbon neutrality by establishing a governance structure to address climate change and set a climate risk management and control process. Based on our situation, we identified and assessed the key climate-related risks of Meihua Group, and developed corresponding management objectives and countermeasures.

This report discloses in detail and truthfully the progress and effects of Meihua Group's ESG efforts in 2022, and was deliberated and adopted by the Board of Directors on March 6, 2023.

Board of Directors, Meihua Holding Group Co., Ltd.

Co-development

with Employees

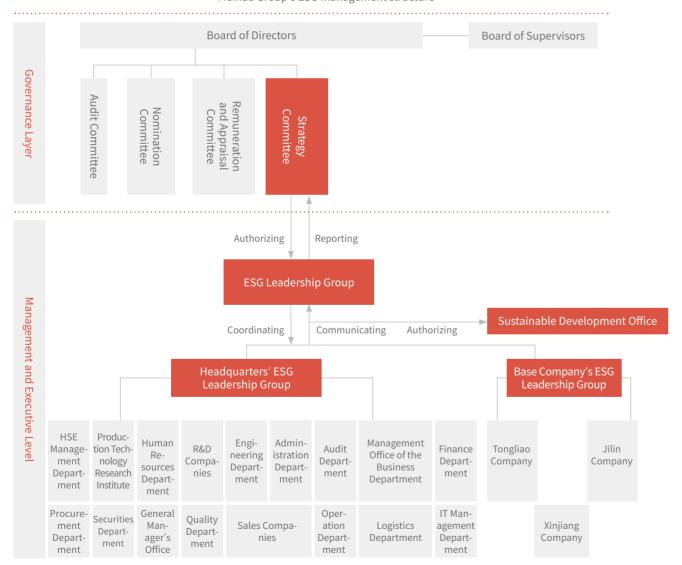
ESG Management

We insist on corporate governance compliance and efficiency, continuously raise the Company's value and responsibility, and protect shareholders' interests and rights. We strictly abide by the Company Law of the People's Republic of China, the Securities Law of the People's Republic of China, the Code of Corporate Governance of Listed Companies, and other applicable laws and regulations. We have developed the General Meeting of Stockholders Rules of Procedure, the Board of Directors Rules of Procedure, the Board of Supervisors Rules of Procedure, and the Independent Director Working System. These internal systems define the roles,

responsibilities, and work procedures of the General Meeting of Shareholders, the Board of Directors, the Board of Supervisors, and management members. They improve the operational efficiency of the Board of Directors and ensure that investors have equal access to corporate information. During the reporting period, we held one General Meeting of Shareholders, eight meetings of the Board of Directors, and five meetings of the Board of Supervisors.

To further improve the Company's ESG management efficiency and practically implement and progress the Com-

Meihua Group's ESG management structure



pany's ESG strategies, we have developed the Environmental, Social and Governance (ESG) Management Measures of Meihua Holding Group Co., Ltd. This policy is designed to build an efficient ESG management system with a complete organizational structure, a clear hierarchy, and well-defined rights and responsibilities. To integrate ESG management into the Company's business management and improve ESG management at the source, the Company's ESG management structure is a two-tier management structure consisting of the Strategic Committee of the Board of Directors and the ESG Leadership Group, including the ESG Leadership Group of the Company's headquarters and production sites. Additionally, we have established the Sustainable Development Office which serves as a dedicated department for ESG management. In the same year, we released the ESG Indicator Management System of Meihua Holding Group Co., Ltd., summarizing the

key details of the Company's ESG management, supporting the Company's continued development of ESG manage-

The Company's ESG management framework provides management support to further improve our ESG effectiveness. Meanwhile, based on the Company's ESG strategy, we have broken down the Company's ESG action goals and content and developed the Environmental, Social and Governance (ESG) Management Improvement Plan of Meihua Holding Group Co., Ltd. (2022-2025). The plan is designed to comprehensively standardize the guiding philosophy, basic principles, and advancement approaches for the Company's ESG purposes and facilitate system and process-based management of ESG matters.

Levels of the ESG management structure

Strategy Committee of the Board of Directors

- It is the highest body and decision-maker for the Company's ESG matters.
- Its main responsibilities include investigating and reviewing the Company's environmental, social and corporate governance work and raising suggestions and opinions.

ESG Leadership Group

- It is the executive level for the Company's ESG matters. It is led by the Company's General Manager and composed of relevant departments' heads and production bases' general managers and ESG coordinators.
- Its main responsibilities include advancing the Company's overall ESG affairs; coordinating the annual ESG work plan; guiding, overseeing, and coordinating internal and external ESG resources; and reporting regularly to the Board of Directors with suggestions.

Sustainable Development Office

- It is a dedicated department for managing the Company's ESG affairs and a permanent liaison and coordination body for the Company's ESG works.
- Its main responsibilities include organizing the Company's day-to-day ESG management tasks, communicating with and coordinating functional departments, and ensuring the steady progress of ESG works.

Co-development

with Employees

Stakeholder Engagement

Through constructive stakeholder engagement, a company can ensure its ESG works meet the needs of the actual developments. As a result of paying close attention to stakeholders' needs and suggestions, improving the diversified dialogue mechanism, and accepting their supervision, we have been able to achieve sustainable, high-quality, and high-standard development. Through online and offline channels, we communicate with stakeholders and listen to their demands and expectations to accurately assess the impact of our decisions and promptly adjust our strategic focus.

Stakeholder	Expectations and requirements	Communication means and responses
Governments and regulators	 Observing the law and paying taxes according to the law Supporting social sustainability 	 Compliance management Paying taxes Proactively implementing national policies
Shareholders and investors	Returns and growthRisk controlCorporate governance	 Regular disclosure of business information General Meetings, reports, and announcements Proactively rewarding shareholders
Employees	 Wages and benefits, security Health and safety Unblocked communication Equal promotion and development opportunities 	 Paying wages and social security on time Establishing an occupational health and safety management system Improving career development channels Organizing employee training
Customers	 High-quality products Satisfactory customer experience Protection of legal rights and interests 	Need/satisfaction surveysCustomer complaint handlingAnnual reviews and evaluation
Suppliers, contractors, and partners	 Faithfulness in business Industry cooperation Open, fair, and impartial procurement 	 Performing contracts according to the law Open tendering Project-based collaboration Driving the healthy development of the industry
Media	Economic performancePollutant discharge	Media inspection to projects
Communities and the public	 Support for social development Care for vulnerable groups Healthy culture Energy conservation and emission reduction 	Public welfare and charityGreen productionGreen buildings and materials

Topics of high importance

- 1 Work safety
- 2 Human rights protection
- Employee promotion and development
- Customer communication and complaints
- Business compliance and stability
- Comprehensive risk man-
- 7 Waste management
- Water conservation initiatives
- Talent attraction and motivation
- Dangerous goods/chemi-10 cal management
- 11 Employee satisfaction
- Protection of intellectual property rights
- 13 Contractors' work safety
- 14 Product quality training
- 15 Patent management
- Occupational health and safety
- 17 Product inspection
- 18 Employee training
- 19 R&D and innovation
- 20 Customer satisfaction
- 21 Customer privacy
- 22 Anti-corruption
- 23 Product quality and safety
- 24 Information security
- Supplier quality manage-
- Engaging in setting industry quality standards
- 27 Business ethics
- 28 Pollutant management
- Sustainable raw material procurement

In 2022, we carried out our first systematic communication with stakeholders to better understand their concerns, expectations, and demands for the Company's sustainable development. Through peer benchmarking and media monitoring, we identified several material topics and collected internal and external information through questionnaire surveys and stakeholder research. Based on the survey results and considering the importance of each topic to business development, we comprehensively assessed and prioritized the topics and determined the focus of the Company's internal and external ESG management in the future.

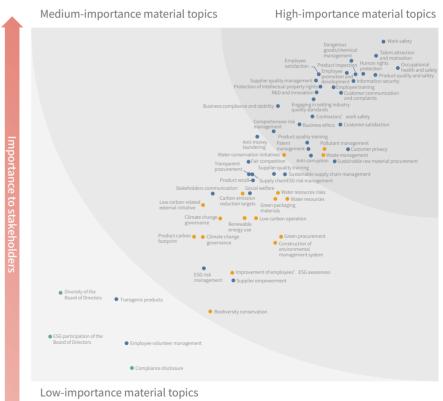
In this survey, we collected 1,110 questionnaires. Based on stakeholders' concerns, expectations, and demands for the Company's ESG works, we identified and evaluated 29 high-importance, 25 medium-importance, and 5 low-importance material topics of the year. Based on the survey results, we will adjust our ESG focus promptly and continuously improve our ESG performance to meet stakeholders' expectations and respond to potential risks. This form of stakeholder engagement will also be held regularly.



Environmental topics

Social topics

Governance topics



Business Ethics and Anti-corruption

We are committed to creating a positive culture of honesty and integrity. With a philosophy that emphasizes virtue in corporate governance and training. We have developed stringent codes of business ethics and internal supervision and handling procedures, improved our compliance performance, and steadily improved our corporate business ethics and anti-corruption management.

■ The Business Ethics and Anti-corruption Management System

We protect our rights and interests in strict accordance with the Criminal Law of the People's Republic of China, the Anti-Unfair Competition Law of the People's Republic of China, the Company Law of the People's Republic of China, and other applicable laws and regulations. We have established a sound anti-corruption governance structure, with special committees of the Board of Directors or the senior management supervising anti-corruption, the Audit Department managing anti-corruption affairs, and business departments implementing anti-corruption tasks. We have developed the Anti-corruption Management Measures of Meihua Holding Group Co., Ltd. This policy defines integrity and law-abiding conducts for all employees of the headquarters, producmanifestations, such as "bribing state functionaries," "accepting property from third parties in violation of the law," "using power to seek benefits for relatives or people with particular relationships," and "infringing upon or disclosing trade secrets" are well defined. We have established a comprehensive anti-corruption and internal control mechanism. At the business level, we identify and assess corruption risks and conduct regular anti-corruption audits for high-risk businesses to reduce the possibility of corruption incidents.

Employees who violate anti-corruption rules and regulations will be subjected to corresponding internal financial and administrative disciplinary punishments, and those who are involved in any corruption-related lawsuits.

Whistleblower Protection

We have developed the Whistleblowing and Whistleblower Protection Management System of Meihua Holding Group Co., Ltd. This policy sets out whistleblowing channels, handling procedures, and whistleblower protection measures, with the intention of protecting stakeholders' whistleblowing rights. Whistleblowers may report any violation of the policy to the Audit Department with evidence in the form of written materials, emails, and telephone calls, but such evidence must not be fabricated or framed. We have established a sound internal investigation mechanism. We will initiate a comprehensive investigation of the reported matters, take corresponding punishment and control measures, and publicize the results.

