



NET-ZERO CARBON STRATEGY FOR THE LITHIUM INDUSTRY

Abstract

Yahua firmly supports the national "Dual Carbon" goals and is committed to achieving carbon neutrality by 2050 through technological innovation and green manufacturing. We will lead the green transition in the lithium salt industry and promote global sustainable development.

Sichuan Yahua Co., Ltd

Chairman's Statement

Climate change represents a profound challenge to sustainable development, exacerbated by the continuous increase in greenhouse gases, which poses serious environmental and ecological problems. As a globally influential lithium salt producer, Yahua recognizes its dual responsibility to drive economic growth while actively addressing climate change by promoting green and low-carbon development. As an industry leader, we acknowledge the critical role we play in mitigating climate impacts. Yahua is focused on reducing our carbon footprint and advancing sustainable development through continuous innovation and technological advancement.

We fully endorse the national objectives of achieving a carbon peak by 2030 and reaching carbon neutrality by 2060, considering these goals as core to our corporate mission and responsibility. In our journey toward carbon neutrality, Yahua is dedicated not only to its growth but also to making positive, long-term impacts on the environment and society. We firmly integrate the principles of sustainable development into our corporate strategy, pioneering green manufacturing through technological innovation and enhancing the environmental performance of our products.

Yahua has consistently been at the forefront of the lithium salt production industry, committing to the research, development, and promotion of efficient and environmentally friendly new energy materials to meet the rising global demand for clean energy. Our strategic vision is to become a globally influential supplier of lithium salts, providing essential materials to support the expansion of green sectors, such as electric vehicles and energy storage solutions. By continuously enhancing the sustainability and technological content of our products, we aim not only to secure market leadership but also to establish benchmarks in green transformation.

Our commitment to carbon neutrality is not just rhetoric; it is demonstrated through specific, measurable actions and targets. Transparency and accountability are fundamental to our approach to climate action. Yahua is committed to openly disclosing our carbon emissions data, embracing stakeholder oversight, and ensuring that our environmental goals are realistic and achievable. We will continue to strengthen partnerships, explore opportunities in green finance and investment, and accelerate the implementation of low-carbon projects to contribute to the global pursuit of carbon neutrality.

Chairman of Yahua Group & Director of Sustainable Development Committee

Zheng Rong

Content

CHAIRMAN'S STATEMENT	1
CHAPTER 1: BACKGROUND	3
1. <i>National Strategy</i>	<i>3</i>
2. <i>Industry Landscape</i>	<i>5</i>
3. <i>TCFD Disclosure</i>	<i>9</i>
CHAPTER 2: OUR BUSINESS	20
1. <i>Yahua Introduction</i>	<i>20</i>
2. <i>Development History</i>	<i>21</i>
3. <i>Global Presence</i>	<i>22</i>
4. <i>Lithium resource security</i>	<i>22</i>
CHAPTER 3: OUR GOALS	24
1. <i>Core Guiding Ideology</i>	<i>24</i>
2. <i>Four major principles of action</i>	<i>24</i>
CHAPTER 4: OUR MODEL	26
1. <i>Base Year Carbon Emissions Analysis</i>	<i>26</i>
2. <i>Carbon emission forecast</i>	<i>26</i>
CHAPTER 5: DELIVERING OUR STRATEGIES	29
1. <i>Carbon neutrality strategic goal</i>	<i>29</i>
2. <i>“3 + 4 + N” emission reduction path planning</i>	<i>30</i>
CHAPTER 6: APPROACHING OUR TRANSITION.....	33
CHAPTER 7: TECHNOLOGY PERSPECTIVES	35

Chapter 1: Background

1. National Strategy

i. Policy Requirements

Carbon peak and carbon neutrality are China's solemn commitments to the world. China will increase its national independent contribution, strive to peak carbon dioxide emissions before 2030, and strive to achieve carbon neutrality before 2060. The National Carbon Peak and Carbon Neutrality Leading Group takes the lead in building a "1 + N" policy system for carbon peak and carbon neutrality. "1" refers to a top-level design document, namely the "Opinions of the CPC Central Committee and the State Council on Completely and Accurately Implementing the New Development Concept and Doing a Good Job in Carbon Peak and Carbon Neutrality" issued on September 22, 2021, and "N" refers to a series of plans in key action areas, headed by the "Notice of the State Council on Issuing the Action Plan for Carbon Peaking Before 2030" on October 24, 2021.

Time of promulgation	Meeting Name	The main content of the meeting
2020.09	United Nations General Assembly	China will increase its national independent contribution, strive to peak CO ₂ emissions before 2030 and achieve carbon neutrality by 2060.
2020.12	Climate Ambition Summit	President Xi Jinping announced a series of measures to increase the country's nationally determined contribution.
2021.03	The 9 th meeting of the Central Finance Committee	The 9 th meeting of the Central Financial and Economic Commission: Achieving carbon peak and carbon neutrality is related to the sustainable development of the Chinese nation and the building of a community with a shared future for mankind. Build a new power system with new energy as the theme.
2022.01	/	On January 30, 2022, the "Opinions on the Institutional Mechanisms and Policy Measures for Green and Low-Carbon Transformation" was officially issued, emphasizing the coordinated and collaborative

		promotion of energy strategic planning, the coordinated promotion of energy transformation and security, the coordinated transformation of production and consumption, and the coordinated transformation of various market entities.
2022.10	Twenty major reports	We will actively and steadily promote carbon peak and carbon neutrality, based on China's energy and resource endowments, adhere to the principle of building first and then breaking, implement carbon peak actions in a planned and step-by-step manner, deepen the energy revolution, strengthen the clean and efficient use of coal, accelerate the planning and construction of a new energy system, and actively participate in the global governance of climate change.

ii. Corporate Impact

Carbon neutrality is an important part of sustainable development, which brings both opportunities and challenges to enterprises.

Opportunities: Implementing carbon neutrality policies can help companies achieve sustainable development, enhance their corporate image, expand their markets, increase their competitiveness, and gain government support and incentives. At the same time, carbon neutrality also provides companies with opportunities for innovation and transformation and promotes their technological upgrading and transformation and upgrading.

Challenges: Implementing carbon neutrality policies requires companies to make large investments and allocate resources, facing cost pressure and technical limitations. At the same time, the carbon market also brings certain uncertainties and risks to companies.

2. Industry Landscape

i. Industry's role in reducing emissions

As the most important component of new energy vehicles, power batteries can help achieve the "dual carbon" goals. Power batteries are one of the key areas to achieve the "dual carbon" goals. Carbon emissions in China's transportation sector account for about 10% of total emissions, and automobiles account for 7.5 %. Therefore, the new energy of automobiles is an important measure to promote the realization of the "dual carbon" goals. As the most critical component of new energy vehicles, the rapid penetration of new energy vehicles in recent years has helped to accelerate the expansion of production capacity and technological innovation in the power battery field.

Power batteries are green products and meet the country's "dual carbon" goals, a large amount of pollutant emissions will still be generated during the battery manufacturing process and a large amount of electricity and water resources will be consumed. Environmental issues will be involved in the production and recycling links. Therefore, in these links, it is necessary to pay attention to substantive issues such as the company's pollutant emission levels and the proportion of green electricity use.

