# 赣锋锂业 **GanfengLithium**



# 2018

Ganfeng Lithium Co., Ltd. Sustainability Report

# **About This Report**

Ganfeng Lithium Co., Ltd., which aims to communicate with stakeholders on corporate social responsibility, operational initiatives and performance, and to respond to stakeholders' needs.

#### O Reporting Period

The reporting period is from January 1 to December 31, 2018. Some of the statements and data are beyond the reporting period in an appropriate manner.

#### O Reporting Scope

The report covers the headquarters, branches and subsidiaries of Ganfeng Lithium Co., Ltd.

#### O Data Source

The financial data in the report came from the 2018 financial reports of Ganfeng Lithium Co., Ltd. The A-share financial report was independently audited by BDO China Shu Lun Pan Certified Public Accountants LLP, the H-share financial report was independently audited by Ernst & Young , and the rest of the data was extracted from the Company's relevant systems.

Unless otherwise specified, the environmental data disclosed in this report was generated by Ganfeng's operations in mainland China. The Company has a controlling stake of over 50% in overseas lithium mines whose environmental impacts were not included in this report as the mines are in the initial exploration stage.

#### O Reporting Reference

The report was prepared in accordance with Appendix 27 Environmental, Social and Governance Reporting Guide of the Rules Governing the Listing of Securities on the Stock Exchange of Hong Kong Limited (HKEX ESG Reporting Guide).

#### O Response to the Four Principles of the HKEX ESG Reporting Guide

Materiality: To prepare this report, the Company conducted a materiality analysis to determine the completeness and accuracy of its contents. The process and results of materiality analysis are presented in Section 1.3 of this report.

Quantitative: The report disclosed quantitative data on both environmental and social aspects to demonstrate the performance of indicators.

Balance: The Company strives to achieve objective and unbiased information disclosure. The contents of the report came from the Company's internal management documents, statistics and public disclosure, as well as public media reports, with no improper revisions.

Consistency: Unless otherwise stated, the data disclosed in this report was from the unified information collection process and working mechanism established by the Company to ensure the comparability of data year after year.

#### **O** Reporting Specification

For convenience, Ganfeng Lithium Co., Ltd. is referred to as "Ganfeng Lithium", "the Company" or "we" in the report.

#### O Access to this report

You can download the Chinese version of this report on the website of the Shenzhen Stock Exchange, or the Chinese and English versions on the website of the Hong Kong Stock Exchange.



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# Message from the Chairman

### "

We will embrace opportunities and continue to lead the technological development of the lithium industry through innovation, and strive to build a first-class worldwide enterprise with upstream and downstream integration.

"

#### Dear readers,

The year 2018 was a milestone in the history of Ganfeng Lithium's development. In October 2018, we were successfully listed on the Hong Kong Stock Exchange and issued the first "lithium" concept stock on the HKEX main board, becoming the sole "A+H" listed company in China's lithium industry. In 2018, we made great efforts and achieved remarkable results in the ever-changing global lithium market: Our lithium salt segment grew rapidly and steadily by successfully strategically cooperating with international automobile companies and power battery giants including LG Chem of South Korea. BMW of Germany and Tesla of the United States to supply batterygrade lithium hydroxide and lithium carbonate products. Our power battery and energy storage battery production and sales flourished, opening up new markets in the fields of energy storage, electric forklifts, railcars and special power batteries. Our strategic layout and market advantages in the retired battery recycling segment were gradually improved. While creating profit, we always bear in mind our responsibilities to the nation and society, which is to contribute to national interests, industry progress. ecological conservation and social development by taking the path of sustainable development. In addition, we have taken action to respond to the United Nations 2030 Sustainable Development Goals (UN SDGs 2030).

#### We serve the national strategy while keeping in mind

our mission of innovation. In recent years, China has proposed a series of strategies and policies that are in line with the trend of sustainability, including developing strategic emerging industries, building a resourcesaving society, vigorously developing a circular economy, adjusting energy structures and increasing the proportion of renewable energy. Our products are widely used in the fields of new energy, new materials and new medicine, providing strong guarantees for the implementation of national strategies. As an industry leader, we always keep in mind our mission of innovation by employing high-end R&D personnel and marketing veterans in the field of lithium-ion power batteries. Relying on platforms that include the National Enterprise Technology Centre, National Postdoctoral Research Station, Academician Workstation, Jiangxi Provincial Key Laboratory and others, we will continue to increase investment in research and development and actively promote the commercialisation of sci-tech achievements. Adhering to the drive of technological innovation, we will improve the core competitiveness of the Company and bring new vitality of the industry and society.

#### We strive for green development to address climate change.

Green concepts are integrated throughout the industry chain with attention to controlling and reducing our environmental impact. Sustainable resource extraction has been adopted to protect and rehabilitate the ecological environment around lithium mines. In midstream and downstream production and operation, we are committed to building national-level green factories, promoting the transformation to cleaner production and building ecological civilisation demonstration sites. Technologies for desulphurisation and denitrification, energy conservation and consumption reduction were adopted in projects of "Annual production of 15,000 tons of battery grade lithium carbonate" and "Annual production of 20.000 tons of lithium hydroxide monohydrate project" of Xinyu Basic Lithium Plant to reduce pollutant emissions. We have continuously improved the efficiency of energy and resource use by setting energy-saving targets and performance assessment mechanisms. We proactively use clean energy to cope with climate change, making every effort to drive green development of the industrial chain.

We create value for people and society with a belief in people-oriented principles. We regard our talents as our most valuable asset and strive to create a safe, healthy and comfortable working environment and provide competitive compensation, benefits and incentives. Ganfeng Business School has been established to develop talents for the Company and the industry. We value employees' happiness and ownership of the Company and share with them the Company's development achievements. In return for society, we form industrial clusters by maximising our advantages in the industry, drive local economic development and create more jobs. We are committed to achieving common prosperity with the community, focusing on supporting livelihoods, education and industry in poor villages, and helping poor households to improve their living conditions.

Looking to the future, we will adhere to the strategy of "upstream and downstream integration of the lithium industry" and carry forward the core values of "integrity, responsibility, cooperation, efficiency and innovation". We will embrace opportunities and continue to lead the technological development of the lithium industry through innovation, and strive to build a firstclass worldwide enterprise with upstream and downstream integration. We will keep in mind our mission of "utilising limited lithium resources to create a green, clean and healthy path for human development and progress", maintain close communication with all stakeholders and sharing our development achievements with society, contributing through pooling strength and forging ahead.

Li Liangbin

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Chairman of Ganfeng Lithium

# **About Us**

Founded in March 2000, Ganfeng Lithium Co., Ltd. is a global leader in the lithium industry. The Company was listed on the Shenzhen Stock Exchange in August 2010 (A-share code: 002460), becoming the first listed company in China's lithium industry, In October 2018, we were successfully listed on the main board of the Hong Kong Stock Exchange (H-share code: 01772). The Company is currently the sole "A+H shares" listed company in the domestic lithium industry. We are the world's third largest and China's largest lithium compound producer and the world's largest lithium metals supplier.

# **Ganfeng Li-Ecosystem**

### Synergies throughout the Industry Value Chain

We have a vertically integrated business model that covers all important aspects of the value chain including extraction of upstream lithium, deep processing of midstream lithium production and lithium metals, and production of downstream lithium metals and recycling lithium. We started as a manufacturer of midstream lithium compounds and lithium metals, and have successfully expanded to the upstream and downstream of the industrial value chain to obtain a competitive supply of lithium raw materials, thereby ensuring cost and operational efficiency, synergy among multiple business lines, and access to the latest market information and development of cutting-edge technologies. The Company has five business segments, i.e., extraction of upstream lithium resources, deep processing of lithium production, production of lithium metals, production of lithium batteries and reclaiming and recycling lithium with over 40 product types in five lines of lithium metal, lithium carbonate, lithium hydroxide, butyllithium and lithium ion batteries. We offer one of the world's most complete ranges of lithium compounds and lithium metal products.