We uphold the legitimate rights and interests of whistleblowers and their family members by defending their personal, property, reputational, and other rights. In addition, we commend and reward those who submit valuable information. Those who violated a whistleblower's rights and interests will be held accountable or turned over to the judicial authorities. In 2022, the Company was not involved in any business ethics or anti-corruption whistleblowing incidents.





Quality Management and Control

One of the fundamental components of a business, a key factor in customer trust, and a necessity for a company's survival is quality. We adhere to process management and control over quality, improve our comprehensive ability and performance of quality management in every aspect, and promote a quality culture to make safer and more reliable high-quality products.

■ The Quality Management System

We have established a sound quality management system and a multi-level governance structure, with the Company's General Manager responsible for reviews and oversight; the Production Technology Research Institute responsible for coordination: the Quality Department responsible for efficient collaboration; and the Technical Management Office of each production base responsible for implementation. We set precise and explicit product quality targets and revise them annually to meet the Company's commitment to product quality. In addition, we continuously carry out quality control and improvement.



Our Product Quality Target

Products' ex-factory pass rate maintained at

100 %

Product quality certifications obtained by Meihua Group:

The ISO 9001 Quality Management System

The MUI Halal Certificate of Indonesia

Non-GMO Identity Preservation (IP)

The ISO 22000 Food Safety Management System

The BRC Food Safety Management System

The Feed Additive and Premixture System (FAMI-QS) of the EU

Halal certifications of the U.S., Malaysia, and other countries

We strictly abide by the *Product Quality Law of the People's* Republic of China, the Food Safety Law of the People's Republic of China, the Regulation on the Administration of Feeds and Feed Additives, and other applicable laws and regulations. Based on national standards in relation to our products, the GB/T 19001 Quality Management Systems-Requirements, the ISO 22000 Food Safety Management System, and the BRCGS Global Standard for Food Safety, we have developed the Product Quality Standards, the Product Testing Guidelines, and the Integrated Quality Management Manual. These internal systems regulate the standardization of processes and the management of quality. We continuously work on quality certification. All of our production bases have passed the ISO 9001 Quality Management System and the ISO 22000 Food Safety Management System certifications.

In addition to strict self-quality control, we aspire to be part of the industry's quality improvement. With an open mind, we are prepared to collaborate and exchange cutting-edge information and expertise with peer companies in order to create a positive industrial ecosystem. We are a member of the Technical Committee 64 on Food Industry of Standardization Administration of China and the SC5 on Fermentation Industries, China Biotech Fermentation Industry Association (CBFIA), and other industry associations. We have participated in setting many national standards and social organization standards and contributed to the development of the amino acid industry.

Setting the social organization standard for isoleucine



In 2022, we worked with associations, enterprises, and universities in setting the social organization standards of China Feed Industry Association and released and implemented the social organization standard for the feed additive L-isoleucine. The standard stipulates the technical requirements, sampling, test methods, and inspection rules of L-isoleucine, and specifies its labeling, packaging, transportation, storage, and shelf life. It improves product safety and boosts the continuous quality improvement of China's feed additives.

with Employees

The Quality Management and Control Mechanism

Our quality standards are stringent and we control product quality at every stage of the production and manufacturing process to ensure that it meets the standards. We have developed the *Product Testing Instructions*, a product-specific guideline which sets out testing items, pharmaceutical reagents, analysis steps, presentation methods, and regulate testing methods for different products to ensure that they meet the quality standards. We conduct internal inspections on all products regularly. We also develop annual product inspection plans and submit product samples to national authorities for inspection. As a result, the quality and safety of our products in storage, out of the factory, and in delivery are ensured. In addition, we have developed the Unqualified Product Control System. This policy defines

management roles and responsibilities and management standards and regulates the process control, cause analysis, and emergency treatment of unqualified products. It is designed to minimize risks associated with product quality and determine the primary accountability of products. In 2022, our products' ex-factory pass rate was 100%.

Quality management requires the participation of all employees. We attach great importance to creating a quality culture and hosting diversified training events on quality to comprehensively improve employees' skills and performance. In 2022, we delivered 21,420 hours of quality training to 720 quality management employees of the Company.



Co-development

with Employees

Green Factory Win-win Cooperation

The quality month

26



In September 2022, to achieve the Company's quality strategy and annual goals, we launched the Quality Month campaign with the theme of "reducing waste, improving management, creating and enjoying high quality". All production bases responded to the call and carried out a variety of quality events around this theme to enhance employees' quality awareness. The Xinjiang Base hosted an Appearance Competition, in which contestants selected samples with appearance defects, and a Foreign Object Inspection Drill, in which contesting teams searched scissors placed in advance in the products. These entertaining events taught employees to avoid product quality problems and accidents.





Meihua Group's quality month

Product Recall

We have developed the Product Recall Procedures and other emergency rules and regulations. We have established a sound product recall mechanism with a clear classification of recalled products, the recall process, and corrective measures to ensure a rapid response to unsafe products. In the event of product quality defects and products with potential safety hazards, we will immediately carry out detection and analysis, recall the products, and ensure that those products are identified and traced. During a recall incident, we will investigate the cause of the defect and develop corrective and preventive measures, track the incident handling results, and prevent similar incidents from happening again. In 2022, the Company had two voluntary product

recalls, both of which were handled immediately and properly, with all products concerned recalled.

Moreover, we conduct regular product recall drills at our production bases every year. By simulating recall incidents and analyzing and checking products, we ensure that risky products can be traced within the specified timeframe and evaluate whether the recall procedures are feasible and rational. In 2022, we carried out recall simulation drills for MSG, trehalose, threonine, and small amino acids to strengthen employees' emergency recall awareness and capabilities.



Supplier Quality Management

As an integral part of quality management, raw materials and auxiliary materials have a direct impact on product quality, food safety, and customer satisfaction. We have developed the Supplier Quality Management Manual to regulate the selection, classification, supervision, and evaluation of suppliers. This policy aims to steadily raise the product quality of our suppliers and maintain a long-lasting and stable strategic partnership.

We continuously raise the threshold for supplier admission. We evaluate the credentials and certificates of our suppliers through on-site evaluations and questionnaires during the selection process. Suppliers of food-grade, pharmaceutical-grade, and feed-grade materials must pass ISO 9001, ISO 22000, GMP for pharmaceutical products, and other relevant certifications. As a result, we have improved the quality of our

industrial chain. As of December 31, 2022, 17% of our suppliers had passed HACCP, ISO 22000, FSSC 22000, and ISO 9001, among other product quality-related certifications.

We identify and assess the product risks associated with raw and auxiliary materials. In addition to scoring the materials' usage, applied procedures, food safety impact, and other factors, we perform class-based management based on the results and the Risk Rating Result Table. In addition, we have introduced risk-specific management measures. For example, Raw and auxiliary materials with significant impact on product quality and food safety are monitored intensively, while low-risk products are monitored regularly. As a result, product risks are controlled.

Classification of Meihua Group's main raw and auxiliary materials in use (part)

Class	Raw and axiliary materials
Class A (major risk)	Sulfuric acid, hydrochloric acid, liquid caustic soda, alcohol, defoamer, activated carbon, soybean powder, and ammonium sulfate
Class B (high risk)	Fermentation ingredients, soy sauce auxiliary materials, sodium hypochlorite, acid hydrolyzed plant protein powder, corn steep powder, and liquid caustic soda
Class C (medium risk)	Sodium carbonate, betaine hydrochloride, disodium succinate, cellulase, perlite filter aid, and caustic soda
Class D (low risk)	Water treatment agents, process aids, and disinfectants

To improve quality assurance, we conduct unannounced inspections on suppliers. We score their workshops, processes, and raw materials, identify defects and formulate rectification plans. If a supplier fails to make rectifications according to the plan, we will take punitive measures, such as warnings, reducing or even suspending the procurement until the rectification is complete. Moreover, we are committed to assisting suppliers to improve their quality capabilities. We deliver quality training and communication for suppliers and develop supplier assistance plans, joining hands with suppliers to address product quality and safety related issues.

29

Work Safety

28

We deem work safety as the fundamental essence of our business operation. We have invested considerable effort in establishing a safety management system, implementing various safety measures, and delivering work safety training and communication. In addition, we manage hazardous chemicals systematically. As a result, we strive to keep the health and safety of our employees at the highest level.

Meihua Group's safety data for 2022

Number of work-related fatalities among employees

Frequency of work-related injuries among employees

1.58 every 1,000,000 hours worked

Total recordable injury frequency rate (TFIFR) among employees

Number of work-related fatalities among contractors

Frequency of work-related injuries among contractors

Safety Management

We abide by the Work Safety Law of the People's Republic of China, the Law of the People's Republic of China on the Prevention and Control of Occupational Diseases, the Provisions on the Safety Training of Production and Operation Entities, the Guideline of China Occupational Safety and Health Management System, and other applicable laws and regulations. We adhere to the management philosophy that "work safety is everyone's duty" . We have developed the Health, Safety and Environmental (HSE) Post Duty System for All Employees of Meihua Holding Group Co., Ltd. and other internal management regulations to ensure that we are fulfilling our work safety responsibility. Additionally, we are continually improving the Company's safety management system and encouraging our production bases to obtain relevant certifications. All our bases have obtained the Level-3 work safety standardization certificate and the ISO system certification, respectively; the Jilin Base has obtained 100% safety management system certification.

We have set up an HSE Management Department at the

headquarters, which coordinates routine safety management and oversees, guides, and inspects work safety matters of subordinate production bases. Safety management targets are set at the beginning of each year, and work-related injuries are included in the monthly performance assessment of safety managers. This practice has stimulated the safety management team's initiative and improved the Company's overall safety management performance.

In addition, we attach great importance to regular protection for production employees. Depending on the likelihood of workplace injuries, we provide employees with personal protective equipment such as safety footwear, uniforms, and safety helmets. We have also set up work safety signs such as accident notification boards, warning signs, and occupational health "formulas" in the production workshop to alert employees. We are committed to minimizing occupational hazards and protecting the health and safety of our employees. Throughout 2022, zero work-related fatalities among employees or contractors were reported at Meihua Group.

Safety Training

Putting safety first, focusing on prevention, and establishing a safety culture are our top priorities. We have the HSE Work Safety Education and Training Management Regulations (for Trial Implementation) in place and develop annual safety training and education plans. We deliver work safety provide information and regular work safety training for employees and contractors to raise their awareness of

safe operations and safety management and prevent safety accidents by helping them develop good operating habits. Moreover, we insist on including contractors in our safety training. The Company's safety managers deliver training to contractors and require them to organize safety training to ensure that everyone and all projects of the Company are in line with the Company's work safety goals.