China's lithium resource consumption has increased significantly, and the pressure of carbon emissions is growing. According to data from the China Nonferrous Metals Industry Association, China's lithium industry will emit about 2.28 million tons of carbon in 2021, and the growth rate of lithium salt carbon emissions is consistent with the production of lithium salts. According to the current annual growth rate of 23 % of China's **lithium** salt production before 2025, carbon emissions are expected to be about 4.8 million tons in 2025; before 2030, the carbon emissions of the lithium industry will follow the growth of lithium production, but the growth rate will be lower than the growth rate of production.

ii. Industry Challenges and Opportunities

Under the background of new energy, midstream smelting, and processing enterprises in the lithium resource industry chain will improve their international market competitiveness by optimizing process flow, adjusting industrial structure, and applying energy-saving and carbon reduction technologies. First, the lithium extraction method will be transformed towards energy saving, carbon reduction, and environmental protection; second, the industrial structure of smelting and processing enterprises will be upgraded and developed towards low-carbon, integrated, and sustainable development solutions.

The new energy background has a great impact on the lithium salt material production industry. The traditional lithium extraction method has changed, and the impact on the specific lithium extraction methods is different. First, the extraction of lithium from ore is improving in the direction of energy conservation and emission reduction, and reducing water resource utilization. Second, the Salt Lake lithium extraction technology has benefited from policies and has flourished. Third, the compatibility of mica lithium extraction with the technology development trend under the new energy background is poor, and technological breakthroughs are needed.

Time of promulgation	Industry Policy	Related content
November 2020	New Energy Vehicle Industry Development Plan (2021 - 2035)	Implement battery technology breakthrough actions. Carry out research on key core technologies such as positive and negative electrode materials, electrolytes, diaphragms, and membrane electrodes, strengthen the research and development of short-board technologies for high-strength, lightweight, high-safety, low-cost, and long-life power batteries and fuel cell systems, and accelerate the research and development and industrialization of solid-state power battery technology.
March 2021	"Outline of the 14 th Five-Year Plan for National Economic and Social Development of	Breakthrough in key technologies such as high-safety power batteries, high-efficiency drive motors, and high-performance power systems for new energy vehicles.

	the People's Republic of China and the Long-Term Objectives for 2035 "	
July 2021	"14th Five-Year Plan" Circular Economy Development Plan	Implement standardized management of the recycling of waste power batteries and other renewable resources, improve the level of industry standardization, and promote the gathering of resources to advantageous enterprises. Strengthen the recycling of waste power batteries, strengthen the construction of the traceability management platform for new energy vehicle power batteries, and improve the traceability management system for the recycling of new energy vehicle power batteries.
October 2021	Plan for Reaching Carbon Peak Before 2030	Focus on key areas such as power batteries, deepen applied basic research, and promote the recycling of waste from emerging industries such as retired power batteries.
June 2022	"Guiding Opinions on Promoting the High-Quality Development of Light Industry"	High-efficiency lithium battery safety technology is one of the key R&D breakthrough technologies.
August 2022	and Technology Supporting Carbon Peak and Carbon Neutrality (2022-2030)	We strive to achieve breakthroughs in key technologies such as power batteries, drive motors, and vehicle support operating systems by 2030, comprehensively improve the safety level of new energy vehicles, and significantly reduce the average power consumption of new pure electric passenger vehicles.
November 2022	"Notice on the coordinated and stable development of the lithium-ion battery industry chain and supply	Lithium battery manufacturers, lithium battery material manufacturers, upstream mineral resource companies, lithium battery recycling companies, etc. are encouraged to coordinate and cooperate to jointly guide upstream and downstream participants to stabilize market expectations,

	chain"	clarify supply demand and prices, and ensure stable supply.
January 2023	on Promoting the Development of Energy Electronics Industry	Improve the ability to secure key resources such as lithium, nickel, cobalt, and platinum, and strengthen the development and application of alternative materials.
June 2023	Guiding Opinions on Further Building a High-Quality Charging Infrastructure System	Implement product quality and safety responsibilities of electric vehicle, power battery, and charging infrastructure manufacturers, strictly manage the quality and safety of charging infrastructure construction and installation, and establish a responsibility tracing system for fire and explosion accidents. Continue to optimize the technical performance of electric vehicle batteries, and strengthen technical research on new system power batteries and battery recycling.
June 2023	Announcement on the extension and optimization of the vehicle purchase tax exemption policy for new energy vehicles	the development of the new energy vehicle industry and promote automobile consumption, the continuation and optimization of the vehicle purchase tax exemption policy for new energy vehicles will exempt new energy vehicles purchased between January 1, 2024, and December 31, 2025, from vehicle purchase tax, and halve the vehicle purchase tax for new energy vehicles purchased between January 1, 2026, and December 31, 2027.
July 2023	Implementation Opinions on Improving Reliability in the Manufacturing Industry	Focus on breakthroughs in the reliability testing and evaluation technology of complete vehicles and key components based on digital test fields, continuously improve the comprehensive capabilities of new energy vehicle software functional performance, reliability level, functional safety, expected functional safety, information security, etc., improve the reliability and durability testing and evaluation capabilities such as power battery health status evaluation, service life evaluation, safety and fault

		warning, and low-temperature adaptability, and promote the improvement of the reliability level of new energy vehicles and intelligent connected vehicles.
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3. TCFD Disclosure

i. Climate governance

A. ESG governance structure and supervision

Yahua Group has integrated climate management-related functions into its ESG governance structure. The company has clearly defined the three-tier management structure of ESG as "governance layer, management layer, and execution layer" to ensure clear responsibility allocation and efficient decision-making processes from ESG strategy formulation to specific implementation. This hierarchical governance structure improves the transparency and efficiency of decision-making and also provides a solid organizational guarantee for Yahua Group in achieving sustainable development and responding to climate change.

Governance	Board of Directors	The Board of Directors is the highest decision-making body for the Group's ESG work and is responsible for approving and supervising the implementation of the Group's ESG strategy. • Approve the Group's ESG vision, strategic plan (including carbon strategy), objectives, strategies and related policies; • Monitor and enforce progress towards climate-related goals and targets; • Approve the group's ESG information disclosure (including carbon emissions data) and take ultimate responsibility for the disclosed information.
	Sustainable Development Committee	The Board of Directors has established a Sustainable Development Committee, which is chaired by the Chairman. The Sustainable Development Committee reports ESG matters to the Board of Directors, monitors the formulation and implementation of ESG strategies, and coordinates the promotion of ESG and risk management work in all business segments of the Group. • Research and make recommendations on the Group's sustainable development management (including carbon emission management)

		systems, procedures, and standards to ensure compliance with legal, regulatory requirements and international standards; • Propose recommendations on performance-based compensation for management to sustainable development goals and key performance indicators; • Supervise the operation of the sustainable development system of each business segment, review the impact of the business on the environment, society, and sustainable development, and propose improvement plans.
Management	ESG Management Committee	The Group ESG Management Committee is composed of the Group President and relevant management team members. It is responsible for formulating the Group's ESG strategy, identifying important stakeholders and ESG issues, comprehensively considering risk management, and ensuring that the ESG action plan can adapt to the changing risk environment. • Comprehensively manage climate change affairs, identify, assess, and manage climate-related risks and opportunities; • Develop climate response strategies, regularly review management approaches and make recommendations for improvements; • Regularly review, monitor, and manage climate-related risks in business operations; • Integrate climate-related risks into the overall risk management process.
Execution Layer	ESG Working Group	The ESG Working Group is composed of the heads of various functional departments, sub-groups, and subsidiaries. Under the direct leadership of the ESG Management Committee, it is responsible for promoting and implementing ESG-related work. • Promote environmental stewardship (including climate-related); • Improve internal management mechanisms and clarify regulatory responsibilities and work objectives; • Strictly regulate and manage ESG matters and related risks; • Propose improvement measures to optimize ESG management; • Report work progress to the ESG Management Committee regularly.