# **Our Global Presence**



# **Corporate Culture**



## **Key Awards and Honours**

#### "2018 Outstanding Management Team"

The Company participated in the "2018 JRJ Summit on Innovative Development of China's Listed Companies " or " Jinzhi Award" "2018 Outstanding Management Team" in the 2018 JRJ listed company selection by value.



# Most Influential Brand in China's Lithium Industry"

The Company won the title of "Most Influential Brand in China's Lithium Industry" at the 4th "China Economic New Model Innovation and Development Summit"



#### "China Patent Excellence Award"

In December 2018, the Company won the "China Patent Excellence Award" issued by the State Intellectual Property Office



#### The Company"Champion Demonstration Enterprise for Individual Achievement in Manufacturing of Jiangxi Province"

In December 2018, Jiangxi Provincial Industrial and Technical Committee awarded the Company "Champion Demonstration Enterprise for Individual Achievement in Manufacturing of Jiangxi Province"

#### The Top 100 Private Manufacturers in Jiangxi

On November 26, 2018, Jiangxi Provincial Government Information Office and Jiangxi Provincial Federation of Industry and Commerce held the "2018 Global Jiangxi Business Development Forum and Press Conference

of the Top 100 Private Enterprises in Jiangxi". The Company ranked 36th among the top 100 private enterprises in Jiangxi and 20th among the top 100 private manufacturers in Jiangxi;



# Top Ten Listed Companies with Growth Potential on the SME Board of China

The Company was recognised as one of the "Top Ten Listed Companies with Growth Potential on the SME Board of China" in the 12th China listed company selection by value held by the Securities Times.



The"China Top 100 Enterprise Award" at the Top 100 Chinese Listed Companies Forum and ranked 3rd in the "2018 List of China's Listed Companies by Growth Potential"

In November 2018, the Company received the "China Top 100 Enterprise Award" at the Top 100 Chinese Listed Companies Forum and ranked 3rd in the "2018 List of China's Listed Companies by Growth Potential".



#### Private Sci-Tech Development Contribution Award – 2017 Outstanding Private Enterprise

China Association for Promotion of Private Sci-Tech Enterprises awarded the Company "Private Sci-Tech Development Contribution Award – 2017 Outstanding Private Enterprise";



#### "Second Prize of National Innovation Achievements in Modernisation of Enterprise Management"

In the selection of "National Innovation Achievements in Modernisation of Enterprise Management" organised by China Enterprise Confederation, the Company's "Lithium New Materials Enterprise Technology Innovation Driven Industry Chain Extension Strategy" won the "Second Prize of National Innovation Achievements in Modernisation of Enterprise Management".





# Sustainable Development Management

# **Sustainable Development Management**

### Sustainable Development Management

In 2018, the Company initially established an environmental, social and governance (ESG) management structure. An ESG working group was formed responsible for passing down the resolutions of the board of directors on ESG matters, coordinating the implementation of the Company's ESG tasks, and reporting to the board of directors on a regular basis environmental and social policies and data to effectively assess the Company's environmental and social risks and opportunities. The ESG working group is affiliated with an implementation team to implement specific tasks and to gradually build an ESG management network.

# **Stakeholder Engagement**

We attach great importance to communication with stakeholders. We regularly collect opinions and suggestions from internal stakeholders including employees and senior management through various channels, as well as feedback and expectations from external stakeholders such as the government, customers, suppliers and media.

Stakeholders	Demand and Expecations	Means of Communication and Response
Government	<ul> <li>Complying with laws and regulations</li> <li>Paying taxes according to law</li> <li>Supporting economic development</li> </ul>	<ul> <li>Operating according to relevant regulations</li> <li>Paying taxes according to law</li> </ul>
Shareholders	<ul> <li>Return on investment</li> <li>Business and profit growth</li> <li>Risk management</li> <li>Information disclosure</li> </ul>	<ul> <li>Timely disclosure of business information</li> <li>Shareholders' meeting</li> <li>Investment Summit</li> <li>Roadshow</li> </ul>
<b>O</b> <u>−</u> Customers	<ul> <li>Stable supply of goods</li> <li>High-quality products and services</li> <li>Meeting diverse needs of customers</li> <li>Creating value for customers</li> </ul>	<ul> <li>Signing long-term agreements</li> <li>Guaranteeing service quality</li> <li>Customer information protection</li> <li>Customer satisfaction survey</li> </ul>
Employees	<ul> <li>Safeguarding employees' rights and interests</li> <li>Improving paths to development</li> <li>Protecting occupational health</li> <li>Balancing work and life</li> </ul>	<ul> <li>Providing good compensation and benefits</li> <li>Improving paths to career development</li> <li>Implementing employee training</li> </ul>
Partners	<ul> <li>Open, fair and just procurement</li> <li>Fulfilling contracts</li> </ul>	<ul> <li>Performing contracts according to law</li> <li>Open tender</li> <li>Carrying out project cooperation</li> </ul>
Environment	<ul> <li>Environmental protection</li> <li>Energy savings and emissions reduction</li> <li>Ecological conservation</li> </ul>	<ul> <li>Managing emissions</li> <li>Improving resource and energy efficiency</li> <li>Managing hazardous chemicals</li> </ul>
Society and the Public	<ul> <li>Participating in community development</li> <li>Supporting public charity</li> </ul>	<ul> <li>Community communication</li> <li>Public charity</li> </ul>

### **Materiality Analysis**

In 2018, we carried out different forms of interaction and communication with stakeholders, and made a benchmarking analysis of the issues disclosed in peers' sustainability reports. Following the requirements of the *HKEX ESG Reporting Guide*, we identified **22** sustainable development issues for the year. For the first time, we identified the extent and boundaries of issues through questionnaires to ensure more accurate and complete disclosure of operation and management-related information. In 2018, we issued **10** questionnaires to executives and **207** to stakeholders, and collected opinions and suggestions from various stakeholders on the Company's sustainable development to serve as an important basis and direction for the Company's future sustainable development management. Based on evaluations of all sustainability issues by stakeholders and executives, the final 2018 materiality matrix of issues on sustainable development was established as follows:

### 2018 Materiality Matrix of Issues on Sustainable Development





# Integrity and Compliance: To Improve Corporate Governance

Based on our modern enterprise structure and actual operational needs, we have established a strict corporate governance structure to promote the effective operation of the Company's risk management and internal control systems. We have set up a zero-tolerance corruption reporting mechanism. We strictly control procurement links to ensure sustainable procurement based on compliance, and resolutely ensure risk prevention and compliance operation.

# **Integrity and Compliance : To Improve Corporate** Governance

# **Corporate Governance**

The Company strictly abides by the Company Law, Securities Law, Guidelines for Governance of Listed Companies, Stock Listing Rules of the Shenzhen Stock Exchange, Guidelines for Standardised Operation of SME Board Listed Companies of the Shenzhen Stock Exchange, Listing Rules of the Hong Kong Stock Exchange and other relevant laws, regulations and normative documents. The Company has established a sound internal control system, and constantly improves its corporate governance structure and standardises operations. As of the end of the reporting period, the actual corporate governance situation was in line with the regulatory documents issued by the China Securities Regulatory Commission (CSRC) on the governance of listed companies, laying a solid foundation for the Company's development strategy and sustainable development.

### In 2018

Ganfeng Lithium held 16 board meetings, 8 supervisor meetings, 9 Strategy Committee meetings, 7 Audit Committee meetings, 1 Nomination Committee meeting, 2 Remuneration and Assessment Committee meetings, the 2018 annual shareholders' meeting and 5 extraordinary general meetings. We maintain close communication with shareholders, and ensure the voices of minority shareholders are heard. In addition, the Company hired lawyers to witness the legality of the convening and voting procedures of shareholders' meetings, safeguarding the legitimate rights and interests of the Company and shareholders.