Meihua Group's safety training data for 2022

Indicator	Employee Attendance	Contractor Attendance
Total attendance at safety training	434,953	12,958

In June 2022, we launched the Work Safety Month campaign with the theme of "abiding by the work safety law and taking primary responsibility". During the Work Safety Month, we hosted various events to foster a safety culture, focusing on raising employees' safety awareness and caliber, to ensure workplace safety for the Company in the long run.



Meihua Group's full staff safety training

30

Environmental, Social and Governance Report 2022

ESG Governance Leading Product

Co-development with Employees

Addressing Climate Change

Green Factory Win-win Cooperation

Watching a work safety promotional video

On July 1, 2022, the headquarters of Meihua Group organized employees to watch a work safety promotional video, *Life is the Most Valuable*. The employees earnestly studied General Secretary Xi Jinping's important statements on work safety and gained a deeper understanding of the concept of "putting the people and life first". The event significantly enhanced employees' safety awareness.



Employees watching the Life is the Most Valuable promotional video

Safety banners and posters

During the Work Safety Month, production bases produced banners, slogans, and painted posters and carried out colorful and extensive safety communication events, emersed in a strong safety atmosphere.



A safety poster hand-drawled by employees



The scene of the fire emergency response drill

Fire emergency response drills

In late June 2022, the Tongliao and Xinjiang Bases organized fire emergency rescue drills, which simulated root valve leakage in a liquid ammonia spherical tank. The drills showed that the accident prevention awareness and rescue and disposal capabilities of employees at the Xinjiang Base were greatly improved compared with previous years, and the Tongliao Base's employees had outstanding performance. The two bases' fire emergency response teams had their capabilities enhanced in the drills.



Employees in the game of the Rooster Laying Eggs

Safety skill contest

In mid-June 2022, the Tongliao Base held a Safety Skill Contest, in which production workshop directors led their shift heads to complete tasks within the time limit. The event was divided into the Rooster Laying Eggs, safety scenario simulation, on-site rescue, and other stages. It combined fun games with safety knowledge, guided and raised employees' work safety awareness, and strengthened their teamwork.

Chemical Safety

The Company's production and operations involve the use of chemicals. For these chemicals, we require full-lifecycle safety management for their procurement, storage, application, and the disposal of discarded containers. We observe the Regulations on the Safety Management of Hazardous Chemicals, the Regulations on the Safe Use of Chemicals in the Workplace, and other applicable laws and regulations. We have introduced internal policies such as the Regulations on the Safety

Management of Hazardous Chemicals, which define each department's functions and responsibilities and the management requirements for hazardous chemicals. We assess chemicals for hazard, maneuverability, and environmental impact. Based on the assessment results, we rate the hazards of chemicals and develop specific management objectives and operational requirements, aiming to reduce the chemicals' harms on human health and the environment.

Classifying and Identifying chemicals

• We classify and identify hazardous chemicals such as explosives, flammable liquids, and corrosive substances according to the List of Dangerous Goods (GB 12268—2012).



• For all hazardous chemicals involved in the Company, such as liquid ammonia, liquid caustic soda, sulfuric acid, and hydrochloric acid, we have developed an internal list of hazardous chemicals for strict control and management. Our practices include the storage and publicity of material safety data sheets (MSDSs), the notification of risk factors, and emergency handling.



• All hazardous chemicals of Meihua Group had been filed at the Chemical Registration Center of the Ministry of Emergency Management for management.



chemicals'

hazard level

• We regularly entrust qualified third parties to assess all hazardous chemicals involved in our production and operation activities and issue assessment reports to systematically clarify the chemicals' hazard levels and particulars.

• The Jilin Base uses the D=LEC method¹ to assess the risk of hazardous chemicals in their production and manufacturing processes. It assesses the risk level and develops management and mitigation measures accordingly.

Developing emergency response plans

For hazardous chemical emergencies, we have developed emergency response plans and conducted regular drills to enhance our emergency response capabilities.

Taking measure to optimize processes

We replace and properly dispose of some hazardous chemicals with process optimization and other mitigation methods. For example, we use benzalkonium chloride instead of formaldehyde for the disinfection of fermentation workshops, and eliminate hazardous chemicals such as arsenic trioxide and phosphoric acid.

In the future, we will conduct comprehensive assessment and identification of chemicals based on the impacts throughout the product life cycle, take measures to replace high-risk chemical substances and phase out high-risk chemicals, and integrate environmental and health standards into the product design process. Our goal is to enhance harmony between economic development and the environment, and between human beings and nature.

¹The D=LEC method: It is a semi-quantitative method for assessing hazard sources in potentially dangerous operating environments. It is used to assess the danger and harm exposed to operators working in potentially dangerous environments.

Co-development

with Employees

R&D and Innovation

Driven by R&D and innovation, we are committed to becoming a leading enterprise in synthetic biology. In our pursuit of continuous advancement in synthetic biotechnology, we focus on building an advanced industrial platform for biological fermentation and biosynthesis. We continuously enhance our product innovation capabilities to provide better, more economical, and more accessible products.

Innovation Layout

We insist on creating value for customers with continuous innovation. As a biosynthesis company that covers the whole chain from genome editing to product launch, we have reconstructed ourselves into a microbial cell factory based on industrial production strains such as Escherichia coli, Corynebacterium glutamicum, and Bacillus, and optimized and upgraded the production strains of the whole product portfolio.

Our substantial investment in R&D and innovation has resulted in comprehensive improvements in innovative technology, research capabilities, and our personnel pipeline. As a result of our scientific research strength, we have gained a leading position in the industry. We have established a research and development center and have long been committed to developing and constructing biosynthetic technology platforms. We have also established several amino acid laboratories around our core products, which have made breakthroughs in strain quality, amino acid conversion rate, and many other aspects. In 2022,

Vitamin B2, our new product



In 2022, we launched a new product, Vitamin B2, also known as riboflavin. It is an essential vitamin for body health and normal development and is widely used in food, medicine, and feed. The product is based on Bacillus and made from innovatively designed and constructed Vitamin B2 production strains. We have completed the patent layout of riboflavin strains and created a favorable condition for the long-term healthy development of China's biofermentation vitamin products.

we invested 829 million yuan and a workforce of 304 in R&D.

As a model of innovation in the industry, we participate in setting industry standards, launch external cooperation, and continuously empower the innovation and upgrading of the industry. We have passed the laboratory accreditation of China National Accreditation Service for Conformity Assessment and established an amino acid analysis and testing center qualified to issue test reports to boost technological advancement in the amino acid industry. Externally, we have established close relationships with many first-class universities and research institutes in China, including the Research Center of Industrial Biotechnology (a body of Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences), the Institute of Microbiology of the Chinese Academy of Sciences, and Jiangnan University. We work together to develop high-performance biosynthetic strains.

Meihua Group's Innovative and R&D cooperation projects

- We cooperate with the Jiangnan University team, which is the leader in functional sugar research and industrialization in China. We have obtained key technologies for preparing functional sugars by the one-step conversion method and improved the conversion efficiency. The technologies are advanced in China.
- We cooperate with a biotechnology company in Shanghai to develop new strains for multiple products. We have improved the conversion rate of strains, improved product quality, and reduced production costs. We aim to reach the world's leading level.

Protection of Intellectual Property Rights

We attach great importance to the protection of intellectual property rights. We encourage independent innovation within the Company and respect third parties' intellectual property rights. An intellectual property management system has been developed to facilitate the creation, protection, and application of intellectual property across all aspects of the production and operation of the Company.

As part of the patent application review and submission process, we

evaluate and analyze whether the invention is novel, creative, and practical. We protect inventors' rights and interests to encourage invention and creation and provide incentives for employees who publish articles and obtain patents. To prevent potential patent disputes, we perform the Freedom to Operate (FTO) analysis in patent-related processes to correct and prevent infringement. In 2022, we filed 12 patent applications and obtained 27 patent authorizations, including 2 in Japan.

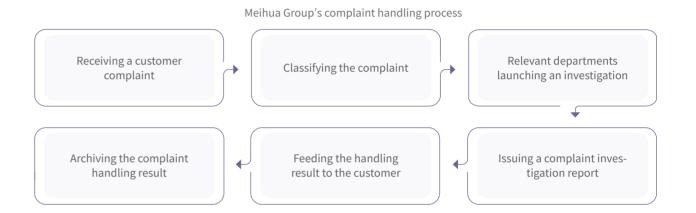
Customer Service

Adhering to the core values of "thriving by integrity", we have built a sound customer service ecosystem to adapt to the various needs of our global customers. It is our commitment to provide our customers with high-quality, efficient, and professional services.

We have developed internal management systems such as the Sales Standardization Manual and the Customer Complaint Handling Process to regulate customer acquisition, communication, and complaints service processes, and continuously improve our service performance. At the same time, we put ef-

forts into developing and raising customer service personnel's capabilities. We have introduced Ten Don'ts for Salespeople. We also deliver customer service training to improve employees' service awareness and ability.

When we receive a customer complaint, we categorize it, begin an internal investigation, offer solutions, and take corresponding corrective actions. In addition, we continuously optimize the way we give feedback on customer opinions. In 2022, we received 108 complaints, all of which have been properly resolved.



To further strengthen our customer service system, our targeted customer satisfaction rate has been set at 90%. In addition, we conduct customer satisfaction surveys annually, which cover product quality, transportation and delivery, business services. and customer service. In 2022, our customer satisfaction survey result was 94.27%.

Information security and consumer privacy are very important to us. To handle such concerns, we have formed an IT Management Department and created a reliable information security management system. We strictly abide by the Law of the People's Republic of China on the Protection of Consumer Rights and Interests, the Data Security Law of

the People's Republic of China, and other applicable laws and regulations. We have developed internal systems such as the Information Security Training Management System and the Mobile Storage Media Management Regulations to safeguard the Company's network, data, and information. We treat customer information as confidential documents and include confidentiality clauses in our contracts. New employees are required to sign the Non-disclosure Agreements. That way, we protect the privacy and security of our customers' information. During 2022, no incidents relating to the security and privacy of information occurred at the





Human Rights Protection

We observe the Universal Declaration of Human Rights, the Convention on Human Rights, the United Nations Convention on the Elimination of All Forms of Racial Discrimination, and the International Labor Organization's Declaration on Fundamental Principles and Rights at Work, among other international human rights norms and standards. In our operations, we are committed to respecting and protecting human rights. With reference to the SA8000 Standard for social accountability, we have developed the Human Rights Protection and Anti-Violence and Conflict Policy, which is applicable to all employees, contractors, and suppliers of the company. It is designed to systematically prevent human rights violations including violence, human trafficking, slavery, exploitation, and restrictions of personal freedom, and to safeguard every employee's dignity. In 2022, there was no violation of human rights at the Company.