ii. Climate Strategy

A. IPCC climate scenario analysis

the forecast results of carbon emissions from 2024 to 2050, Yahua Lithium Salt Industry has formulated the company's carbon neutrality strategic goals and scope by comprehensively considering the 1.5 °C / 2 °C net zero emission scenario, the policy requirements of the countries where the business is located, and the standards of international industry associations. This strategy not only provides scientific guidance for the company's future operational planning but also helps the company maintain its competitiveness under the global climate policy framework. The company will continue to pay attention to the latest developments in climate science and dynamically adjust its carbon reduction strategy according to actual conditions to ensure the achievement of goals and the company's sustainable development.

scene	from the Intergovernmental Panel on Climate Change (IPCC)	Scenario Application
Low emissions scenario: Low emission scenario with strict climate change policy intervention	➤ Representative Concentration Scenario Strict Pathway: RCP 2.6 ➤ Shared Socioeconomic Scenario Strict Pathway: SSP 1	In this scenario, policy supervision is the most stringent and the impact of transformation risk on enterprises is the greatest. Therefore, transformation risk analysis is conducted in this scenario.
High emissions scenario: High emissions scenario of business as usual without climate change policy intervention	➤ Representative Concentration Scenario High Emission Pathway: RCP 8.5 ➤ Shared Socioeconomic Scenario High Emission Pathway: SSP 5	In this scenario, policy supervision is the most relaxed, and the entity risk faced by the enterprise is the greatest. Therefore, the entity risk analysis is conducted in this scenario.

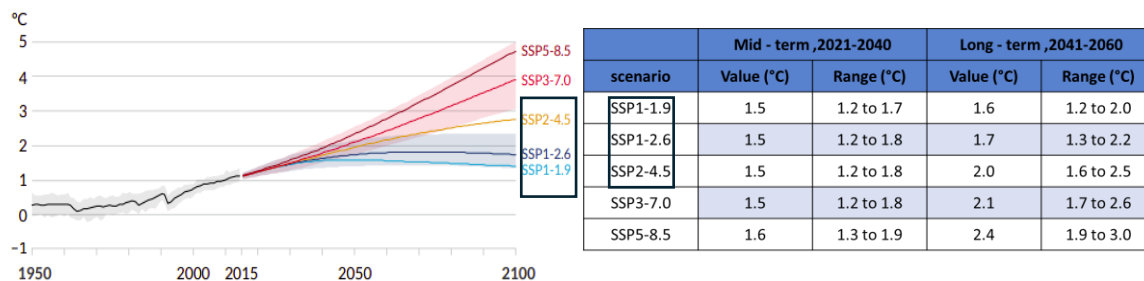


Figure 1 Global surface temperature changes under the comparison scenarios

B. Climate risks and opportunities

Based on the factors and conditions of different low-emission and high-emission scenarios and the identification of climate change risks and opportunities, the company continues to conduct in-depth research on the latest trends in the macro environment, industrial policies, etc. and conducts climate change-related analysis based on its business situation. This year, a total of 11 major climate change risks and opportunities were identified, including 2 physical risks, 7 transition risks, and 2 climate change opportunities, and targeted response plans were formulated.

a. Physical risks

Physical risks			
Risk	Category	Impact Cycle	Financial Impact
Flood	Acute risks	short term \ Mid-term \ long-term	middle
As floods and waterlogging disasters become more frequent and last longer, the company will face severe challenges in production, warehousing, and transportation. These natural disasters may damage infrastructure, thereby disrupting the normal operation of the business and the stability of the supply chain. As a result, the business volume may be reduced, equipment maintenance costs may increase, and ultimately the company's business income will be adversely affected.			
Counter measures			
The company will take a series of preventive and response measures. First, the flood prevention capacity of			

existing infrastructure should be evaluated and enhanced, including improving drainage systems and strengthening the protective structures of storage and production facilities. At the same time, a business continuity plan should be formulated and rehearsed to ensure that operations can be quickly resumed when a disaster occurs and reduce the impact of business interruptions. In addition, the company will regularly conduct risk assessments and disaster simulations, combine the latest climate data and forecasts, and continuously optimize response strategies to ensure sufficient resilience and adaptability in the face of floods and waterlogging disasters			
Risk	Category	Impact Cycle	Financial Impact
Extreme heat	Acute risks	short-term \ Mid-term \ long-term	middle
Impact Analysis			
With the frequent occurrence of extreme high-temperature weather, employees' work efficiency will be significantly affected, and their health and safety will also face serious threats. At the same time, to cope with the high-temperature weather, the company has to increase welfare expenditures such as related subsidies and medical expenses.			
Countermeasures			
The company will conduct a comprehensive assessment of the vulnerability of infrastructure and fixed assets. Based on the results of research and analysis, we will gradually establish a comprehensive extreme heat monitoring and early warning system. At the same time, we will also incorporate the potential impact of extreme heat into the core considerations of health and safety management to further strengthen relevant prevention strategies and measures.			

b. Climate transition risks

Climate transition risks			
Risk	Category	Impact Cycle	Financial Impact
Energy and resource efficiency regulatory requirements	Technical risks	Short-term and medium-term	middle
Impact Analysis			
material efficiency requirements for various industries become stricter, companies may need to invest more money and technology to meet new energy efficiency standards, thereby increasing compliance costs and			

operating costs.			
Countermeasures			
The company will optimize production processes and adopt high-efficiency equipment to reduce energy consumption and waste. At the same time, it will strengthen the internal energy management system and enhance employees' energy-saving awareness to help alleviate the financial pressure caused by regulatory changes.			
Risk	Category	Impact Cycle	Financial Impact
Carbon emissions disclosure requirements	Policy and regulatory risks	short term	middle
Impact Analysis			
As carbon emissions disclosure requirements are strengthened, companies will face the challenge of increasing compliance costs and will need to invest more resources to monitor and report carbon emissions .			
Countermeasures			
The company will establish a comprehensive carbon emissions monitoring system to ensure the accuracy and timeliness of data reporting. At the same time, we will strengthen cooperation with the government and industry associations to jointly promote the formulation and improvement of carbon emissions disclosure standards.			
Risk	Category	Impact Cycle	Financial Impact
Environmental Standards	Policy and regulatory risks	short term	middle
Impact Analysis			
As environmental standards continue to improve, companies need to invest more money and technology to meet these requirements, thereby increasing operating costs.			
Countermeasures			
The company will introduce environmental protection technologies and equipment to improve operational efficiency and reduce environmental costs. At the same time, we will strengthen internal environmental management and enhance employees' environmental awareness and sense of responsibility.			
Risk	Category	Impact Cycle	Financial Impact
Carbon pricing mechanism	Policy and regulatory risks	Mid-term	middle
Impact Analysis			