#### Information Disclosure

The quality of information disclosure directly affects investors' perception and understanding of the Company. With full implementation of "express information disclosure" by listed companies on the Shenzhen Stock Exchange, the responsibility for information disclosure of listed companies has increased. The Company refined the disclosure process of each announcement and achieved normative, complete and rigorous information disclosure. During this process, the Company strictly followed the Shenzhen Stock Exchange Listing Rules, Guidelines for Standardised Operation of SME Board Listed Companies of the Shenzhen Stock Exchange. Administrative Measures for Information Disclosure of Listed Companies, Articles of Association and other relevant laws and regulations, so that relevant information was disclosed in a true, accurate, timely, fair and complete manner. To further strengthen the internal control of information disclosure and build an investor-oriented information disclosure system, the Company established the Approval Process of Information for Announcement to improve pre-disclosure review and reduce the errors in information disclosed.

#### Investor Communication

Ganfeng Lithium attaches great importance to management of investor relations with consistent attention to the right to know of investors and protection of investors. In addition to prescribed channels of information disclosure, the Company continues to improve and enrich channels and methods of communication with investors. To strengthen the construction of investor relations platforms and enhance the efficiency and quality of services for maintaining investor relations, the Company assigns personnel dedicated to maintaining close communication with investors through investor hotlines, mail exchange, reception visits, investor interaction platforms, investor relations column on the company website and official WeChat account, etc.

In 2018, the Company actively responded to the call of the Jiangxi Branch of CSRC by launching educational campaigns on investor protection. It set up an investor protection column on the Company's bulletin board, displayed promotional slogans on the Company's LED display, and organised lectures on investor protection and contests on securities knowledge, among other activities. Intermediaries were hired to organise training for the Company's employees, in which laws, regulations and related cases were cited to educate employees to comply with laws and regulations, to effectively protect the interests of small and medium investors, and to build trustworthy and harmonious investor relationships.



# **Strengthening Risk Control**

Ganfeng Lithium implements risk prevention and control from multiple dimensions including strategy, finance, human resources, legal compliance, security, auditing and information. Dynamic management of major risks is implemented through strategic review, special risk management, internal audit and special inspections, and self-assessment of internal control. Special risk management was vigorously promoted throughout the year with 25 tasks on building and improving risk control and compliance systems completed, and risk control measures were further implemented in such foundation management systems as business positioning, organisational structure, job responsibilities, authorisation and decentralisation, information systems and management reports. Our risk prevention capability was



systematically enhanced to form a governance model of "special risk management + primary systems optimisation". In 2018, we carried out the first competitiveness evaluation in risk management. An integrated evaluation was carried out on risk management across the Company from four main dimensions (including 11 sub-dimensions) of risk and opportunity balancing, organisation and culture of risk control, foundation management consolidation, and material risk control. The Company's overall competitiveness in risk management was analysed, and a risk management evaluation mechanism was established to effectively steer our fulfilment of risk management responsibilities.

The Company has carried out a series of initiatives on institutional review and optimisation. By the end of 2018. a number of systems such as the *Import and Export* Management System, Anti-fraud System, Measures for Integrity and Self-discipline Management. Crisis Management System, Purchasing Management System, Quality Management, Remuneration Management System, Administrative Management System, Interim Regulations on Management of Safety Risk Analysis and Disclosure of

Commitments and Environmental Data, and Information Secrecy System had been developed or revised, and the H-share listing system was updated. For important areas such as procurement and finance, the Company continued to improve risk management and control and strengthen institutional building by special spot checks on key links of financial management and more management and control of capital operation risks.

## **Supply Chain Management**

Ganfeng Lithium carefully selects external suppliers. The Procedure Document on Supplier Management was formulated, which according to the degree of influence on the guality of the Company's products divides materials into three categories of A, B and C. The supplier access processes, evaluation and classifications are also standardised. We closely monitor the guality of all raw materials supplied by our suppliers to ensure they meet

# **Anti-Corruption Management**

The Company continues to optimise anti-corruption procedures and control mechanisms, and conducts self-assessments on a regular basis. As an independent auditing and supervising department, the Audit Department is responsible for monitoring the internal rules and regulations of the Company and maintaining the effectiveness of preventing corruption risks at all times, especially in the key links of marketing, procurement, quality and transportation. The Company implements leadership responsibility and accountability systems for clean governance. Inspections are carried out on employees, suppliers, partners and other important stakeholders. The Regulations on the Integrity and Self-discipline of Employees were revised to clearly prohibit actions to seek illegitimate interests using powers and duties, accompanied by supervision mechanisms and procedures. The Regulations on Management of Expenses for Operational Entertainment describe in detail corrupt behaviours and gifts prohibited in the Company's operational entertainment to improve the internal control of operational entertainment.

Through publicity, training and other means, the Company promotes the concept of anti-corruption management to build a corporate culture of integrity and self-discipline. In 2018, the Company conducted anti-corruption training for personnel at economic departments including the Purchasing Department, Sales Department, Financial Department, Department of Project Management, Design Department and Quality Department, as well as transportation companies and subsidiaries' management teams. Induction training on anti-corruption was carried out for management at headquarters, and nearly 100% of newly appointed leading cadres received anti-corruption training. Employees' anti-corruption awareness was also deepened through training.



To ensure the effectiveness of the anti-corruption mechanism, the Company posts hotlines and email addresses to receive complaints and reports on the official website, office areas and other places, and has set up a mailbox to receive written reports, which facilitates stakeholders to report actual or suspected corruption. Any complaints or reports are checked and investigated, and the Company considers any statements and defences offered, so that evidence is properly collected, and the results of the investigation established. A discipline inspection and supervision team has been set up to analyse and characterise investigation results and put forward suggestions for handling, all of which are then reported to the President's office for discussion. The discipline inspection and supervision team also conduct follow-up inspections on implementation of supervision mechanisms from time to time.



The Company regularly evaluates suppliers based on a number of factors, focusing on manufacturing, quality control and innovation capabilities, with particular emphasis on the ability to provide specified materials to meet our specific R&D needs. In addition, the Company attaches importance to the sustainable development of suppliers themselves. For suppliers of raw material for battery production, the Company requires that they provide the ROHS Test Reports annually on the Restriction of the use of certain hazardous substances in electrical and electronic equipment to control ESG risks in the supply chain. By the end of 2018, the Company's supplier database had 2,391 domestic suppliers and 49 international suppliers.

The Company has established a smooth communication channel with suppliers. It promotes the growth of suppliers by continuously improving standards on procurement and supplier screening, and drives the common progress of the industry through development of the Company.

our procurement standards. The Company's quality control system covers the whole process from purchase order placement to pre-delivery inspection and laboratory inspection. In addition, the Enterprise Resource Planning (ERP) system is used to manage resources efficiently and effectively

Supplier Access Process





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# Innovation Driven: To Create Core Advantages

Ganfeng Lithium always adheres to the drive of technological innovation. Regarding product quality as a core value, it exerts technological advantages to promote the continuous improvement of product quality, and provides customers with highest-quality services.