Prohibition of Child Labor and Forced Labor

We abide by the Law of the People's Republic of China on the Protection of Minors, the Provisions on the Prohibition of Using Child Labor, and other applicable laws and regulations, as well as the Universal Declaration of Human Rights. We have developed Provisions on the Prohibition of Using Child Labor and Provisions on the Prohibition of *Using Forced Labor* within the Company. To prevent child labor, forced labor, and illegal employment at the source, we review and record employee identity information rigorously and comprehensively during employee registration. Upon confirmation of a violation, we will proceed with serious actions in accordance with the Company's regulations.

Human Rights Monitoring

We put efforts into monitoring human rights issues. We have developed a *Human Rights Due Diligence* Process. We continuously monitor the Company's human rights situation by directing production bases to conduct routine self-examination and cross-base inspections to prevent human rights violations. In 2022, we conducted a human rights assessment on our operations, covering 75.5% of our employees.

Anti-Harassment

We adopt a zero-tolerance approach for discrimination, bullying, humiliation, intimidation, and sexual harassment in the workplace. We have developed an Anti-Harassment and Anti-Abuse Policy and an Anti-Discrimination Policy. Any confirmed violations will be handled as per regulations by the Human Resources Department, including warnings, performance downgrades, demotions, suspensions, transfers, and terminations. We try our best to prevent harassment and abuse and provide employees with an agreeable, fair, and secure working environment.

Equal Employment

We strictly abide by the Labor Law of the People's Republic of China, the Labor Contract Law of the People's Republic of China, and the Implementation Regulations of the Labor Contract Law of the People's Republic of China. 100% of our employees are covered by the Company's collective bargaining agreement. We always provide every employee with equal employment and development opportunities and encourage people from diverse backgrounds to join our team. We strongly oppose all forms of discrimination based on gender, age, ethnicity, region, and religion, as well as vicious competition. We undertake social responsibility and are committed to providing employment opportunities to vulnerable groups such as people with disabilities. We employed 13,016 people overall as of the end of the reporting period, including over 80 people with disabilities who made up 0.63% of the total.

Meihua Group's workforce by different categories in 2022



Total workforce

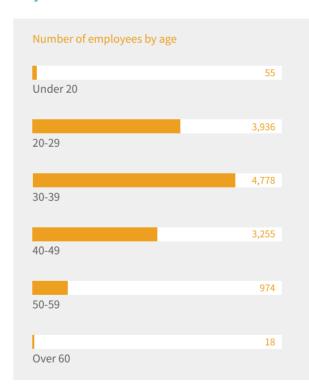
13,016

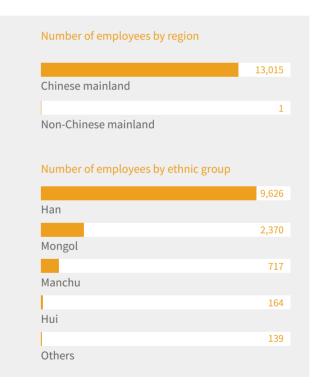
Number of employees by gender



4,882

8,134





We devote great care to female employees' legitimate rights and interests. We strictly abide by the Law of the People's Republic of China on the Protection of Women's Rights and Interests, the Special Rules on the Labor Protection of Female Employees, and other applicable laws and regulations. Female employees are fully entitled to maternity and parental leave, and the difficulties caused by women's physiological characteristics during labor are fully addressed. We

ensure that female employees have equal compensation, benefits, and career development opportunities and are treated fairly when it comes to promotions, assessment of professional and technical titles, and salary determination. In addition, we continuously increase the representation of women in our management. As of the end of the reporting period, women accounted for 40% of our executives.

Employee Incentives

In recognition of the importance of the employee incentive system, we have built a diversified compensation and benefit mechanism and launched supplementary employee support programs, thereby stimulating employees, raising their enthusiasm, and further enhancing their confidence to grow together with the Company.

Compensation and Benefits

We have established a sound and competitive compensation and benefit system in accordance with relevant laws and regulations and the Compensation and Incentive System. In addition to equal statutory benefits, it ensures non-statutory benefits introduced by the Company for all employees, who can share development results with the Company.

In 2022, we introduced an ESG incentive compensation mechanism. We also set key performance indicators (KPIs) for the managers of HSE management, human resources, finance, and other departments with respect to environmental protection, health and safety, resource utilization, and personnel training. These KPIs are linked to the compensation of the personnel being assessed. Rewards and punishments are given according to the completion of the objectives. This has motivated direct department managers' enthusiasm and helped the Company implement its ESG strategic plan.

In addition to the basic salary, we offer generous benefits and bonuses to employees:

Statutory benefits

- Endowment insurance, unemployment insurance, employment injury insurance, medical and maternity insurance, and housing provident fund paid by the Company for employees in accordance with national regulations;
- Statutory leaves (including family leave, marriage leave, funeral leave, maternity inspection leave, maternity leave, and sick leave).

Physical examinations for employees • We arrange physical examinations for employees. In 2022, 100% new employees went through the pre-employment physical examination, and 26.05% of the employees went through the periodic onthe-job physical examination.

Home purchase subsidy

 We provide a home purchase subsidy for managers and employees who are willing to develop together with the Company. As of the end of the reporting period, we have granted home purchase subsidies to 403 employees and a total of 52 million yuan in the housing subsidy.

Housing subsidy for remote employees

• We provide a monthly housing subsidy for employees relocated due to business assignments or transfers and have increased the amount. A remote employee may apply for an additional one-off subsidy of 50,000 yuan or 100,000 yuan with the local house purchase contract and invoice in the year when the relocation subsidy expires. As of the end of the reporting period, we have granted home purchase subsidies to 68 employees and a total of 6.5 million yuan in the housing subsidy.

Festival gifts

• On the eve of traditional festivals such as the Mid-Autumn Festival and the Chinese New Year, we send employees daily necessities such as food, laundry detergent, and fruits.

Festival bonus

• In 2022, Meihua Group gave 60 million yuan in Chinese New Year red envelopes to all employees, with each employee receiving nearly 5,000 yuan.

Festival events

- We celebrate the International Women's Day and send flower baskets, cakes, or small gifts to female employees;
- We organize events such as flower arrangement salons for female employees.

Employee Support

We promote work-life balance and integrate care and support for our employees into our dailyday-to-day operations. We create an agreeable working environment and provide employees with comprehensive and practical protection through continuous initiatives such as caring for female employees and assistance for employees with difficulties. These initiatives have greatly united and cheered up employees.

The employee stock ownership plan



In 2022, we proceeded with the Employee Stock Ownership Plan in accordance with the medium and long-term incentive plan. During the reporting period, the incentive plan granted shares to 219 people, including 9 directors, supervisors, and executives.

In 2022, we conducted an employee satisfaction survey. Our employee survey was designed to listen to employees and understand their perspectives on the Company, expose problems in our employee service, and improve the Company's employee management system. In 2022, our overall employee satisfaction score was 3.5 (out of 5).

Mommy's cabin



In 2022, we established the Mommy's Cabin for female employees' breastfeeding. It meets the needs of lactating and expecting female employees and ensures inclusiveness and dignity for every working mother at the Company.

Heat relief supplies



In August 2022, we provided employees with iced watermelon, sour plum juice, towels, ice cream, and medicine. They prevented heatstroke and employees working in high temperature environments such as logistics, warehouses, workshops, and outdoors for a long time felt cool and cared from the Company in summer.



Meihua Group's trade union sending heat relief supplies to employees

"The Voice of Meihua" online singing contest



On May 10, 2022, the annual Sing! Meihua online singing contest concluded, and the scores and awards were announced. The contest had first, second, and third prizes and honorable mentions for 19 contestants. The contest provided a stage for employees to show their talent and greatly enriched their lives.







The voting ranking on the online platform

Meihua Group's headquarters holds a power walking competition



In June 2022, the headquarters of Meihua Group held a power walking competition. More than 370 employees from 22 departments took part in this 20-day event. During the event, employees walked nearly 100,000 kilometers in total. This event encouraged employees to exercise and enhanced team cohesion, achieving positive results.



The awarding ceremony of the event

Environmental, Social and Governance Report 2022

Development Training

High-caliber employees are the foundation of the Company's longterm success. We put efforts into creating unrestricted promotion channels for employees and launching a variety of vocational training programs. Our employees can improve their overall quality and grow together with the Company.

We have developed diversified growth mechanisms for our employees and are committed to creating reasonable and fair promotion paths. We have devised the "Small Wins" personnel training program. In the program, employees with potential will be selected and benchmarked against their target positions and a phased improvement plan will be developed. They will then be trained for to their target position. The program sufficiently motivates employees for advancement. We have also launched a Worker Ability Certification Program. We evaluate all

The "Set Sailing Onboarding" training course for college graduates

• We provide fresh graduates with a Set Sailing onboarding training program, including lectures and physical training. In 2022, the Set Sailing training course trained 750 college graduates for the Company.

The Aim High Program

- Our Aim High special training program for management trainees focuses on training future middle and senior managers with compound capabilities. The selected management trainees will start with cross-departmental rotation and fully understand the Company's value chain and business logic. They will be equipped with the ability to lead a department, workshop, and area within three years and to concurrently serve at other departments or new departments within five years.
- In 2022, 39 outstanding graduates were selected into the Aim High program. They are in the job rotation stage.

positions to determine the optimal position allocation and define the assessment dimensions, standards, certification methods, and promotion paths for positions at all levels. With the mechanisms of job rotation and mentoring, we guide employees to continuously improve their capabilities. In this way, we have established a Y-shaped promotion channel for front-line production workers to be promoted to positions in production management and production technology.

In addition, we have designed employee training courses in various forms. We have developed a special talent training mechanism, that includes providing onboarding training for new employees, leadership training sessions for managers and workshop directors, and a training program for management trainees to support the capacity building of employees at all levels.

Advanced course for managers and department heads

• In August 2022, we held the third lesson of the advanced course for managers and department heads. The course combined training and hands-on practice and was designed to improve in-service managers' ability to fulfill goals and lead the team. A total of 30 trainees participated in this session.

Training courses for workshop directors and shift heads

• In 2022, we launched training courses for workshop directors and shift heads. The training courses, which combine practical projects and manager rotation training, improved trainees' management ability. They addressed the problem of insufficient qualified product technical directors, workshop directors, and production section chiefs. A total of 473 trainees attended the session.



A group photo of trainees at training courses for workshop directors and shift heads

During the reporting period,

98.28 %

of Meihua Group's employees went through training

The total hours of employee training were

1,969,451







The per capita training hours were

151.31





Training percentage by level











45

Governance

We attach great importance to climate-related risk management. We regularly analyze climate-related risks and opportunities against macro policies, corporate strategic planning, production, and operations. We have developed the Management Measures for Addressing Climate Change and Sustainable Development and the Energy Management System to define the responsibilities of all levels of the Company in addressing climate change. With the above actions, we integrate climate change responses into the Company's

development strategy, major decisions, production, and operations.