Carbon price fluctuations will directly affect the company's carbon emission costs. An increase in carbon prices may increase operating costs, while a decrease in carbon prices may reduce environmental costs .			
Countermeasures			
The company will regularly track carbon emission policies and assess their impact on operations. At the same time, it will increase the use and investment in renewable energy and reduce dependence on fossil fuels to reduce carbon emissions and related costs.			
Risk	Category	Impact Cycle	Financial Impact
Energy price fluctuations	Market Risk	Short-term and medium-term	middle
Impact Analysis			
Rising energy prices could lead to higher transportation and storage costs for companies, which in turn could affect their overall financial performance.			
Countermeasures			
The company will seek more cost-effective energy suppliers through diversified procurement strategies. At the same time, it will improve energy efficiency, such as optimizing transportation routes and updating energy-saving equipment, to help reduce energy costs and alleviate the financial pressure caused by price fluctuations.			
Risk	Category	Impact Cycle	Financial Impact
Low-carbon technology R&D and transformation costs	Technical risks	Medium to long-term	middle
Impact Analysis			
The research and development and transformation of low-carbon technologies require a lot of money and time, which may increase the company's operating costs and time costs.			
Countermeasures			
The company and its partners jointly develop low-carbon technologies, share R&D costs and risks, and at the same time, pay attention to government policies, strive for relevant financial support and tax incentives, and reduce transformation costs.			
Risk	Category	Impact Cycle	Financial Impact

Stakeholders' concerns	Reputational risk	Medium to long-term	middle
Impact Analysis			
The progress of companies in green development has attracted much attention from the outside world, and their low-carbon performance has become a key factor for investors to assess the value of their investments. In the long run, if a company performs poorly in low-carbon performance, it may weaken investor interest.			
Countermeasures			
The company is committed to improving the transparency of ESG information disclosure and promoting sustainable development governance to a new level. At the same time, we will actively respond to inquiries from ESG rating agencies and regulatory authorities to demonstrate the company's firm commitment to environmental, social and governance responsibilities.			

c. Climate Change Opportunities

Climate Change Opportunities			
Risk	Category	Impact Cycle	Financial Impact
Green and low-carbon products	Products and Services	Short-term and medium-term	middle
Impact Analysis			
The company actively practices the green and low-carbon concept, works hand in hand with customers, and promotes green and low-carbon products to become a new competitive focus and business growth point in the industry, helping the company achieve sustained growth in business revenue.			
Countermeasures			
The company continues to expand its green cooperation with battery manufacturers and new energy vehicle brands, jointly build a green value chain, and actively participate in the formulation of low-carbon supply chain standards and policy advocacy and is committed to becoming a leader in green development in the industry.			
Risk	Category	Impact Cycle	Financial Impact
More climate-resilient supply chains	Products and Services	Medium to long-term	middle
Impact Analysis			

The company continues to increase its investment in green development funds and resources and effectively improves carbon efficiency by developing clean energy, promoting low-carbon technologies, applying new energy equipment, and realizing resource recycling. In terms of dealing with extreme climate and natural disasters, the company has stronger response capabilities and a stable climate-adaptive supply chain advantage, effectively reducing the impact of natural disasters on operations. In the medium and long term, this strategy will actively promote the company's market share and business revenue.

Countermeasures

To effectively respond to climate change and natural disasters, the company has established a comprehensive early warning system, response measures, and emergency plans. At the same time, we actively work closely with partners upstream and downstream of the supply chain to jointly build a supply chain system with climate resilience.

We have conducted in-depth analysis of climate-related risks and opportunities, and are fully aware of the criticality and urgency of enhancing the climate resilience of our business and strategies. We will rely on rigorous assessment results to continuously optimize climate change mitigation and adaptation mechanisms, accurately grasp opportunities in the low-carbon transformation trend, promote sustainable business development, and contribute to global climate action and sustainable development.

iii. Risk Management

We have integrated climate-related risk management into the Group's overall risk management process, and regularly identify, assess, and manage climate risks each year. Through this systematic process, we comprehensively identify and assess the climate risks and opportunities faced by the company, and gain a deep understanding of their potential impact. We incorporate these assessment results into business strategic decisions, formulate and implement effective response measures promptly, enhance the company's climate resilience, and accurately grasp the opportunities brought about by low-carbon transformation.

A. Risk identification and assessment

Climate Risk Identification We identify climate risks through systematic research and cross-functional collaboration. The main steps include:

a. Preliminary preparation

Convene management team members from headquarters functional departments and subordinate operating units for in-depth discussions to gain professional insights from management. Led by the vice president in charge of the lithium industry, a lithium industry net zero carbon target project team was established to ensure the comprehensiveness and accuracy of risk identification. Clarify the goals, scope, and timetable of climate risk identification, and clarify the responsibilities of each department.

b. Data collection and research

Through internal and external research, we collect the company's existing climate data, operational data, and historical records to understand the potential impact of climate change on the business. We also refer to government climate forecast reports, industry trend analysis, and competitor response strategies, and obtain relevant external data, which provides a solid foundation for risk identification.

c. Risk identification

The team systematically analyzed six major risk categories: policy, technology, market, reputation, finance, and society, and through cross-departmental collaboration, identified the key climate risks that have the greatest impact on the company's operations and financial performance.

d. Risk assessment

Subsequently, we used a scientific risk assessment model to quantify these risks and prioritize them according to their likelihood of occurrence and potential impact. Based on the assessment results, the risks were ranked by impact and urgency to determine the risks that should be addressed first.

e. Develop a response strategy

We have developed specific response strategies for the key risks identified, including strengthening the climate resilience of infrastructure, optimizing supply chain layout to improve resilience, and developing emergency response plans to ensure business continuity. All these response measures have been integrated into the company's overall strategic and operational plans and are coordinated and implemented by various departments.

f. Monitoring and adjustment

In addition, we have established a continuous monitoring mechanism to regularly assess changes in the climate risk environment and promptly adjust and optimize response strategies to ensure that the company remains competitive and sustainable under changing climate conditions.

B. Risk management practices

In our existing risk management framework, we have incorporated climate risk into the overall risk management system as an important component of ESG risk and disclosed it in the ESG column of Yahua's official website.

By establishing an ESG management system and a target task management mechanism (PDCA management), we can systematically identify, evaluate, manage, and implement relevant measures to ensure the company's sustainable development.

a. Management system

Formulate energy conservation and emission reduction targets and emission reduction paths, reduce pollutant emissions through energy-saving technical transformation, pollutant treatment research and development, and process improvement, and prepare relevant system documents such as life cycle assessment reports (LCA), carbon footprint reports, and carbon verification reports (GHG); advocate the use of clean energy production; compared with peers, emission reduction and decarbonization measures should be competitive in the industry.

b. Target and task management

All companies have formally included "climate risk management " in the target task lists of each department and region, requiring all business entities to conduct comprehensive assessments and formulate corresponding response measures.

The risk list is regularly reviewed and updated by management at all levels of the company. The Sustainability Committee is responsible for overseeing and guiding the risk review at the group level and reports the latest progress and risk assessment results to the Group Board of Directors once a year.