# **Innovation Driven : To Create Core Advantages**

## Serving the Country Strategy

Since its inception, the Company has stuck to its original intention and corporate mission of "utilising limited lithium resources to create a green, clean and healthy life for the development and progress of human society". Adhering to the business philosophy of "creating unlimited value by utilising limited resources", the Company supports the development of a circular economy and the national strategy of revitalising emerging industries with practical actions. Through comprehensive optimisation of the industrial layout, it improves the quality of development, striving to build a vertical industrial chain integrating upstream and downstream and to contribute its part to the healthy and sustainable development of the global lithium industry

#### Feature Layout of the Retired Battery Recycling Segment to Help Develop a Circular Economy

As the production and holding capacity of new energy vehicles in China continues to rise, power batteries are expected to reach a decommissioning peak around 2020. The echelon use and integrated recycling of decommissioned lithium batteries will have a crucial impact on environmental protection. In this context, the Company is exploring the circular economy, seizing development opportunities and building a closed industrial chain. Relying on the National Enterprise Technology Centre, National and Local Joint Engineering Research Centre of Lithium-based New Materials and other superior research and innovation platforms, the Company doubles down on process development and technical research for comprehensive recycling of retired

batteries. Industrial production lines such as dismantling of used lithium batteries, efficient recovery and extraction of nickel-cobalt-manganese-lithium, and manufacturing of ternary precursor materials for lithium batteries were set up to realise the recycling of resources. By the end of 2018, the Company had applied for 16 national patents in the field of used lithium batteries, and was granted two national invention patents. We established Xinyu Engineering Technology Research Centre for Comprehensive Recycling of Waste Lithium Batteries, and joined Xinyu College, news outlets and other social forces to promote popular science to the public on retired lithium battery recycling.



Diagram of the Company's Comprehensive Recycling of Used Lithium Batteries

We also carried out technological research on safe recycling and harmless treatment of used lithium batteries which received positive feedback from society.

In 2016, Ganfeng Lithium officially launched the 34,000 t/ a used lithium battery comprehensive recycling project in Xinvu High-tech Zone, and realised industrialisation of the project in 2018. The project can recycle 20,000 tons of used lithium iron phosphate batteries and 14.000 tons of used ternary batteries. Using valuable metals such as nickel-cobalt-manganese-lithium recovered from retired batteries, the project produces qualified battery-grade lithium carbonate, lithium hydroxide, ternary precursor materials, etc., and sells them to customers for production of lithium battery cathode materials, thereby realising comprehensive recycling of resources and maximising economic value. The Company's technology for comprehensive recycling







Used battery disassembly line



Used ternary battery processing line

of used lithium batteries has reached a domestic leading level, which was approved by relevant experts organised by the Provincial Science and Technology Department. Our battery-grade lithium carbonate. lithium hydroxide and ternary precursor materials produced through recycling of lithium batteries were listed as "Key New Products of Jiangxi Province", and the relevant technologies have reached the domestic leading level through examination by relevant experts organised by the Provincial Science and Technology Department. In 2018. the Company recycled about 10.000 tons of used lithium iron phosphate batteries, poles and powder, and produced about 2,200 tons of qualified lithium chloride, equivalent to 1.917 tons of lithium carbonate. The Company's layout of its battery recycling segment responds to the country's strategy of vigorously developing a circular economy and building a resource-saving and environmentally friendly society.



**Feature** Layout of New Energy Products to Support National Strategic Emerging Industries

The National 13<sup>th</sup> Five-Year Plan on Development of Strategic Emerging Industries issued by the State Council in 2016 puts forward that "strategic emerging industries represent the direction of a new round of sci-tech revolution and industrial transformation, which is key to fostering new growth drivers and gaining new competitive advantages in the future." Ganfeng Lithium actively responds to the national development strategy by comprehensively deploying such strategic emerging industries as new energy and new materials.

In recent years, China's new energy vehicle market has continued to expand, and China has become the world's largest new energy vehicle production and sales market. Under favourable conditions in terms of policy and market environment, we have seized the historical opportunities of this electric vehicle revolution and strive to develop and manufacture safer lithium batteries. We brought in a number of high-end R&D personnel and marketing veterans for lithium-ion power batteries, such as Dr. Xu Xiaoxiong, a Ph.D. student supervisor of Chinese Academy of Sciences. who headed the "All-Solid-State Lithium Ion Energy Storage Battery" (a National "863 Program") project of the 12<sup>th</sup> Five-Year Plan for the new energy sector of the Ministry of Science and Technology, and also led the special nanometre pilot project of Long-Life Power Batteries in the Chinese Academy of Sciences. A first-class scientific R&D team was built to continuously enhance the Company's core competitiveness and innovation. To actively explore international

markets, we have signed strategic cooperation agreements with LG Chem (South Korea), BMW (German), Tesla (US) and other power battery giants to supply battery-grade lithium hydroxide and lithium carbonate products. In the future, our lithium battery products will be widely used in urban public transportation facilities such as buses, airports and subways to make outstanding contributions to the development of clean urban transportation.

Thanks to the support of national energy structure adjustment and development of new energy, our layout for energy storage products has gradually taken shape. Through continuous technical breakthroughs, the Company has developed a variety of high-capacity square aluminium-shell lithium iron phosphate batteries for energy storage, and launched the "Photovoltaic and Energy Storage Integration" demonstration project. The lithium iron phosphate battery used in the project has outstanding features such as high safety performance, long cycle life and excellent performance of echelon use. Through advanced packaging and grouping technology, our battery can seamlessly switch with the power grid to achieve responses in milliseconds and long operating times under overload conditions, providing users with intelligent power utilisation and protection including power peak shift and trough filling, emergency power supply, capacity management, load tracking and flexible reverse power protection, hence an application model of the "photovoltaic and energy storage integration technology" that is being vigorously promoted by the nation.





## **Diverse Product Portfolio**

Ganfeng Lithium has a vertically integrated business model to build an industrial ecosystem that opens up the upstream, midstream and downstream and create a complete product value chain. Our business covers important links of the industry chain such as extraction of upstream lithium, deep processing of midstream lithium production and lithium metals, and production of downstream lithium metals and recycling lithium, forming five business segments of upstream lithium resources, deep processing of lithium production, production of lithium metals, production of lithium batteries and reclaiming and recycling lithium. We have more than 40 types of products such as lithium metal. lithium carbonate, lithium hydroxide, butyllithium and lithium ion batteries. Our products are widely used in national strategic emerging industries such as new energy, new materials and new medicine, specifically new energy electric vehicles, synthetic rubber, functional new materials and new pharmaceutical products targeting cancer, viruses and HIV-AIDS.

In the downstream segment of lithium power and energy storage batteries, the Company aims to develop a new lithium battery system, i.e., all-solid-state lithium battery technology. In conjunction with the Ningbo Institute of Materials Technology & Engineering of the Chinese Academy of Sciences, the Company set up the Solid Electrolyte Material Engineering Centre to develop solid-state electrolyte and all-solid-state battery systems. At the same time, the Company has an automatic polymer lithium batterv production line of 30 million units/vear in Dongguan Qiaotou Town Industrial Park. A 600 million watt high-capacity lithium-ion power storage battery project was built in Xinyu High-tech Zone. Xinyu Ganfeng Electronics Co., Ltd. has a capacity of 60 million units/year polymer lithium batteries for smart wearable products, and has entered the most promising downstream new-energy field with deep processing of lithium products. In the lithium battery recycling segment, Ganfeng Recycling Technology Co., Ltd. invested in and built a used lithium battery dismantling and



rare metal comprehensive recycling project, in which the first phase has a recycling capacity of 34,000 tons, further improving the Company's industrial chain layout.

We are a reliable supplier to the world's first-line battery suppliers, and actively carry out friendly talks with the world's leading automotive OEMs and battery materials customers. While seeking opportunities to supply lithium compounds and other products and to establish long-term strategic cooperation, we are gradually transforming into a provider of integrated solutions. In 2018, Ganfeng Lithium cooperated with the world's leading automakers to prove that our consistently high quality and leading position in the lithium compound and lithium metal sectors are widely recognised in the international market.

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We signed a strategic cooperation agreement with Tesla, stipulating that from 2018 to 2020 Tesla will designate its battery suppliers to purchase battery-grade lithium hydroxide products from the Company and Ganfeng International, a wholly-owned subsidiary of the Company to the sum of about 20% of the Company's total production capacity of the year.