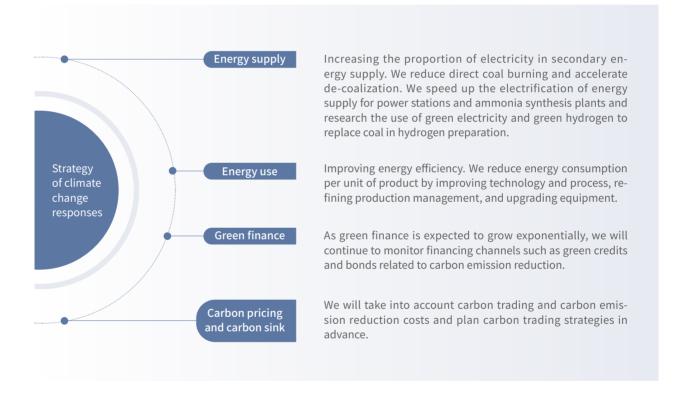
The Strategy Committee is responsible for the Company's climate change responses and holds regular meetings on relevant matters. The Sustainable Development Office under the Strategy Committee communicates with the Board of Directors on climate change in a timely manner.

Climate Change Management Structure	Management Bodies	Responsibilities
The governance level	Strategy Committee	 Supervises and approves the Company's strategies and plans for addressing climate change and oversees climate-risk management; Approves climate-related performance targets and incentive mechanisms, and conducts regular reviews on the progress of achieving the targets.
The management and executive levels	ESG Leadership Group	 Develops the Company's medium to long-term energy conservation plan, energy development plan, and energy conservation and emission reduction targets; Organizes the identification and assessment of climate-related risks and supervises the progress in energy conservation and emission reduction at bases; Organizes and hosts training on climate change.
	Relevant Departments	 Conduct identification and assessment of climate-related risks; Take climate-related risk management measures in business activities and implement energy conservation and emission reduction plans.

Strategy

In 2020, in the background of China's vigorous pursuit of carbon neutrality, we responded to the state's call and took the initiatives to carry out various tasks to address climate-related risks. We have developed a development strategy for addressing climate change and reducing GHG emissions for 2020-2025, which defines the Company's specific goals, tasks, and assessment and incentive measures, and ensures the progress of the work.

We progress and implement the climate change adaptation strategy and take actions to address climate change. We continuously improved our responses to climate-related risks and reduced GHG emissions by improving management, upgrading equipment, adjusting techniques, optimizing processes, and substituting with clean energy, from perspectives of energy supply, energy use, green finance, and carbon pricing and sink.



In 2021 and 2022, in addition to reducing carbon emissions through energy conservation and carbon capture, the Tongliao Base met the target to save 652,000 metric tons of carbon emissions. Moreover, we have adopted a carbon pricing mechanism to evaluate the cost of carbon emissions. In addition, we make investment decisions based on the carbon trading price on the national carbon emissions market.

To standardize GHG accounting for the bio-fermentation industry, we took the lead in setting *Requirements for greenhouse* gases emission accounting and reporting Biotech fermentation manufacturing enterprises, an organization standard proposed by CBFIA. The document was released in December 2022 and will take effect on April 1, 2023.

Risk Management

Based on the analysis of China's carbon peaking and carbon neutrality goals and policies on climate change, types of natural disasters in the country, and the Company's actual condition, we have identified and assessed risks and developed countermeasures to adapt to or mitigate the impact of climate change on business.

Meihua Group's climate-related risk management in 2022

Risk Type	Risk Category	Risk Description	Countermeasures
Transition risks	Policy risk	Against the carbon peaking and carbon neutrality goals, China has tightened its controls on the management of greenhouse gas emissions. It increases our compliance risks and raises the energy structure adjustment costs for our low-carbon transition.	 To promote the use of renewable energy and increase the use of solar and wind energy; To launch technological transformation and energy recovery projects to reduce energy waste in all operations and use energy more effectively and rationally.
	Technical risk	The increase in investment cost is due to the low-carbon transformation of the production process and the introduction of energy-saving and consumption-reducing equipment.	 To advance research and development of technologies that reduce consumption and energy use; To monitor the latest development and application of energy-saving technologies in the bio-fermentation industry, conduct feasibility analyses of technology replacement, and introduce advanced energy-saving equipment.
Physical risks	Acute risk	Climate events such as heavy rainfall, high temperatures, and other extreme climate conditions can damage production equipment and storage facilities, interrupt transportation, and cause other property losses, as well as threaten the health and safety of employees.	 To develop plans for flood control and emergency rescue under extreme heat; To pay close attention to the information released by the meteorological authorities, especially weather warnings; To add extreme weather defense equipment and facilities.
and the second s	Chronic risk ²	Long-term climate risks such as water shortages may affect production and drive-up operating costs.	 To roll out water-related risk analysis and assessment and incorporate wa- ter-related risk management into the Company's overall risk management.

² Chronic physical risks refer to longer-term shifts in climate patterns that may lead to sea level rise or long-lasting extreme heat, such as prolonged heat.

Metrics and Targets

As China aims to achieve carbon peaking and carbon neutrality, we insist on equal emphasis on both technology and management, and we continually reduce the energy consumption of our products. Upholding the sustainable development concept of green biosynthetic manufacturing, we encourage all employees to submit rationalization proposals on energy efficiency and carbon emission reduction. Rewards will be given to the proposers in accordance with the regulations for rationalization

plans that produce outstanding outcomes.

Moreover, the Strategy Committee of the Company's Board of Directors monitors the progress of achieving climate-related targets and indicators and conducts regular performance appraisals to ensure that relevant departments are working toward the set targets. During the reporting period, we met our annual targets for carbon dioxide emission reduction.

GHG emission reduction targets:

By 2025, the carbon dioxide emissions per 10,000 yuan of output will be reduced by 20% based on that in 2020.

In 2022, the Scopes 1 and 2 absolute carbon emissions will 500,000 metric tons and 10,000 metric tons, respectively, compared with 2021.

Clean energy use target:

The coal-based energy structure will be improved. The proportion of renewable energy such as photovoltaics and wind power will be increased from 2020 to 2030. By 2030, the installed capacity of renewable electric energy will be more than 20MW.

Meihua Group's energy use and carbon emissions in 2022

Indicator	Unit	Data in 2022
Coal consumption ³	metric ton	3,641,870.02
Gasoline consumption	L	25,402.37
Diesel consumption	metric ton	1,121.50
Purchased electricity consumption	kWh	621,112,430.22
Natural gas consumption	m^3	18,106,244.41
Renewable energy use	kWh	43,731,262.80
Comprehensive energy consumption intensity	GJ/revenue of 1 million yuan	3,926.00
Total Scope 1 GHG emissions	metric ton of CO ₂ e	9,243,768.55
Total Scope 2 GHG emissions	metric ton of CO ₂ e	306,957.04
Total GHG emissions	metric ton of CO ₂ e	9,550,725.59
GHG emissions intensity	metric ton of CO₂e/revenue of 1 million yuan	341.86

³ Including 715,389.66 metric tons of raw coal consumed.

Environmental, Social and Governance Report 2022

Reducing Energy Consumption

To improve energy efficiency, we put efforts into developing and applying waste heat recycling systems and related facilities, including heat and power cogeneration, steam turbine-driven compressor units, multi-effect evaporators, evaporative cooling, power generation from waste heat of sulfuric acid synthetic ammonia, steam as the by-product of Ende gasifiers' waste heat, and starch waste heat evaporators. Prior to usage, we categorize heat energy, which lowers environmental pollution and boosts energy

efficiency. This practice saves energy, protects the environment, improves the quality of the heat supply, and increases the electricity supply. During the production of synthetic ammonia, we capture and compress carbon dioxide to produce food-grade dry ice, reducing carbon dioxide emissions and enhancing the economy at the same time.

Suppliers' Engagement in Climate Action

In addition to addressing climate change, conserving energy, and reducing emissions on our own, we value the partnership with suppliers to reduce carbon emissions in the supply chain. In 2022, we collaborated with 62 suppliers (about 18% of the total number of suppliers) to reduce emissions and conserve energy. We encourage suppliers to

set energy consumption targets and convert the use of coal to gas, modify our techniques, improve processes, recycle steam, and use clean energy. These measures have decreased energy consumption, improved energy efficiency, and reduced carbon emissions in the upstream supply chain.

The steam energy-efficiency technical transformation project for the fermentation workshop

In response to the national policy of assessing the total amount and intensity of energy consumption, we launched the Steam Energy-efficiency Technical Transformation Project for the Fermentation Workshop in 2022 to improve heat efficiency. Under the project, a set of material heat exchanger and a water material heat exchanger were added in the fermentation workshop, which have significantly improved acid production. The material inlet temperature of the fermenter has been reduced from 127° C to 40° C, thereby reducing the number of cooling devices, and the conversion rate and acid production have been improved. The products' steam consumption per metric ton has been reduced by 0.16 metric ton, which saves 279.7 metric tons of steam per day and 14,000 metric tons of coal equivalent (TCE) per year and reduces 37,000 metric tons of carbon dioxide emissions.

To enhance our employees' ability to respond to climate-related risks, conserve energy, and reduce carbon emissions, we have launched a comprehensive training program on energy conservation strategies, policies, and standards. From June to September 2022, we delivered four training sessions on climate change, energy conservation, and emission reduction strategies. They covered the interpretation of China's carbon-neutral trends, peer companies' energy conservation and emission reduction strategies, and the Company's energy consumption status and energy conservation and emission reduction planning and strategies. They were delivered to a total audience of 120 with more than 240 training hours.





Environmental Management

We, in the bio-fermentation industry, face increasing external demands regarding environmental protection, which raises the standards of our environmental management system. We regard environmental protection as an essential part of our business and strictly comply with the Environmental Protection Law of the People's Republic of China and other applicable laws and regulations. Based on the Company's current progress in environmental protection, we have introduced an *Up-to-standard Odor Management* System and a Stable Operation Management System for Sewage Workshops. Our production bases strictly implement the Headquarters' requirements. An Environmental Protection Management System, an Environmental Protection Monitoring System, an Environmental Protection Education and Training System, and an Environmental Protection Inspection System have been developed for internal management. We continuously improve our environmental management performance and capabilities by advancing the construction and certification of our environmental management system, fulfilling environmental management responsibilities, and establishing a sound environmental audit system.

For effective environmental management, we fully perform the primary responsibility of environmental protection. Each of our production bases has an environmental management department and a senior executive in charge of environmental management. We comprehensively manage production bases' environmental protection work by holding environmental briefings and special meetings regularly, developing environmental protection plans, and reviewing environmental protection resources for development, renovation, and expansion projects.