Chapter 2: Our business

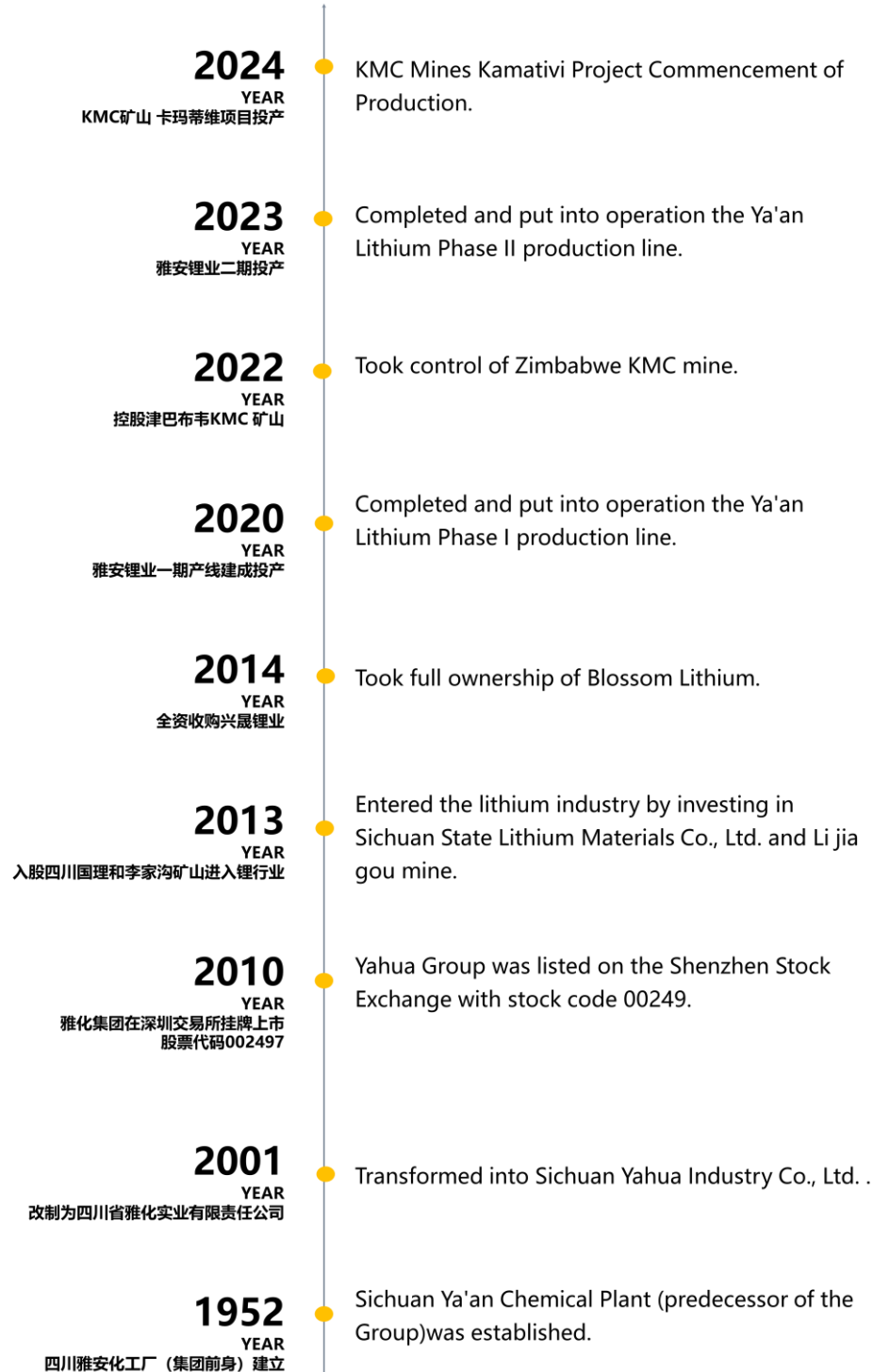
1. Yahua Introduction

1952, Yahua Group is one of the earliest chemical companies in China. It currently has more than 6,000 employees and more than 70 wholly-owned and holding subsidiaries in Sichuan, Inner Mongolia, Shanxi, Yunnan, Jilin, and other provinces in China and New Zealand, Australia, Zimbabwe and other countries.

Yahua Group currently has two main businesses: the lithium industry and civil explosives.

Yahua is one of the earliest companies in China to produce lithium salt products. The company focuses on the technical research and development, production, and sales of lithium salt products. At the same time, it has established a stable lithium resource supply channel and high-quality sales channels. It is a major producer of lithium salt products in the world, especially battery-grade lithium hydroxide. It is a core supplier to leading companies in the industry such as the world's well-known automobile companies, battery manufacturers, and positive electrode material companies.

2. Development History



3. Global Presence

Yahua currently has a lithium salt production capacity of 73,000 tons. It is currently investing in the construction of a three-phase high-grade lithium salt material production line and is planning to build a lithium salt plant in Morocco. After completion, the total lithium salt production capacity will exceed 170,000 tons. In the future, according to the progress of overseas lithium resource development, lithium salt production bases will be built in America, Europe, and Africa.



Figure 2: Yahua Lithium Industry Global Layout

4. Lithium resource security

Yahua continues to deploy lithium concentrate resources and has established an independent lithium resource base in the Kamativi project in Zimbabwe. It will jointly build a stable lithium resource supply guarantee system with the Sichuan Lijiagou project, Australia's Pilbara, Australia's CXO, and Brazil's Atlas project in which it holds shares and underwrites.

津巴布韦Kamativi多金属矿
Kamativi Polymetallic Mine, Zimbabwe



澳大利亚CORE锂辉石矿
CORE Spodumene Mine in Australia

李家沟锂辉石矿
Lijagou Spodumene Mine

Chapter 3: Our Goals

1. Core Guiding Ideology

Based on macro market analysis, industry positioning analysis, professional technology research and judgment, and internal and external research, combined with analysis of strengths and weaknesses in sustainable development, we set the vision of carbon neutrality action as "a lithium salt supplier with global influence". In the process of moving towards the vision, Yahua has completed the low-carbon transformation and become an enterprise with comprehensive ESG competitiveness, achieving "sustainability" in four aspects:

- Continue to lead the industry's low-carbon development concept.
- Continue to provide customers with low-carbon and reliable services.
- Continue to provide employees with safe, healthy, and promising job opportunities.
- Create sustainable and growing returns for investors.

2. Four major principles of action

Facing the challenges of global climate change and the guidance of the country's "dual carbon" goals, we have formulated the core guiding ideology of "taking the overall carbon neutrality strategy as the core, driving the upgrade of the entire industry chain with green technology, insisting on integrating environmental protection concepts into corporate culture and operating models, gradually achieving the carbon neutrality goal, and setting a benchmark for the lithium salt production industry." With Yahua's overall carbon neutrality strategy as the core, we will position the carbon neutrality strategy as the strategic height for the company's future development, and ensure the sustainable development of Yahua in the global lithium salt production field by formulating and implementing carbon strategic goals and roadmaps.

01 Green leadership: Use green technology to drive the upgrade of the entire industry chain.

Relying on Yahua's technological advantages in the field of lithium salts, we will promote the deep integration of green manufacturing and clean energy technologies, improve resource

utilization efficiency in the production process, comprehensively reduce carbon emissions, and achieve green and efficient management of the entire industry chain.

02 Cultural foundation: Adhere to the concept of environmental protection and integrate it into the corporate culture and operation model.

Deeply embed the concept of environmental protection in the corporate culture, advocate the participation of all employees in environmental protection practices, integrate sustainable development into every operational link of the company, ensure unified actions from the management level to the execution level, and provide cultural support and behavioral guarantees for achieving the goal of carbon neutrality.

03 Steady progress: Set phased goals and scientific emission reduction paths to steadily advance the carbon neutrality goal.

Through phased goal setting and scientific emission reduction paths, we will promote the gradual reduction of carbon emissions on time and in quantity, ensuring that Yahua is steadily moving forward on the road to achieving carbon neutrality.

04 Benchmarking and leading: Setting industry benchmarks, promoting green and low-carbon development of the lithium salt industry, and contributing to a sustainable future.

Yahua is committed to becoming an industry benchmark in sustainability while translating our achievements into broader industry standards, promoting the overall development of the lithium salt industry in a green and low-carbon direction, and leading the industry to move towards a sustainable future.