We signed a strategic cooperation agreement with German BMW, stipulating that in the next five years the Company and Ganfeng International will supply lithium chemicals to the battery or cathode material suppliers designated by BMW.

We signed a supply contract with South Korea's LG Chem, stipulating that from 2019 to 2022 the Company and Ganfeng International will sell lithium hydroxide products to LG Chem.

## **Innovation-Driven Development**

Ganfeng Lithium always regards "innovation" as the source of the Company's development. Adhering to the route of high-quality development driven by "technological innovation", the Company gathers first-class innovative technical talents to build a national-level scientific research and innovation platform. It extensively carries out industry-university-research cooperation and harvests innovation, thereby becoming the leader in technological innovation in the global lithium industry.

#### **o First-Class Innovative R&D Team**

Ganfeng Lithium seeks out first-class technical talents at home and abroad, striving to build an excellent innovative R&D team with significant competitive advantages in the global lithium industry. The Company's senior management has an extensive professional background. Chairman Li Liangbin was selected as one of the "National Millions of Talents" and "National Leading Talents in Sci-Tech Entrepreneurship"; Xu Xiaoxiong, Ph.D. student supervisor and research fellow, is the Company's chief scientist and provides forward-looking guidance for research and innovation. Xu was selected in the "Hundred-Talent Program of the Chinese Academy of Sciences". In addition, the Company formulated the "Talent Development Strategic Plan" and established a longterm incentive mechanism for talents. It was awarded "Talent Demonstration Site of Jiangxi Province". "Sci-Tech Innovation Team with Lithium Battery New Material Advantage of Jiangxi Province" and "Post-graduate Education Innovation Base of Jiangxi Province".

#### National R&D and Innovation Platforms and Honours

As a technological leader of the global lithium industry, Ganfeng Lithium boasts such high-end research and innovation platforms as the National Enterprise Technology Centre, National and Local Joint Engineering Research Centre for Lithium-based New Materials. National Postdoctoral Research Station and Academician Workstation. Based on these platforms, the Company undertakes national key technology R&D projects and bears the fruit of cutting-edge R&D achievements, moving at the forefront of R&D of new materials for lithium batteries. In addition, we have platforms for technological upgrades, R&D and design such as Jiangxi Provincial Key Laboratory, Jiangxi Provincial Public Service Demonstration Platform for SMEs and Jiangxi Industrial Design Centre, and have been awarded a series of honorary titles such as "National Technology Innovation Demonstration Enterprise", "China Excellent Private Sci-Tech Enterprise" and "National Green Factory".



Education Background of Ganfeng Lithium R&D Team



National Honorary Titles Obtained by the Company

#### Case National Enterprise Technology Centre

In 2018, the Company's Enterprise Technology Centre (the "Centre") was recognised as the "National Enterprise Technology Centre" by five departments including the National Development and Reform Commission and the Ministry of Science and Technology. As a base for translation of sci-tech achievements, pilot production and industrialisation, the Centre is at the leading level in China in terms of talent introduction, facilities and R&D investment. The Centre established five laboratories for lithium metal smelting and purification, lithium salt deep processing, organolithium compound synthesis, lithium battery material development, and lithium power and energy storage batteries manufacturing. The Centre has strong research and development capabilities thanks to more than 400 sets of equipment for R&D, analysis and testing such as inductively coupled plasma emission spectrometers (ICP), scanning electron microscopes (SEM), X-ray diffractometers (XRD), high-performance liquid chromatographs, graphite furnace atomic absorbers, gas chromatography and mass spectrometry (GC-MS), glove boxes, tubular reactors, etc.

#### Industry-Leading Innovation

Ganfeng Lithium is the technology leader in the global lithium industry and the only company globally that owns industrialised technologies for "extracting lithium from brine", "extracting lithium from mineral ore" and "extracting lithium from recycling". We continue to increase investment in technological R&D and industrialisation of scientific research results. We undertake major scientific research projects at the national and provincial levels, preside over or participate in the formulation of national and industry standards, and promote the continuous rise of the technical level in the industry.



are in a leading position in the country.



#### • Extensive Cooperation among Enterprises, Research Institutes and Universities

Ganfeng Lithium actively participates in cooperation among enterprises, research institutes and universities. It has established long-term cooperative relations with universities and research institutes at home and abroad to jointly develop new products, new technologies and new processes, giving full play to the leading and supporting role of science and technology. The Company carried out 16 foreign technical cooperation projects. While cultivating its technical talent base, the Company saw a substantial increase in its technology R&D capacity.

### An Overview of Some of Projects under the Cooperation among Enterprises, Research Institutes and Universities

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In conjunction with the Qinghai Salt Lake Research Institute of the Chinese Academy of Sciences the Company established the Joint Research Centre for Lithium Resources Development and Utilisation with the aim to jointly develop technologies for comprehensive utilisation of salt lake brine resources, and to jointly cultivate post-doctoral fellows.

Together with the Ningbo Institute of Materials Tech nology & Engineering of Chinese Academy of Sciences, the Company set up the Solid Electrolyte Material Engineering Centre dedicated to the development of solid-state electrolyte materials and the commercialisation of solid-state batteries.

We led (or participated in) the development (or revision) of 4 national standards, including "Anhydrous Lithium Chloride", "Lithium", "Lithium Strip" and "Battery-Grade Lithium *Hydroxide*", and led or participated in the formulation of **18** industry standards, such as "Battery-Grade Lithium Oxide", "N-Butyllithium", "Battery-Grade Lithium-Silicon Alloy", "Battery-Grade Lithium Hydroxide". "Battery-Grade Lithium Chloride", etc. We participated in the technical verification of more than 40 product analysis methods for the industry.

We applied for 225 ational patents, including 115 invention patents, and were granted national **123** patents, including **54** patents. We won "China Patent Excellence Award" and "Jiangxi Provincial Patent Award", and implemented four invention patent industrialisation

The Company developed **3** national key new products, namely battery-grade lithium metal, high-sodium lithium metal particles and battery-grade lithium dihydrogen phosphate,

We undertook (or participated in) 17 national projects and 31 provincial projects, including one under the National 863 Program, three under the National Key R&D Program, four under the National Torch Program and three under the National High-end Foreign Experts

> A project under the 2012 National "863 Program" jointly undertaken with the Northwest Institute of Nuclear Technology, Beijing University of Chemical Technology, Beijing Institute of Chemical Defense, etc. passed inspection by experts organised by the Ministry of Science and Technology.

> The technology of lithium extraction from brine by membrane separation was developed in cooperation with East China University of Science and Technology to address the key common technical difficulty of lithium extraction from brine.

#### • Strengthening Intellectual Property Protection

In accordance with the Enterprise Intellectual Property Management Code (GB/T29490-2013), the Company set up the Intellectual Property Management Office to be responsible for daily management of patents and trademarks. Sound intellectual property management systems and incentive mechanisms were established such as the Patent Management System, Trademarks Management System and Technical Secret Protection System. Emphasis is put on effective protection of the Company's proprietary patent rights and full respect for the patent rights of others, which provides a strong guarantee for R&D achievements and innovation. The Company requires a patent literature search before launching a product or technology R&D project, and that a corresponding patent search report be prepared at the time of project appraisal and acceptance to avoid infringement. In 2018, the Company applied for 78

In December 2018, we won the title of "China Excellent Private Sci-Tech Enterprise" and the 2018 "China Patent Excellence Award" Excellence Award" In 2018 Total national patents applied 2225

patents, including 37 invention patents and 41 utility model

patents; 7 national-level projects, of which 3 under the Na-

tional Key R&D Program were approved; and 22 science

and technology projects in Jiangxi Province. By the end of

2018, the Company had applied for 225 national patents

and was granted 123 national patents, which improved the

Company's technological leadership in the lithium industry.