We place special emphasis on environmental training. We develop annual environmental protection training plans and provide training to all employees. Moreover, we hold several special environmental protection training sessions every year for shift head employees and above, allowing environmental protection managers and executors to gain a deeper understanding of the Company's environmental protection progress and technology and environmental management system. Furthermore, we require our production bases to provide employees with training on environmental protection principles, policies, laws, and regulations as part of their regular departmental training.

Environmental management system certification

• We proceed with environmental management system certification. As of the end of the reporting period, our three production bases had achieved 100% coverage of the ISO 14001 system certification.

Environmental inspection

- The operation of sewage discharge and environmental protection facilities is regularly monitored.
- Environmental protection commissioners are dispatched for field inspection on the Company's environment from time to time.
- Every month, a joint inspection led by the Environmental Protection Department is held, focusing on the operation of the Company's environmental protection system. The inspection results are taken as a field assessment item for the Environmental Protection Award.
- In 2022, each of our three production bases conducted four environmental compliance audits covering the entire operating area.

Environmental emergency management

The Company's environmental protection commissioners prepare an environmental emergency plan and organize drills according to the Interim Measures for the Administration of Environmental Emergency Response Plans and the Measures for the Filing and Administration of the Environmental Emergency Response Plans of Enterprises and Public Institutions. In the case of an environmental pollution emergency, they will promptly report to the higher authorities.

Water Resources Management

According to the Global Risks Report 2016 of the World Economic Forum, water supply crises are one of the most significant risks facing human society in the next decade. China has 20% of the world's population but only 7% of fresh water. According to the United Nations' releases, the global available water supply is expected to decrease by 40% by 2030, and China will have a shortage of water resources in a decade.

Using the Aqueduct tools of the World Resources Institute (WRI), we identified water risk levels in areas where the Company operates and found that 100% of our water withdrawals were drawn from high-risk areas in 2022. In addition, 80%-100% of our crops were sourced in areas with high or very high baseline water stress. These results have become an inexhaustible driving force for us to continuously improve our water efficiency. We aim to reduce water consumption throughout the Company, conduct regular performance appraisals based on the progress of the targets, and protect water resources with practical actions. We will effectively control water-related risks and conserve water by optimizing technological processes and recycling water resources. In 2023, we will conduct more water risk

impact analysis and develop countermeasures based on the situation of areas where the Company operates.

We make efforts in improving water resources management to meet the Company's development and employees' living needs. We strictly abide by the Water Law of the People's Republic of China and other applicable national regulations on water resources management. Based on our current situation, we have developed the Water Resources Management Measures of Meihua Holding Group Co., Ltd., set the Strategy Committee of the Board of Directors as the highest responsible body for the Company's water resources management, and established a three-level water resources management structure that comprises of the Company, production bases, and production entities. In our system, we provide clear instructions on how to develop overall plans for the Company's water resources, improve water resources conservation, protection, and scientific use, and increase the reuse rate of water and the industrial use of non-traditional water resources. We aim for a water-efficiency model. In 2022, there were no water-related violations in the Com-

Meihua Group's use of water in 2022

Indicator	Unit	Data for 2022
Reuse of water	metric ton	5,841,943
Total water withdrawal	metric ton	30,642,207
Total water consumption	metric ton	36,484,150
Water consumption intensity	metric ton/1,000 yuan of revenue	1.31

Taking sustainable development as our duty, we urge our suppliers and partners to fulfill their environmental and social responsibilities. We plan to conduct water risk assessments for suppliers in areas of high or extremely high water stress and field assessments for key suppliers every year. We will analyze the water risk assessment results together with the suppliers and develop corresponding risk management plans. In addition, we will invite suppliers to discuss water risk issues every year, along with technical exchanges and cooperation in water conservation, use, treatment, and recycling. We will carry out training and sharing of the best practices of corporate water risk management to achieve

sustainability of business chain coordination.

As a leader in the industry, we are always committed to contributing to the development of the bio-fermentation industry. In 2015, we participated in setting the national standard Water Saving Enterprises: Monosodium L-glutamate Industry (GB/T 32165-2015). In 2022, we participated in revising the national standard Water Saving Enterprises: Fermentation Industry to set more scientific and unified standards for water resources management and water conservation for the fermentation industry.

Waste Management

In waste management, we always discharge waste against standards and address problems at the source. We are committed to minimizing all kinds of pollutants and waste generated in production and operation activities. We strictly abide by the Atmospheric Pollution Prevention and Control Law of the People's Republic of China, the Law of the People's Republic of China on the Prevention and Control of Environment Pollution Caused by Solid Wastes, and other

applicable laws and regulations. We have developed a Pollutant Discharge Management System and the Hazardous Waste Management Regulations of Meihua Holding Group Co., Ltd. (for Trial Implementation). These systems are designed to ensure the stable operation of pollutant treatment facilities, the up-to-standard discharge of air pollutants and effluents, and the proper disposal of waste.

Atmospheric Pollutant Management

Our waste gas emissions are mostly sulfur dioxide, nitrogen oxides, and other atmospheric pollutants generated during the power generation process of the Company's self-owned power plants. We have taken special treatment measures against them. In 2022, we launched rectification on odor pollutants and sulfur dioxide and adopted the following emission reduction measures:

Tongliao Base

- In heating stations, SNCR denitrification and PSCR denitrification are used in combination with electrostatic-fabric integrated precipitation, ammonia desulfurization, and ultrasonic desulfurization and dust removal integrated devices to treat flue gas.
- Treatment devices of cyclone dust collection, bag dust collection, water foam dust collection, low temperature plasma, ozone adsorption and oxidation are used to dry the tail gas.

Xinjiang Base

- An intensive stench and odor control project has been launched. The bases' malodorous gas treatment facilities adopt acid/alkali washing, low-temperature plasma, condensers, and photoelectric dust removal.
- After treatment, the concentration of lysine and threonine exhaust odor has reached the national standard.
- After treatment, the concentration of glutamate and nucleotide exhaust odor has been much lower than the cap set in the national Emission Standards for Odor Pollutants.

Jilin Base

- Odor control, electrostatic-fabric integrated precipitation, desulfurization and denitrification equipment, bag dust collection, cyclone dust collection, washing towers, oxidation towers, electrostatic demisting, plasma, activated carbon, photoelectric deodorization are adopted to treat non-fugitive waste gas.
- A fully-enclosed coal yard has been built to reduce the generation of fugitive dust.

Use of Effluents

For efficient resource management, we vigorously promote the comprehensive utilization of wastewater and water recycling projects. We have also made significant progress in the conservation of water by upgrading our technologies and improving our processes. The Tongliao Base invested hundreds of millions of yuan to introduce the world's top water treatment technology from the Netherlands-based Pagues and build reclaimed water reuse workshops for effective treatment of low-concentration wastewater and reduction of effluent discharge. In 2022, the Tongliao Base

consumed approximately 4 metric tons of water per metric ton of MSG, which is significantly lower than Level 1 indicator requirements of Cleaner Production Standard - Monosodium glutamate industry.

In addition to the comprehensive utilization of wastewater, we have combined progressive utilization and recycling. For some water, the closed-circuit recycling rate is more than

The water conservation technological upgrade project in the tongliao and jilin bases



In 2022, the Tongliao Base upgraded the decolorization columnal activated carbon process for MSG and installed a continuous resin decolorization system with related new processes. After the new system was put into operation, the MSG workshop's unit consumption of water intake and discharge was reduced by 67%, saving 175,200 metric tons of water per year. In addition, the unit consumption of water discharge in the refining workshop has been reduced by 74%, saving 642,400 metric tons of water per year.

The Jilin Base's five sets of ion exchange water washing equipment for lysine extraction consumed a large amount of desalted water. In 2022, the secondary condensate from the batching workshop was reused to replace desalinated water, thereby reducing the unit consumption of desalted water in the workshop as well as the amount of effluent discharged from the batching workshop. This practice has reduced the unit consumption of desalinated water by 63.5%, saving 685,000 m³ water per year.

Meihua Group's effluent discharge in 2022

Indicator	Unit	Data in 2022
Total effluents	metric ton	22,107,489.15
COD	metric ton	2,149.37
COD intensity	metric ton/100 million yuan of revenue	7.69
N-NH ₃	metric ton	262.27
N-NH ₃ intensity	metric ton/ 100 million yuan of revenue	0.94

Green Factory Win-win Cooperation

Waste Disposal

We are meticulous in waste disposal management. We recycle the waste generated in production and office work in a safe and environmentally friendly manner. This practice reuses waste while reducing the environmental pollution.

Our non-hazardous waste mostly comes from office waste. domestic waste, and general industrial waste produced during production and operations. The solid waste produced in the Company's production and everyday life is classified and collected and disposed of in accordance with the Solid Waste Classification and Disposal Principles.

The Company's hazardous waste primarily consists of waste chemical reagents, waste chemicals, and waste activated carbon. We have introduced the Regulations on Hazardous Waste Management (for Trial Implementation). We collect. store, and transfer hazardous waste, develop emergency plans, and maintain special records in strict accordance with the requirements. Our hazardous waste is disposed of by qualified third parties under our contract.

Tongliao Base

- Activated carbon is recycled. Activated carbon used to produced amino acid is recycled and reused in the waste carbon workshop, realizing 100% comprehensive utilization.
- Incinerators have been built. Sewage treatment sludge, organic fertilizers, electrostatic defogging fluids, and other wastes are recycled by being sent to the incinerators in the plant for incineration to generate steam.
- Office waste and various metal wastes are centrally collected and recycled.

Xinjiang Base

- The activated carbon is reused after being recycled and processed by the waste carbon workshop to realize zero emission of waste activated carbon.
- Non-hazardous metal-containing waste is collected at the recycling station or waste material station in the factory to be converted into resources.
- Water-treatment sludge and waste mother liquor for amino acid production are sent to the incinerator in the factory for incineration.

Jilin Base

- Lysine and sodium glutamate tail liquids are used as raw materials for organic fertilizers.
- General solid waste such as fly ash and slag generated in power plants are sold to third parties for comprehensive utilization.