Chapter 4: Our Model

1. Base Year Carbon Emissions Analysis

The leading products of Yahua are lithium hydroxide and lithium carbonate. The production process mainly uses purchased electricity and natural gas, as well as a small amount of gasoline, diesel, and liquefied gas. Carbonates are also consumed in the production process, and carbonates will produce greenhouse gases in the high-temperature process. We set 2023 as the base year, and the total greenhouse gas emissions from lithium salt production in 2023 are 184,000 tons of carbon dioxide equivalent.

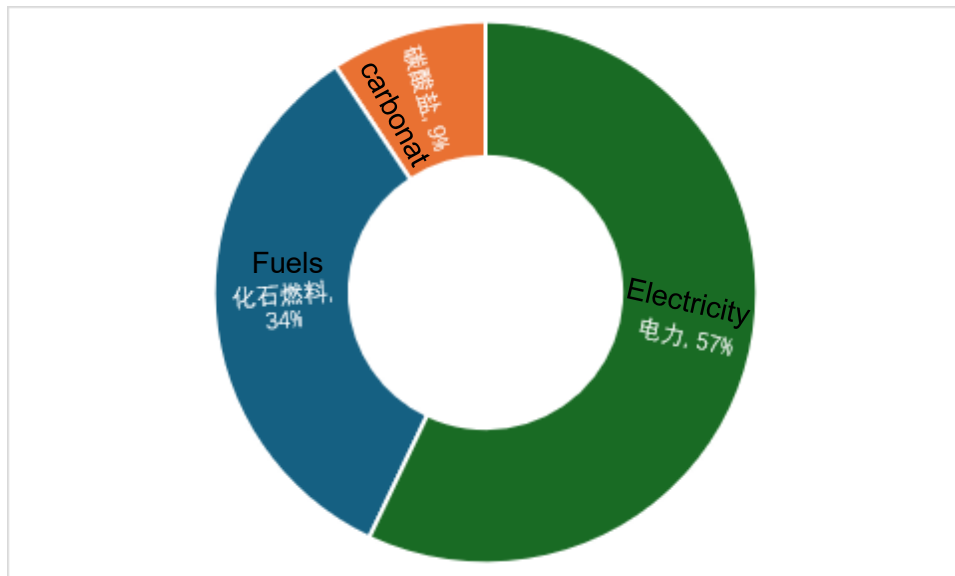


Figure 3: Main components of Yahua Lithium's carbon emissions

2. Carbon emission forecast

In the process of forecasting carbon emissions in 2050, we referred to the impact of the net zero emission scenario proposed in the IPCC 1.5 °C Special Report and the SBTi (science-based carbon targets) on the macro industry and the output of Yahua's main products, and combined with our company's future production capacity planning, we conducted a systematic carbon emission forecast. Through this approach, we aim to ensure that the company's emission reduction path is in line with global climate goals while providing a scientific basis for future operational decisions.

i. Net zero scenario

1.5 °C scenario: This scenario sets a goal of keeping global temperature rise within 1.5°C by the end of this century, requiring the world to achieve net zero emissions by 2050 and negative emissions thereafter. This means that greenhouse gas emissions need to be significantly reduced, while carbon removal technologies such as carbon capture and storage (CCS) and forest restoration need to be implemented on a large scale.

2 °C scenario: Compared with the 1.5 °C scenario, the 2 °C scenario allows for longer emission reductions, to limit the global temperature rise to less than 2 °C by the end of this century. This scenario generally requires net zero emissions to be achieved by around 2070 but also requires the world to gradually reduce the use of fossil fuels and turn to low-carbon and renewable energy.

ii. Prediction Methods

When developing our carbon emissions forecasts, we incorporate the following key factors:

Scenario assumptions: Based on the assumptions in the above 1.5°C/2°C net zero emissions scenario, we analyzed the emission reduction pathways at the global and regional levels in the coming decades.

Capacity planning: Based on the company's future capacity expansion and production plans, we have estimated energy consumption, technology usage, and carbon emission intensity in each stage of the future. Specifically, it involves the introduction of energy-saving technologies, energy structure adjustment, and the application of potential carbon removal technologies.

iii. Situational Impact

Adopting the 1.5 °C / 2 °C net zero emissions scenario has profound implications for our future operations:

Impact Analysis	content
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Operational Adjustments	(electrification development) in the short term, including increasing the proportion of renewable energy use and gradually phasing out high-emission fossil fuel equipment such as coal.
Investment Demand	Achieving the scenario targets will require companies to make significant investments in green technologies, carbon capture and storage, and energy efficiency improvements.
Compliance Risk	As global climate policies gradually tighten, companies may face higher emission costs and stricter emission standards. Early emission management planning can help reduce future compliance risks.
Market Opportunities	While meeting net zero emissions requirements, the company will explore the low-carbon product market and enhance its competitiveness in the global green supply chain.

iv. Carbon emission forecast

Without considering external emission reduction factors (such as the national carbon neutrality plan, low-carbon technology development, etc.) and internal emission reduction plans, according to the forecast results, we will reach our carbon peak in 2030, corresponding to annual carbon emissions of approximately 870,000 tons.

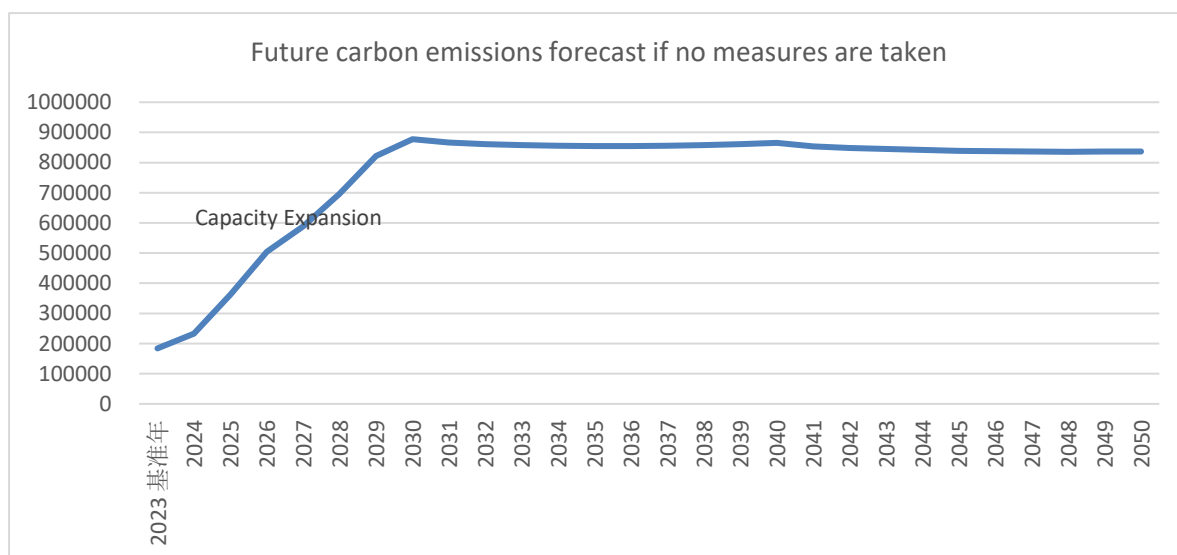


Figure 4: Carbon emissions forecast for lithium salt production (baseline scenario)

Chapter 5: Delivering Our Strategies

1. Carbon neutrality strategic goal

We support the 1.5 ° C climate target approved by the Paris Agreement. Based on the 1.5 ° C scenario analysis and in combination with the carbon neutrality goals and requirements of all parties, we have established a carbon neutrality target and emission reduction path, and are committed to keeping global temperature rise within 1.5°C by the end of this century.