Total national patents granted 123

### **Guaranteeing Product Quality**

The Company pays attention to product quality management. It has established strict production process and quality control management systems, fulfilling its responsibility for top-down quality control to the grassroots level of operation and breaking it down to unit processes of product production. Daily performance appraisal of employees is directly linked to the fulfilment of responsibility for product control to ensure the stability and sustainability of product quality.

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The Company formulated normative documents such as *Quality Management System*, *Procedure Document on Design* and Development Control, Procedure Document on Production Process Control, Procedure Document on Process and Product Monitoring and Measurement Control, and Procedure Document on Non-Compliance, Correction and Preventive Action Control, etc. All links from process R&D, engineering design, product production, analysis and testing to inspection and acceptance are monitored to reduce the risk of error. The Company requires that samples from certain stages of trial production be sent to the laboratory for analysis and confirmation before the start of the next stage of production. Operators and inspectors who are newly employed or transferred must receive training on professional knowledge and quality management basics. Only after passing the examination can they be certified to work. In the production process, we judge the quality of products according to the technical requirements of the products, and issue *Product Analysis Reports*. Unqualified products, once identified, are isolated and reported to higher authorities. Reworked products must pass the inspection again before they can be put into use.

The Company strengthens product quality assurance during the production and operation process, and cultivates the quality awareness of employees. To this end, rules and regulations were established such as *SPC Management System, Workshop 5s Management System, and 5M Change Management Regulations,* etc., which help employees to understand quality status, abnormalities and data changes in a timely manner, identify potential quality risks and take preventive measures. Responsibility for each position at the workshop is assigned to identify the responsible person for any abnormality. A production record book has been set up for each position to record process parameters in real time. Data deviations are strictly controlled within a certain range to implement effective control of the production process and to ensure product quality consistency.

The Company implements an account management system for unqualified products to timely count the qualification rate of each product and intermediate product. For unqualified products, the Company timely analyses the cause and formulates effective rectification measures to continuously improve the product qualification rate. In 2018, the quality of all the Company's products reached the standard. The qualification rate of battery-grade lithium hydroxide and battery-grade lithium carbonate products steadily improved compared with the prior year, meeting the stable market demand. The new 20,000-ton battery-grade lithium hydroxide project as Xinyu Basic Lithium Plant reached its design capacity and product quality requirements three months after entering trial production, ensuring a stable supply of this product.

In 2018, the Company's product returns were all properly resolved. The return rate of major products decreased by 15.8% compared with the prior year. The Company's sound quality management system, timely response to customer demands and serious and responsible attitude are well received at home and abroad, and customer satisfaction is steadily improving.

### **Improving Customer Service**

While safeguarding product quality, the Company is constantly improving customer service. Customer satisfaction surveys are organised on a regular basis to track and improve service quality. Customer complaint handling mechanisms are improved to provide customers with top-quality service.

The Company has established a series of system documents to ensure the after-sale service level such as the *Post-delivery Related Management Regulations, Customer Complaint Management, Product Return and Exchange Management Regulations, Procedure Document on Customer Satisfaction Survey, etc.* The Company distributes satisfaction questionnaires to customers every year to evaluate the four aspects of product quality, delivery, service performance and complaint handling. The evaluation results are submitted to the Quality Department for analysis and follow-up, and corrective and preventive measures are initiated

The Marketing Department, Production Technology Department, and Quality Department constitute the recall task force. A recall review is conducted, covering reasons for recall, credibility of information sources, product sales, shipping records, production dates, production batches, etc.

After the end of the recall, a recall report is prepared to evaluate the impact and rationality of the recall, and the evaluation results are used to develop corrective and preventive measures to prevent similar incidents from recurring.

Recalled products are isolated; Unqualified products among the recalled products shall be disposed of in accordance with the *relevant provisions of the Regulations on Management of Nonconforming Products.*  in time according to the feedback. In dealing with customer complaints, the Company analyses the causes and assigns personnel dedicated to follow-up and rectification. From receiving a complaint and processing to feedback, the whole process is completed within 3 days to eliminate customer concerns in a timely manner. The Company uses the PDCA process to continuously improve places where customer complaints occur. In 2018, the Company summarised customer complaints such as product damage from packaging and transportation, and implemented effective measures for improvement, so that customer satisfaction steadily improved from the prior year.

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After a product is delivered, if it is found to pose a safety hazard to human health or life and property safety, the Company will immediately initiate a standardised product recall procedure. In 2018, the Company did not have any product recalls due to any reason.

The location of the product to be recalled is retrieved to determine the remedial measures the Company should take, and relevant parties are informed of safety precautions. Appropriate storage and transportation facilities are prepared.

Product recall procedure The location of the product to be recalled is retrieved to determine the remedial measures the Company should take, and relevant parties are informed of safety precautions. Appropriate storage and transportation facilities are prepared.

Recall information is announced within 48 hours after the decision to recall is made, including information on recalling team members, information on products recalled, methods and time of recall, recall processing and corresponding fees and compensation plans.

# IV

# Low-Carbon Development: To Protect theEnvironment

As a global leader in the lithium industry, Ganfeng Lithium employs the concept of environmental protection throughout its operation. The Company starts by improving its environmental management system, promoting cleaner production, improving resource utilisation, and so on. To actively respond to climate change and protect the ecological environment, it effectively implements its corporate mission of "utilising limited lithium resources to create a green, clean and healthy life for human development and progress."

### **UN SDG**



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### Ganfeng Lithium's practice

The Company uses energy and water resources efficiently in all aspects of production and operation. It strictly manages the use of hazardous chemicals, reduces waste emissions, and rationally develops and utilises lithium resources to minimise the impact on the ecological environment.

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# UN SDG

Goal 7: Affordable Clean Energy

### Ganfeng Lithium's practice

The Company's new rooftop photovoltaic power generation project stores power in its own energy storage battery system, and clean energy is actively used to generate electricity for the Company's own use.

**UN SDG** 

Goal 13: Climate Action

## Ganfeng Lithium's practice

The Company actively carries out energy conservation and consumption reduction actions to address climate change. Energy-saving targets are set for each plant. Ultra-low-carbon combustion boilers and natural gas boilers are used to reduce carbon emissions. The Company's greenhouse gas emissions accounting is carried out annually by third-party professional organisations to better manage and reduce the impact of daily operations on climate change.

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# Low-Carbon Development: To Protect the Environment

## **Reducing Pollution and Emissions**

Ganfeng Lithium complies with the relevant laws and regulations of China and the countries where its projects operate. It improves management systems, comprehensively carries out cleaner production, and strictly controls emissions. By fully fulfilling its environmental responsibilities, the Company strives to achieve sustainable development.

#### Improving Management Systems

In response to international conventions such as the United Nations Framework Convention on Climate Change (UNFCCC), the Company earnestly observes relevant national laws and regulations, such as the Law of the People's Republic of China on Environmental Protection, the Law of the People's Republic of China on the Prevention and Control of Water Pollution, the Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution, the Law of the People's Republic of China on the Prevention and Control of Environmental Noise Pollution, etc. In this regard, Ganfeng Lithium has formulated a series of environmental management rules and regulations such as the Environmental Protection Responsibility System and Environmental Protection Equipment Management System to establish a strict environmental protection management network. The Company established an environmental protection leading group where the general manager is the leader, and the heads of departments and workshops are the first responsible persons for environmental protection management. An environmental management accountability system has been implemented to ensure accountability and investigation for failure to fulfil one's responsibility. In 2018, no environmental complaints and environmental penalties arose for Ganfeng Lithium.

#### • Promoting Cleaner Production

To implement the Cleaner Production Promotion Law of the People's Republic of China and achieve harmony of economic, environmental and social benefits, Ganfeng Lithium has actively engaged in cleaner production since 2012. It established a cleaner production review leading group and working group, striving to improve the level of modern production.