Meihua Group's pollutant and waste discharge in 2022

Type of Pollutant	Indicator	Unit	Data for 2022
	SO ₂ emissions	metric ton	1,375.28
	NO _x emissions	metric ton	1,790.65
	Dust emissions	metric ton	103.65
Atmospheric pollutants	Total waste air emissions	metric ton	3,269.58
-	Waste air emissions intensity	metric ton/1 million yuan of revenue	0.12
	Total general solid waste discharge	metric ton	970,032.94
Non-hazardous waste	General solid waste discharge intensity	metric ton/1 million yuan of revenue	34.72
	Used batteries generated	piece	11,635
	Spent activated carbon generated	metric ton	155.02
	Spent zinc oxide catalysts generated	metric ton	10.36
	Spent engine oil generated	metric ton	162.39
Hazardous waste	Spent detection solution generated	metric ton	2.51
-	Used (empty) reagent bottles generated	metric ton	2.52
***	Used paint buckets generated	metric ton	4.84
	Hazardous waste discharge	metric ton	337.64
	Hazardous waste discharge intensity	metric ton/1 million of revenue	0.01

Recycling of Packaging Materials

As a leading company in the Chinese bio-fermentation industry, we have seen a steady increase in production and sales as well as the number and demand of customers worldwide. In this context, we have prioritized minimizing the weight of product packaging materials, reducing their environmental impact, and promoting packaging material recycling, which are all significant ways we can protect the environment.

In 2022, we developed the Green Packaging Material Procurement Strategy and System of Meihua Holding Group Co., Ltd. with multi-effect utilization and resource recycling as the core. We implement standardized control over packaging materials and green packaging material management. We have set management targets for packaging materials, established a green packaging procurement system, and standardized and optimized the paper, plastic, and metal packaging processes. We also require that all packaging materials used by the Company be reusable, recyclable, and degradable, as well as promote the use of less, lighter, and recycled packaging.

Meihua Group's green packaging material management philosophy

We are committed to increasing the proportion of environmental labeling products; prioritizing the use of renewable, reusable, and recyclable packaging materials; and gradually eliminating unnecessary packaging materials. Through optimization, we will achieve "reduction, reuse, and recycling".

Meihua Group's green packaging material weight reduction targe

By December 31, 2023, we will reduce the total weight of packaging materials by 234 metric tons, including 180 metric tons of plastic packaging materials for amino acid products, 53 metric tons of plastic packaging materials for MSG products, and 1 metric ton of paper drum packaging materials.

The majority of our packaging materials are plastic, paper, and wood. Besides ensuring the safety and reliability of packaging materials, we seek to minimize the number of packaging materials used and promote green packaging innovation. We launched a special campaign to reduce the weight of woven bags. During the reporting period, we used recycled materials to produce by-product woven packaging, and the woven bag for amino acids was made using a lighter outer bag and a thinner inner lining. As a result, we reasonably reduced the consumption of packaging materials and increased the amount of recycled packaging. During the weight reduction campaign in 2021 and 2022, the consumption of packaging materials was reduced by an average of 716 metric tons per year, and an average of 981 metric tons of materials were recycled per year. In 2022, the Company's revenue from products using green packaging materials accounted for 5% of its total revenue from products.



Meihua Group's green packaging material campaign

with Employees



Reduction

Minimize the total consumption of packaging materials without compromising functions for transportation, storage, and sales.



Reuse

Dispose of used packaging materials and reuse them.



Recycling

Recycle and dispose of waste packaging products and convert them into new substances or energy;

Use packaging waste or processing leftovers as raw materials or ingredients to make recycled packaging materials such as fiberboard and degradable plastics.

Consumption of packaging materials



Plastic

22,028



Paper

18,225



We will continue to pursue green packaging material management together with our packaging suppliers in the future. We will accelerate the establishment and improvement of a green packaging system through packaging weight reduction and recycling and realize a green future.



Sustainable Supply Chain Management

To provide customers with high-quality green products, we integrate sustainable development demands into the management of the whole supply which extends from the procurement of raw materials, such as corn and coal, to the partnership with logistics companies and retailers at the end of the supply chain. In 2022, we strictly observe guidelines and laws on human rights and anti-violent conflicts in the areas where operate. We developed an internal policy, which is the Environmental and Labor Human Rights Sustainable Procurement Policy of Meihua Holding Group Co. Ltd. This policy contains regulations and agreements on human rights and anti-violent conflicts with contractors, suppliers, and other business partners, aiming to build a fair, transparent, and sustainable supply chain.

Environmental, Social and Governance Report 2022

Meihua Group's sustainable procurement strategy:

We uphold the vision and mission of purchasing with value and realizing a procurement system of excellence. With our supply chain capabilities, industry influence, and market expertise, we are committed to creating a more sustainable future with our suppliers and promoting our procurement system toward sustainability and responsibility.

In 2022, Meihua Group

of its products made from materials that were traceable to the place of origin.



Meihua Group's number of suppliers

383

Primary suppliers

Direct procurement sup-

53

Key primary suppliers

Top 10 primary suppliers in the industry or region with an annual procurement value of more than 10 million yuan

380

Non-primary suppliers

Non-direct procurement suppliers

Key non-primary suppliers

Non-direct procurement suppliers with an annual procurement value of more than 10 million yuan and accounting for over 30% of total procurement amount (of a single material)



Responsible Procurement

We strictly observe the Bidding Law of the People's Republic of China. We have developed the Suppliers' Responsible Procurement Management Measures of Meihua Holding Group Co. Ltd. and established a supplier management mechanism covering risk management, admission, assessments, and terminations to improve the Company's supply chain management.

Supplier Risk Management

Every year, we identify and evaluate ESG risks among suppliers. Based on the industry and procurement volume, we identify and assess suppliers' environmental, social and governance risk levels using our ESG risk evaluation matrix. The environmental dimension of the matrix includes six indicators: carbon emissions, water grades, raw material sources, pollutant discharge, biodiversity, and environmental protection measures. The social dimension includes three indicators: labor management, product responsibility, and stakeholders. The governance dimension includes three indicators: communication and feedback, corporate governance, and corporate behaviors. That way, we are able to comprehensively identify suppliers' ESG risks by grade, category, and discipline.

We grade suppliers based on the results of the ESG risk evaluation and divide them into high-risk, medium-risk. and low-risk suppliers. High-risk suppliers will be requested to complete the Supplier ESG Questionnaire from time to time before we reassess and update their ESG risk level and provide timely feedback. We control suppliers' ESG risks with measures in the organization, systems, technology, and emergency response, and carry out ESG risk investigations. We have made ESG risk management and control a standardized and regular practice and comprehensively improved our ESG risk identification, prevention, and control capabilities. In 2022, we conducted ESG risk identification and determination for our suppliers twice and identified 123 high-risk suppliers, including 20 key primary suppliers and 0 key non-primary suppliers.

Rating criteria for suppliers' risks

High-risk suppliers

The number of high-risk ESG indicators accounts for more than 30% (the decisive factor for high ESG risk) and the cumulative procurement value of the year is more than 10 million yuan.

Medium-risk suppliers

The proportion of high-risk ESG indicators is less than 30%, and the proportion of medium-risk ESG indicators is more than 40% (the decisive factor for medium ESG risk) and the cumulative procurement value of the year is less than 10 million yuan.

Low-risk suppliers

Cases other than the above two are of low ESG risk and the cumulative procurement value of the year is less than 10 million yuan.

Supplier Admission

During supplier admission, we strictly observe relevant industry standards and the ESG Management System of Meihua Holding Group Co., Ltd. for Suppliers and prioritize suppliers who are certified in product quality and safety, employees' occupational health and safety, environmental management, green products, data privacy, and information security. Obtaining ESG-related certifications will be a necessary requirement for suppliers identified as high-ESG-risk. For ESG medium-risk suppliers, we prioritize those who can provide ESG-related certification documents during the admission process to select suppliers with strong advantages and good intentions for partnership.

Supplier Assessments

For admitted suppliers, we have developed Supplier ESG Assessment Criteria. Every year, we regularly conduct ESG assessments for suppliers through questionnaires, on-site audits, and video link. We put forward expectations and requirements for suppliers' social responsibility and environmental management and focus on the performance in labor and human rights, health and safety, environmental protection, and business ethics when inspecting suppliers.

We have developed a Supplier ESG Assessment Form to score admitted suppliers. Based on the final total scores, we classify suppliers into Classes A, B, C, and D. In addition, we will give corresponding rewards or penalties to suppliers according to their ESG assessment results. In 2022, we conducted supplier ESG assessments and reviewed a total of 763 suppliers, of which 57 were unqualified, accounting for 7% of the total.

Criteria for supplier ESG assessments and rating

Type of suppliers	Definition	Rating criterion
Class-A suppliers	Outstanding suppliers	Suppliers scoring 90 or above in the ESG assessment
Class-B suppliers	Qualified suppliers	Suppliers scoring below 90 and above 75 or 75 in the ESG assessment
Class-C suppliers	Suppliers qualified after rectification	Suppliers scoring below 75 and above 60 or 60 in the ESG assessment
Class-D suppliers	Unqualified suppliers	Suppliers scoring below 60 in the ESG assessment

Supplier Termination

Suppliers who have received two Class C ratings must complete rectification and submit a rectification report within the prescribed time frame. If a supplier still fails to meet the standards after rectification, its products will be banned by the Company. Suppliers who have received D in an ESG assessment, provided false materials, had major ESG violations or violated the code of conduct for suppliers will be banned in accordance with relevant disposal procedures to ensure the integrity and impartiality of the supply chain.

Compliance Management and Control Over Suppliers

As part of our commitment to establishing clean and healthy partnerships with suppliers, we emphasize compliance management throughout the supply chain. We define suppliers' corruptive conduct in the Anti-Corruption Management Measures of Meihua Holding Group Co., Ltd. We have formulated the Code of Conduct of Meihua Holding Group Co. Ltd. for Suppliers. A major focus of this policy is the prevention of child labor, the protection of basic human rights, equal treatment, business integrity, operational compliance, health, safety, and environmental protection. It covers labor and human rights, health and safety, environmental protection, ethics, and corporate governance. With the above measures, we strictly regulate suppliers' conduct and maintain a transparent procurement culture.

Communication with Suppliers

We insist on transparency openness, cooperation, equality, and mutual benefit. We have established effective communication channels for suppliers, including regular suppliers' conferences every year. We also encourage suppliers to participate in the exchange events regularly hosted by the Company to communicate, discuss, and share information regarding cost reduction, quality and service improvement, low-carbon technology, and human rights protection. In addition, we regularly deliver ESG training for suppliers to strengthen our partnerships and advance our mutual growth.

Community Engagement

Despite our rapid growth and increased economic output, we have not forgotten our mission to give back to society and assist the disadvantaged. We make full use of our industry advantages and support our public welfare undertakings. We contribute to rural revitalization, charitable donations, community building, and the combat against COVID -19. Through these public welfare undertakings, we give back to society with love and assist people in practical ways, fulfilling the Company's social responsibility. By the end of the reporting period, our employees spent 1,744 working hours in commu-

nity welfare activities such as student aid and environmental protection.

We established the Tibet Meihua Public Welfare Foundation, and developed special management systems such as the Donation Management Measures of Tibet Meihua Public Welfare Foundation. Our charity undertakings concentrate in Hebei, Xinjiang, and Tibet. In 2022, we donated 4,320,323 yuan to public welfare.