2030, the total amount of carbon emissions in Scope 1 and Scope 2 will peak, and the carbon emission intensity per unit product will be reduced by 15 % compared with 2023; by 2040, the carbon emission intensity per unit product will be reduced by 50 % compared with 2023; by 2045, the total carbon emissions will be reduced by 30 % compared with 2023, and the carbon emission intensity per unit product will be reduced by 90 % compared with 2023; and we will strive to achieve carbon neutrality by 2050; we call on upstream and downstream of the supply chain to work together to reduce the level of Scope 3 greenhouse gas emissions.

i. Carbon reduction strategy route

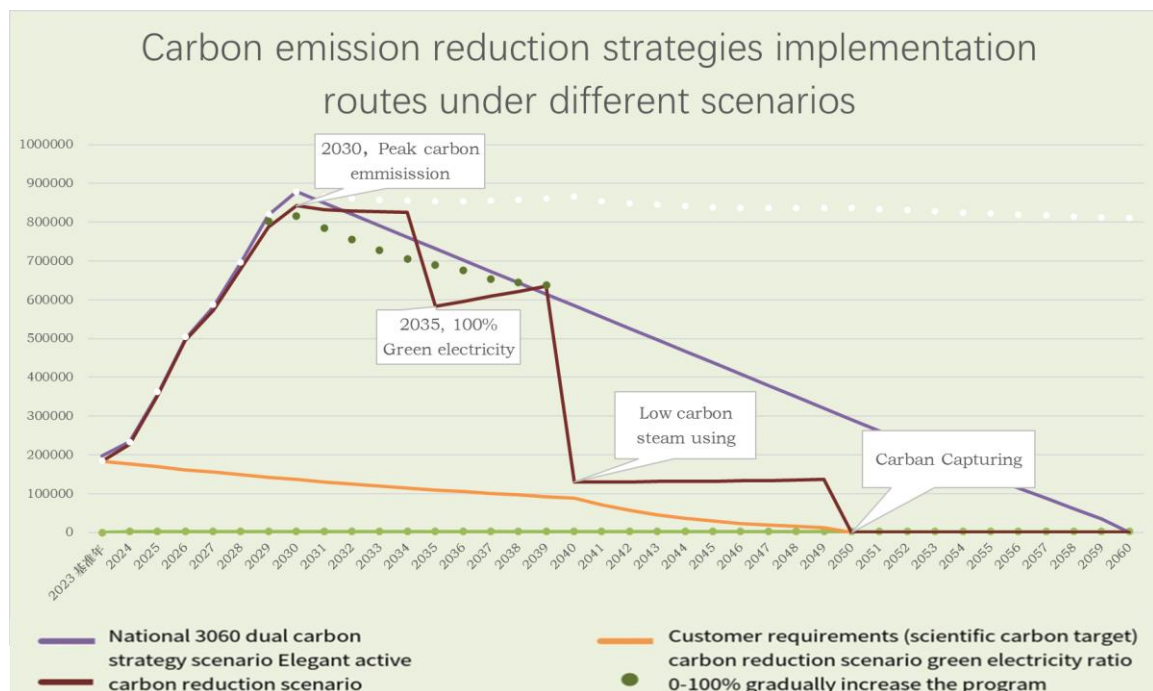


Figure 5: Carbon emissions forecast (active emission reduction VS other scenarios)

2. “3 + 4 + N” emission reduction path planning

“3 + 4 + N” carbon emission reduction path planning provides a clear action framework for our company to achieve its carbon neutrality goal by 2050. By focusing on core areas such as energy management, production process optimization, and electrification substitution, and supplemented by the deployment of key technologies, we are confident that we can achieve continuous carbon emission reduction in the future. At the same time, through phased implementation steps, we ensure that the goals of each stage can be effectively implemented, laying a solid foundation for the company's future sustainable development.

i. “3” core areas

Energy management

Energy management is a core component of our emission reduction strategy. We will reduce our reliance on fossil fuels by optimizing energy efficiency. Specific measures include energy monitoring systems and regular energy audits to identify and eliminate energy waste.

Production process optimization

This aims to reduce carbon emissions in the production process through lean production technology and automated control. Achieve green transformation of the production process by reducing material waste, optimizing process flow, and introducing low-carbon raw materials.

Electrification substitution

The company has significant advantages in the use of electrified energy. Our production base is located in Sichuan, which is rich in hydropower resources. The province's hydropower installed capacity reaches 170 million kilowatts, accounting for a quarter of the country and ranking first in the country. There are dense small hydropower stations around Ya'an City and Wenchuan County where the factory is located, ensuring that 100% of the electricity used for production comes from clean and renewable hydropower; in the factory

design, construction, and technical transformation projects, we give full play to the regional advantages and prefer green electricity to replace fossil fuel energy supply, which greatly reduces dependence on fossil fuels and greenhouse gas emissions.

ii. “4” key technologies

Digital management system

Through big data and artificial intelligence technologies, we will monitor and optimize energy use, equipment operation, and production processes in real time. This system will help us identify emission reduction opportunities and implement precise control measures.

Energy-saving equipment upgrade

Covering the update of production equipment to daily office equipment. By introducing high-efficiency, low-energy consumption equipment and gradually eliminating high-energy consumption equipment, the carbon footprint can be reduced.

Clean energy technology

Including the use of renewable energy such as solar energy, wind energy, and biomass energy. We will invest in the construction of clean energy facilities after feasibility studies and establish cooperation with external clean energy suppliers to ensure the greening of energy supply.

Carbon capture and utilization technology

In our lithium carbonate production process, we use carbon dioxide captured upstream as a production raw material and achieve carbon recycling through key processes. This process not only effectively reduces carbon emissions in production, but also converts carbon dioxide in exhaust gas into raw materials for lithium carbonate production, thereby improving the overall carbon efficiency of the production process. In the future, we plan to further explore the possibility of capturing carbon dioxide emitted in our production process, striving to achieve more efficient carbon resource utilization while reducing our carbon footprint.

iii. “N” implementation steps

In the process of implementing the “3 + 4” path planning, we have formulated detailed implementation steps, including specific action plans in the short, medium and long term:

A. Short-term (before 2030) action plan:

- Conduct energy audits and establish energy efficiency baselines;
- A pilot project to deploy a digital management system;
- Gradually upgrade major production equipment and eliminate high-energy-consuming equipment;
- Conduct feasibility studies on clean energy projects.

B. Medium-term (before 2040) action plan:

- Comprehensively promote the digital management system and integrate it into all the company's production lines;
- Implement a large-scale energy-saving equipment upgrade program;
- Promote the use of clean energy, such as solar or wind power;
- Pilot commercial applications of carbon utilization technologies.

C. Long-term (before 2050) action plan:

- Fully electrify to replace traditional fuel equipment and achieve zero carbon emissions in the production process;
- Expand the application scope of carbon capture and utilization technology to achieve an industrial carbon cycle;
- Regularly evaluate and adjust carbon reduction targets to ensure the achievement of the 2050 net zero emissions target.

Chapter 6: Approaching our transition

In the short and medium term, the company will take various energy-saving and emission-reduction measures every year to gradually reduce the carbon emission intensity per unit product. Ya'an Lithium Industry's energy-saving and carbon-reduction implementation plan is as follows.