In 2018, the Company invested about RMB110.878 million in environmental protection. The second round of cleaner production transformation passed the audit review. Cleaner production standards were reached in terms of raw and auxiliary materials, energy, technology, products, pollutants, environmental management, etc. 840,000 tons of water can be saved, and nearly 40,000 tons of coal equivalent reduced per year. The technical transformation of rotary kiln desulphurisation greatly reduced the content of sulphur dioxide in the flue gas of the kiln. so that the total emission of pollutants decreased by 81%. In the batterygrade lithium fluoride expansion project, the Company strengthened the mother liquor treatment by recycling centrifuged mother liquor to save 225 m<sup>3</sup> of water per day.

Environmental complaints and environmental penalties in 2018

Environmental protection investment

110.878 million

in 2018



Comparison of concentrations of sulphur dioxide in flue gas before and after rotary kiln desulphurisation transformation





In 2018, when building the projects of Annual production of 15,000 tons of battery grade lithium carbonate" and "Annual production of 20,000 tons of lithium hydroxide monohydrate project" of Xinyu Basic Lithium Plant, the Company comprehensively upgraded the evaporation process and emission control technology, and greatly reduced coal consumption, nitrogen oxides and sulphur dioxide emissions by optimising waste heat utilisation.

### Comprehensive use of MVR technology to significantly reduce coal use

In the projects of "Annual production of 15,000 tons of battery grade lithium carbonate" and "Annual production of 20,000 tons of lithium hydroxide monohydrate project" of Xinyu Basic Lithium Plant, the evaporation process was entirely upgraded to energy-saving and environmentally friendly MVR (mechanical vapor recompression) technology. Compared with the traditional triple-effect evaporation technology, MVR saves coal use by about 290,000 tons of coal equivalent per year. The environmental benefits are significant.



Multi-pronged Approach to Optimise "Annual production of 15,000 tons of battery grade lithium carbonate" and "Annual production of 20,000 tons of lithium hydroxide monohydrate project" of Xinyu Basic Lithium Plant

#### Denitrification at the kiln tail to reduce nitrogen oxide emissions

The latest low-nitrogen combustion technology was introduced for rotary kiln pulverised coal burners, reducing nitrogen oxide emissions from the source, so that the nitrogen oxide emission concentration decreased from 700ppm to 350ppm. Electric dust collector and SCR (selective catalytic reduction) denitrification technology was adopted in the kiln dust collection and denitration systems, improving the absorption rate in the process, so that the nitrogen oxide emission concentration was further reduced to 80ppm.

# Technical modification of the absorption tower to reduce sulphur dioxide emissions

During acidification and calcination processes, a small amount of sulphuric acid is decomposed to produce acid-containing tail gas. A combination of "dynamic cyclone absorption tower + electric mist eliminator" was adopted to replace the previous treatment by absorption tower, which ensures chemical absorption efficiency and reduces entrainment, so that the concentration of sulphur dioxide in the exhaust gas was reduced by four times, i.e., from 200 ppm to less than 50 ppm.

# Pyrometallurgical techniques to improve utilisation of waste heat

A three-stage fluidised bed preheater was installed at the kiln tail, so that the 400°C tail gas of the rotary kiln preheats the spodumene ore. Making full use of the exhaust heat avoids smoke and dust blockage caused by tail gas producing vapor, and also prevents the high residual heat from igniting the bag dust collector. Compared with the previous technical means, the newly implemented waste heat recovery method saves about 594 tons of coal equivalent per year.





Xinyu basic lithium plant

#### Strict Emissions Control

As the country increases the comprehensive management of pollutants, Ganfeng Lithium is committed to continuously reducing pollutant emissions and accelerating the construction of desulphurisation, denitrification and dust removal renovation projects. The Company actively cooperates with local environmental protection bureaus to test the industrial waste, to update the Company's sewage discharge permit according to regulations, and to strictly control the total amount of pollutants discharged. **100%** of solid waste is addressed by classified storage and harmless treatment according to relevant regulations such as the *National Hazardous Waste List*.

# Waste Water

Wastewater discharge arises from lithium salt and lithium battery production in Ganfeng Lithium's industry chain. The production wastewater generated by lithium salt factories is mostly steam condensate, of which the emission is strictly in accordance with the *Inorganic Chemical Industry Pollutant Emission Standard* and the take-over standard of the high-tech zone's sewage treatment plant. The wastewater generated by Ganfeng batteries is mainly domestic sewage and wastewater from washing negative-electrode materials mixing equipment.

#### Total Wastewater Discharge in 2018

Total discharge	883,748 tons
Total discharge per RMB10,000 of revenue	1.77 tons/RMB10,000
COD	13.52 tons (allowable emissions: 22.83 tons)
Ammonia nitrogen	0.80 tons (allowable emissions: 1.28 tons)

# **Exhaust Gas**

Exhaust emissions are mainly boiler exhaust gas, drying exhaust gas and the like from the lithium salt segment. To reduce dependence on coal, Ganfeng Lithium is gradually converting its boilers. At the headquarters, coal-fired boilers have been replaced by natural gas boilers, or equipped with an ozone denitration treatment unit. In the second-phase production line of the Xinyu Basic Lithium Plant, the Company adopted an ultra-low-nitrogen combustion boiler to ensure that all emissions indicators are lower than required by national environmental protection authorities.

# Other Wastes

In the Company's industrial chain, lithium salts, lithium metals and lithium batteries production generates waste discharge. Hazardous wastes are entrusted to a qualified third-party organisation for treatment. For example, the coal tar produced by the gas generator of the Xinyu Basic Lithium Plant is disposed of by Jiangxi Ruifu Environmental Protection Petrochemical Co., Ltd. Hazardous wastes such as waste mineral oil generated from replacing lubricants of lithium salt and lithium metal producing equipment are disposed of by Jiangxi Dongjiang Environmental Protection Technology Co., Ltd. Hazardous wastes generated by lithium battery plants, including waste NMP liquid, empty NMP buckets and empty electrolyte buckets, are all recycled by the plants themselves.

General industrial solid wastes, such as slag, fly ash, siliceous calcium slag, etc., are sold to cement and construction industries for comprehensive utilisation. Waste rocks produced by lithium mines in Ningdu are generally used to build roads in mining areas. Tailings are processed by beneficiation processes to produce feldspar powder, etc. which is sold to the ceramic industry for comprehensive utilisation.

### **Comprehensive Resource Utilisation**

Adhering to our operation philosophy of "creating unlimited value by utilising limited resource" Ganfeng Lithium pays attention to environmental and ecological conservation in the development of lithium resources. Scientific and reasonable mining methods are adopted, and mineral processing is continuously improved in a bid to improve ore utilisation and realise cleaner production.

#### • Lithium Mine Development

The Company holds the right to mine spodumene ore in Heyuan, Ningdu County, Ganzhou, Jiangxi Province. In the development of lithium mines, the Company implements a sustainable mining approach to carry out unified planning, overall layout and comprehensive development of spodumene resources within the permitted scope of the mining license. At the same time, the Company uses underground mining methods to develop the deposit, which protects to the greatest degree the vegetation in the mining area from destruction and water and soil from erosion.

#### • Resource Recycling

In terms of water resources utilisation, the Company actively responds to the national call to conserve and protect water resources. The *Energy Management System* was formulated, and a full-time management method was adopted to strengthen the recycling of steam condensate and equipment cooling water. All employees are required to save water. In 2018, the Company total consumed **3.7905** million tons of fresh water, with an intensity of **7.58** tons/RMB 10,000, while a total of **389,000** tons of water were saved from the reuse of reclaimed water.