Tibet Meihua Public Welfare Foundation's public welfare events



In 2022, Tibet Meihua Public Welfare Foundation held a variety of public welfare events, which were widely recognized by the whole community.

- Followed the initiative of the Tibet Office of the China Securities Regulatory Commission anad made poverty alleviation donation in Gulu Town, Nagu, Tibet, providing local residents with daily necessities, rice, flour, grain, oil, books, and other supplies.
- Donated winter supplies to Guoke Village, Gulu Town. Seni District, Nagu, Tibet Autonomous Region.
- Donated 5,010 sets of protective clothing to the Administration Committee of the Lhasa Economic Development Zone.
- Donated protective clothing, masks, and antiviral drugs to fight COVID-19 to Fukang Maternity and Children's Hospital in Chengguan District, Lhasa.

- Donated anti-epidemic supplies worth more than 360,000 yuan to help Jilin fight COVID-19.
- Donated 5.000 sets of protective clothing and 30 boxes of Lianhua Oingwen to aid COVID-19 prevention and control
- Contributed funds to the construction of the community center of Sibao Village, Donggugang Town, Anci District, Langfang, Hebei Province.
- Visited the Linkong Checkpoint of the Langfang Public Security Bureau.

Meihua Group's fertilizer donation



We have carried out fertilizer donations for many years in a row. Through targeted assistance to farmers, we boost spring farming. Since 2020, we have donated 170,000 metric tons of fertilizers, worth about 100.41 million yuan in total, benefiting 140.67 million hectares of farmland.

In April 2022, the Tongliao Base donated fertilizers to farmers living nearby to address the rising prices of agricultural materials. The farmers expressed praise and thanks for the Company's charitable deeds. In this campaign, 152,08 metric tons of fertilizers were donated to farmers in 1,000 nearby villages and towns.



A farmer benefited from the fertilizer donation

GRI Index

Disclosure topic/Disclosure item	Title of the disclosure item	Chapter index	Page			
GRI 1: Foundation 2021						
GRI 2: General Disclosures 2	GRI 2: General Disclosures 2021					
2-1	Organizational details	About the Report	02			
2-2	Entities included in the organization's sustainability reporting	About the Report	02			
2-3	Reporting period, frequency and contact point	About the Report	02			
2-4	Restatements of information	/	/			
2-5	External assurance	/	/			
2-6	Activities, value chain and other business relationships	About Us	06			
2-7	Employees	About Us	06			
2-8	Workers who are not employees	About Us	06			
2-22	Statement on sustainable development strategy	Our Sustainable Development Strategy	08			
2-29	Approach to stakeholder engagement	Stakeholder Engagement	18			
2-30	Collective bargaining agreements	Human Rights Protection	36			
GRI 3: Material Topics 2021	L					
3-1	Process to determine material topics	Stakeholder Engagement	18			
3-2	List of material topics	Stakeholder Engagement	18			
3-3	Management of material topics	Stakeholder Engagement	18			
GRI 201: Economic Perform	nance 2016					
201-2	Financial implications and other risks and opportunities due to climate change	Risk Management	46			
201-3	Defined benefit plan obligations and other retirement plans	Employee Incentives	38			
GRI 204: Procurement Practices 2016						
204-1	Proportion of spending on local suppliers	Sustainable Supply Chain Management	62			
GRI 205: Anti-corruption 2016						
205-1	Operations assessed for risks related to corruption	Business Ethics and Anti-corruption	20			
205-2	Communication and training about anti-corruption policies and procedures	Business Ethics and Anti-corruption	20			
205-3	Confirmed incidents of corruption and actions taken	Business Ethics and Anti-corruption	20			

Disclosure topic/Disclosure item	Title of the disclosure item	Chapter index	Page		
GRI 206: Anti-competitive Behavior 2016					
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Business Ethics and Anti-corruption	20		
GRI 301: Materials 2016					
301-1	Materials used by weight or volume	Recycling of Packaging Materials	58		
301-2	Recycled input materials used	Recycling of Packaging Materials	58		
301-3	Reclaimed products and their packaging materials	Recycling of Packaging Materials	58		
GRI 302: Energy 2016					
302-1	Energy consumption within the organization	Indicators and Targets	47		
302-2	Energy consumption outside of the organization	Indicators and Targets	47		
302-3	Energy intensity	Indicators and Targets	47		
302-4	Reduction of energy consumption	Indicators and Targets	47		
302-5	Reductions in energy requirements of products and services	Indicators and Targets	47		
GRI 303: Water and Effluents 2018					
303-1	Interactions with water as a shared resource	Water Resources Management	53		
303-2	Management of water discharge-related impacts	Water Resources Management	53		
303-3	Water withdrawal	Water Resources Management	53		
303-4	Water discharge	Water Resources Management	53		
303-5	Water consumption	Water Resources Management	55		
GRI 305: Emissions 2016					
305-1	Direct (Scope 1) GHG emissions	Indicators and Targets	47		
305-2	Energy indirect (Scope 2) GHG emissions	Indicators and Targets	47		
305-3	Other indirect (Scope 3) GHG emissions	/	/		
305-4	GHG emissions intensity	Indicators and Targets	47		
305-5	Reduction of GHG emissions	Indicators and Targets	47		
305-6	Emissions of ozone-depleting substances (ODS)	Waste Management	54		
305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	Waste Management	54		

GRI Index

68

404-1

404-2

404-3

Environmental, Social and Governance Report 2022

Disclosure topic/Disclosure item	Title of the disclosure item	Chapter index	Page
GRI 306: Effluents and Wa	ste 2016		
306-1	Water discharge by quality and destination	Water Resources Management	53
306-2	Waste by type and disposal method	Waste Management	57
306-3	Significant spills	Waste Management	54
306-4	Transport of hazardous waste	Waste Management	56
306-5	Water bodies affected by water discharges and/or runoff	Water Resources Management	53
GRI 308: Supplier Environ	mental Assessment 2016		
308-1	New suppliers that were screened using environmental criteria	Responsible Procurement	63
308-2	Negative environmental impacts in the supply chain and actions taken	Responsible Procurement	64
GRI 401: Employment 201	6		
401-1	New employee hires and employee turnover	Human Rights Protection	37
401-2	Benefits provided to full-time employees that are not provided to temporary or part- time employees	Employee Incentives	38
401-3	Parental leave	Employee Incentives	38
GRI 403: Occupational Hea	alth and Safety 2018		
403-1	Occupational health and safety management system	Safety Management	28
403-2	Hazard identification, risk assessment, and incident investigation Safety Management		28
403-3	Occupational health services	Safety Management	28
403-4	Worker participation, consultation, and communication on occupational health and safety	Safety Training	29
403-5	Worker training on occupational health and safety	Safety Training	29
403-6	Promotion of worker health	Safety Management	28
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Safety Management	28
403-8	Workers covered by an occupational health and safety management system	Safety Management	28
403-9	Work-related injuries	Safety Management	28
403-10	Work-related ill health	Safety Management	28
GRI 404: Training and Edu	cation 2016		
404.1		Davidson at Tarisia	41

Average hours of training per year per employee

Percentage of employees receiving regular performance and career development reviews

Programs for upgrading employee skills and transition Development Training

Development Training

Development Training

41

41

41

Disclosure topic/Disclosure item	Title of the disclosure item	Chapter index	Page				
GRI 405: Diversity and Equal Opportunity 2016							
405-1	Diversity of governance bodies and employees	Human Rights Protection	37				
405-2	Ratio of basic salary and remuneration of women to men	/	/				
GRI 406: Non-discrimination 2016							
406-1	Incidents of discrimination and corrective actions taken	Human Rights Protection	36				
GRI 407: Freedom of Association and Collective Bargaining 2016							
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	Human Rights Protection	36				
GRI 408: Child Labor 2016							
408-1	Operations and suppliers at significant risk for incidents of child labor	Human Rights Protection	36				
GRI 409: Forced or Compulsory Labor 2016							
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	Human Rights Protection	36				
GRI 413: Local Communities 2016							
413-1	Operations with local community engagement, impact assessments , and development programs	Community Engagement	65				
413-2	Operations with significant actual and potential negative impacts on local communities	/	/				
GRI 414: Supplier Social Assessment 2016							
414-1	New suppliers that were screened using social criteria	Responsible Procurement	63				
414-2	Negative social impacts in the supply chain and actions taken	Responsible Procurement	64				
GRI 416: Customer Health and Safety 2016							
416-1	Assessment of the health and safety impacts of product and service categories	Customer Service	33				
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	Customer Service	33				
GRI 417: Marketing and Labeling 2016							
417-1	Requirements for product and service information and labeling	Customer Service	33				
417-2	Incidents of non-compliance concerning product and service information and labeling	Customer Service	33				
417-3	Incidents of non-compliance concerning marketing communications	/	/				
GRI 418: Customer Privacy 2016							
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	Customer Service	33				

Reader's Feedback

Dear reader,						
Greetings.						
			Environmental, Social and Governance Report 2022. You velcomed and appreciated.			
1. Which category of Mei	hua Group's stakehol	ders do you belong to?				
☐ Shareholders and investors		☐ Customers				
☐ Creditors		☐ Management				
☐ Ordinary employees		☐ Governments and regulators				
☐ Suppliers	☐ Contractors					
□ Media		\square Partners (industry associations, research institutions, etc.)				
☐ Community represent	tatives (NGOs, local re	esidents, public welfare	program representatives, etc.)			
☐ Other (please specify))					
2. How do you rate this r	eport overall?					
☐ Very good	□ Good	☐ Average	□ Bad			
3. What is your opinion a	about the clarity, accu	racy, and completeness	of the information and data disclosed in this report?			
☐ Very good	\square Good	☐ Average	□ Bad			
4. How well do you think this report reflects the governance responsibility undertaken by Meihua Group?						
☐ Very good	\square Good	☐ Average	□ Bad			
5. How well do you think	this report reflect the	e environmental respon	sibility undertaken by Meihua Group?			
☐ Very good	\square Good	☐ Average	□ Bad			
6. How well do you think	this report reflects th	ne social responsibility u	indertaken by Meihua Group?			
☐ Very good	\square Good	☐ Average	□ Bad			
7.What is your opinion a	bout the design and t	ypesetting of this report	?			
☐ Very good	\square Good	☐ Average	□ Bad			
8. What are your opinions	and suggestions for M	leihua Group's environm	ental, social and governance performance and reporting?			

Contact Information
Address: No.66 Huaxiang Road, Economic and Technical Development Area, Langfang City, Hebei Province, China, 065001
Email: mhzqb@meihuagrp.com
Telephone: +86 0316-2359652