Shortly, we will carry out frequency conversion transformation of motors and carry out frequency conversion transformation of high-voltage motors in existing production equipment. Frequency conversion technology is a relatively advanced energy-saving technology. The inverter adjusts the motor speed by changing the frequency so that the motor can run at a lower power, save electricity, and achieve the purpose of carbon emission reduction. It is estimated that the annual electricity saving is 6.2 million kWh and the carbon reduction is about 3,500 tons.

In the short term, waste heat recycling will be carried out, and waste heat will be used to heat cold water, and the hot water obtained will be added to the boiler. The equipment will generate a lot of heat during operation, allowing high-temperature compressed air to exchange heat with cold water. The hot water obtained after the cold water heat exchange will be added to the gas boiler after treatment, thereby reducing the natural gas consumed by the boiler. After the equipment is put into operation, it can achieve an annual output of 117,000 tons of hot water with a temperature increase of 50 °C under normal production conditions. The system heat conversion efficiency is calculated at 90 %, which can save 400,000 cubic meters of natural gas and reduce carbon emissions by about 876 tons per year.

In the medium term, we will try the natural gas pressure difference power generation project, introduce high-pressure natural gas into the expander to do work, use the pressure difference energy to convert the pressure energy into mechanical energy, and then drive the generator to generate electricity and output electrical energy, realizing the conversion of "pressure energy to mechanical energy and then to electrical energy". Natural gas pressure difference power generation does not consume natural gas and will not affect the environment. It can achieve zero carbonization in the whole process, and the electricity generated is not counted

in carbon emissions. It is expected to save 6.72 million kWh of electricity and reduce carbon emissions by about 3,500 tons.

Carry out waste heat recycling transformation projects to collect waste heat from rotary kilns, grate coolers, boilers, etc., which can provide hot air for boilers or generate hot water and steam for recirculation, and reuse for boilers and MVR systems. Effective use of waste heat can improve energy efficiency, reduce production costs, and reduce environmental pollution and carbon emissions. The amount of carbon reduction will be quantified after the feasibility plan of the project is completed.

Carry out market-based trading of green certificates and green electricity. The overall emission reduction ratio of this measure will reach 30 %~ 50 %. At the same time, the electrification transformation of non-electric fossil energy will be considered in the long term. The overall emission reduction ratio will reach 70 %~ 90 %.

In the long term, attempts to develop biomass energy or waste incineration steam replacement projects, reduce or stop using gas boilers, and seek to purchase steam produced by biomass combustion, can effectively reduce carbon dioxide emissions from original natural gas steam boilers.

Guoli Company's energy conservation and carbon reduction implementation plan is as follows.

Soon, we will launch an energy metering improvement project to achieve separate metering of electricity for high-energy-consuming equipment. Through improved and precise metering, we will control the electricity consumption of key equipment, set electricity consumption targets, and reduce electricity consumption.

In the short term, we will carry out motor transformation projects, eliminate low-efficiency motors, and phase out small motors. It is expected that the annual energy saving will be about 39,000 kWh and the carbon emission reduction will be about 22.7 tons.

In the medium term, we will carry out a high-energy consumption equipment replacement project; carbon emissions will be reduced by about 3,300 tons per year.

In the long term, energy replacement plans will be considered, including replacing the current coal with liquefied petroleum gas and other measures.

Chapter 7: Technology Perspectives

In summary, in the future, high-energy-consuming equipment will be gradually eliminated, energy efficiency will be improved, the consumption of electricity and other fossil energy will be reduced, and emissions caused by fossil energy consumption will be reduced. Enterprises conduct energy reviews on high-energy-consuming equipment according to energy management system standards to find energy-saving opportunities and space. Motor transformation, elimination of high-energy-consuming equipment, waste heat recovery, etc. In the future, the company will invest in or purchase low-carbon clean energy such as photovoltaic power generation, wind power, and hydropower; through the national green electricity trading mechanism, the proportion of green electricity use will be continuously increased. After 2035, with the gradual maturity of CCS carbon capture and carbon fixation technology, the company will introduce CCS facilities to absorb and eliminate some natural gas emissions and carbonate emissions. It can also consider using green hydrogen to replace natural gas, or directly use carbon sinks to offset carbonate emissions. Between 2030 and 2050, the company will convert fossil energy and adopt biomass energy, waste incineration steam, green electricity (the specific rules for the recognition of green electricity in the future EU Battery Act need to be considered), etc., to further increase the proportion of renewable energy use, gradually reduce carbon emissions, capture residual carbon emissions, or conduct carbon trading to offset carbon sink use, and ultimately achieve carbon neutrality by 2050.

Energy efficiency improvement		
Economic feasibility	High	Power system: Improve power metering, high-efficiency motors, air compressor frequency conversion technology, replacement of high-energy consumption equipment, (power) natural gas pressure difference power generation; Short investment payback period. Thermal system: air compressor (natural gas), rotary kiln, grate cooler, boiler waste heat recovery, and conversion; short investment payback period.
Technical feasibility	High	Energy efficiency can be effectively improved through the construction of an energy management system and a plan to replace old equipment.

		The corresponding project plan has passed the technical demonstration.
in conclusion	Short-term and mid-term key advancement	
Electrification transformation		
Economic feasibility	middle	(Electric) acidification kiln replacement, some equipment has not yet reached the retirement age, and the operating costs after electrification are significantly higher than traditional fossil fuels.
Technical feasibility	middle	The corresponding project plan has passed the technical demonstration.
in conclusion	Mid-term focus	
Utilization of renewable energy (self-built)		
Economic feasibility	Low	Due to the lack of sunshine and wind resources in the company's area, the economic feasibility of distributed wind and photovoltaic power generation is low. Liquefied gas can replace coal, and biomass steam or waste incineration steam can replace natural gas, but a thorough investigation of surrounding related resources is still needed. Hydrogen energy storage has good development prospects as a long-term energy storage technology. The cost of producing "green hydrogen" from renewable energy power generation is still relatively high. On the one hand, this is because the overall scale of hydrogen production projects is relatively small at this stage, and on the other hand, it is because the energy consumption and initial investment cost of the electrolyzer are relatively high.
Technical feasibility	middle	Renewable energy power station technologies such as wind power and photovoltaic power are relatively common. Hydropower generation is unstable and restricted by national policies, and it is technically difficult for the company to physically connect to surrounding hydropower stations. Using biomass steam or waste incineration steam, the technology is relatively mature.

		China's renewable energy hydrogen production technology still faces many barriers, such as the wind turbine structure design in photovoltaic and wind power hydrogen production systems, photovoltaic panel conversion efficiency, electrolyzer design technology that can resist large-scale wind power disturbances, and higher safety hydrogen storage equipment.
in conclusion	Long-term key directions	
Renewable energy utilization (trading)		
Economic feasibility	middle	Green power trading can meet the company's requirements for increasing renewable energy.
Technical feasibility	high	The country encourages green power trading, and the trading platform and rules are mature.
in conclusion	Mid-term focus	
Carbon Capture and Storage (CCS)		
Economic feasibility	Low	No low-cost commercialization solution has yet been formed
Technical feasibility	Low	The CO2 concentration of the tail gas from the company's production equipment is relatively low, and the technical feasibility needs to be demonstrated.
in conclusion	Long-term key directions	
Carbon sinks and carbon trading		
Economic feasibility	middle	The company is not included in the carbon trading system.
Technical feasibility	middle	Companies can purchase avoidance, reduction, and removal of carbon credits.
in conclusion	Long-term key directions	