#### **Total Exhaust Gas Emissions in 2018**

Particulates	46.26 tons
Sulphur dioxide	82.60 tons (allowable emissions: 353.32 tons)
Nitric oxides	183.78 tons (allowable emissions: 331.61 tons)

#### **Total Solid Waste Generation in 2018**

	Coal tar	29.54 tons
Hazardous waste	Waste oil	10.16 tons
	Waste mineral oil	2 tons
	Waste NMP liquid	89.84 tons
	Hazardous waste generation per RMB10,000 of revenue	0.00026 tons/ RMB10,000
Non- hazardous waste	Raw material packaging boxes	5 tons
	Raw material wrapping paper	3,465.05 tons
	Boiler slag	21,860.30 tons
	Coal slag	19,579.20 tons
	Feldspar powder generation from tailings	60,000 tons
	Non-hazardous waste generation per RMB10,000 of revenue	0.21 tons/RMB10,000

To ensure the full utilisation of materials, the Company formulated the Measures for Recvcling Management, which for standard management divide waste materials into those that can be directly reused and those that need to be repaired before reuse. At the same time, to encourage technicians and production personnel to participate in materials recycling, the Company awards 2%-5% of the value saved by recycling. In 2018, the Company used a total of 7.31 tons of plastic packaging materials.

### ○ Low-Carbon Office

The Company implements a paperless office and OA network office systems across the board to ensure work efficiency and reduce energy consumption and use of paper. Video conferences are employed to reduce the number of trips by subsidiaries to the Company for reporting.

To implement thrift in company vehicle use, the Company formulated the Administrative Measures for the Use of Company Vehicles. Vehicle sharing has been implemented among departments and employees, and pure electric vehicles are used for business trips within the province. The *Regulations on* Travel Expense Reimbursement Management were issued to encourage employees to travel by public transportation such as train, bus and subway. The Company practices the concept of thrift and low-carbon life with practical actions

# **Addressing Climate Change**

Adhering to the tenet of "energy saving, environmental improvement, technological progress and sustainable development", the Company actively responds to the strategic deployment formulated by the government in response to climate change. It optimises energy management, promotes clean energy and carries out energy-saving renovation of boilers, taking practical action to play a leading role as a national-level green factory.

On energy management, the Company continues to improve its energy management system. It strictly implements the Energy Management System and continuously improves related systems such as the Energy Consumption Quota Management System and Measures for Assessment of Energy Conservation Target and Responsibility Fulfilment. Companywide participation and full-time management have been implemented. The energy-saving targets and responsibilities of each unit are assessed. Energy management statistics and analyses are made on a regular basis, and new energy-saving technologies, new processes, new materials, new equipment, etc. are promoted to continuously improve the energy-saving level of the Company's production processes and equipment. The principle of "shut off lighting and water as soon as people leave" is implemented to build a conservation-oriented enterprise on all fronts. In addition, the Company implements the Energy Conservation Reward and Punishment System, which gives certain rewards to departments that meet energy-saving targets, propose rational energy-saving proposals, or make headway in energy-saving work, and punishes those who waste energy according to severity. The Company uses energy mainly in the production stage. In 2018, the energy consumption per unit of most factories decreased compared with 2017, reaching the annual energy saving target. In addition, the Company actively responds to climate change by using third-party professional organisations to assess its annual greenhouse gas emissions.

reclaimed wat 389,000 tons Total use of plastic packaging material **73,100** tons Please save water Please save electricity 0 Please save paper

Water saved from the reuse of

#### Total Energy Consumption in 2018

Total energy consumption	115,084 tce
Energy consumption per unit	0.23 tce/RMB 10,000
Bituminous coal	49,562 tons
Anthracite	74,602 tons
Electric power	277,308,400 kWh
Diesel	376.52 tons
Natural gas	1.028 million m <sup>3</sup>



**Rooftop Photovoltaic Power Generation** 

In 2018, Ganfeng Battery Technology Co., Ltd. built a new photovoltaic energy storage demonstration project. The project makes full use of idle rooftops for photovoltaic power generation, and combines the Company's own energy storage battery system for storage to achieve self-sufficiency. In 2018, the total power generation was 1.184 million kWh, including 41,000 kWh of on-grid electricity and 1.143 million kWh for selfuse.



Solar photovoltaic panels on the rooftop of Ganfeng battery plant

# **Ecological Conservation**

Ecological conservation is a fundamental national policy. The Company actively integrates production and ecology, striving to minimise the impact of the operation process on the environment, while focusing on greening and ecological restoration. Since being selected in the "Second Batch of Ecological Civilisation Demonstration Bases in Jiangxi Province" in 2017, the Company has persistently pursued cleaner production. It continuously develops new technologies for energy conservation and consumption reduction. Wastewater and exhaust gas discharges are monitored online. Technological breakthroughs are constantly made in comprehensive recycling of industrial solid waste. Relevant environmental system documents are improved to reduce the environmental impact of business operations.

In 2018, the Company revised its system documents including the Environmental Operation Control Document, Procedure Document on Environmental and Occupational Health and Safety Monitoring and Measurement Control, Procedure Document on Environmental Factor Identification and Evaluation Control, etc. The Company is required to conduct an initial environmental review before the start of a project to fully understand its environmental impact and environmental management status. A comprehensive check is carried out on the possible environmental impacts of the

product life cycle with the help of the Environmental Factors Identification Form. These impacts include but are not limited to the impact of factory emissions on surrounding residential areas, environmental impact by suppliers and significant environmental impacts that may result from abnormal conditions. After any environmental risks are identified, the operating points that may cause significant environmental impacts are set as environmental control points and included in the Environmental Control Point List, and then control requirements are clearly defined to implement supervision of these points.

The Company attaches great importance to ecological conservation during the mining process. Before the mining, an environmental assessment is carried out to identify the key control points that affect the ecology. During mining, attention is paid to goaf backfilling and effective treatment of tailings. At the time of closure, a closure plan is implemented to strengthen reclamation management. In 2018, the Company planted trees in mining and surrounding areas. Grass seeds were planted on the slopes outside tailings ponds. and turf was planted to prevent water and soil erosion. The total area of ecological governance reached 150,000 square metres.



# V Safety First: To Guarantee Smooth Operations

Safe production is an important part of ensuring the sustainable development of a company. Ganfeng Lithium attaches great importance to its safety guarantee in the production process and the occupational health of employees. Safety management systems are constantly established and improved, and various safety guarantee measures are implemented to raise employees' awareness of safe production. The Company strives to create a harmonious and safe production environment and to establish an industry benchmark for safe production.

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# Safety First: To Guarantee Smooth Operations

## Improving the Safety Management System

Adhering to the concept that "safety responsibility is the priority", the Company formulated its Safety Management Measures in accordance with the Safety Production Law of the People's Republic of China and Safety Production Management Regulations of Jiangxi Province. Thus, a hierarchical safe production responsibility system has been established. The requirement of "two responsibilities for one post" has been implemented for departments at all levels, which clearly stipulates the safety responsibilities of all management and employees in production activities to minimise safety hazards and harm to employees. In 2018, there were no safety accidents causing casualties in the Company.

### Safe Production Practice

Safety management is the cornerstone of enterprise development, and implementing safety production guarantee measures is a constant issue for enterprises. In 2018, starting with the framework of "complying, strengthening and deepening" the Company continued to build a long-acting mechanism for safe production from such aspects of ensuring compliance, strengthening awareness of safe production and implementing daily work on safe production.

#### Ganfeng Lithium's Safe Production Framework in 2018



#### Safety Risk Screening

To effectively prevent the occurrence of safety accidents, the Company has established a system of safety inspections headed by the leadership. Safety hazard screening is carried out on a regular basis. A list of hidden dangers for selfinspection has been developed to further identify, search for and correct hidden dangers. In 2018, the Company carried out 375 comprehensive safety inspections, in which each safety hazard was photographed and recorded, and the responsible person was identified to conscientiously implement the rectification, thereby effectively promoting the sustainable development of the Company.

While continuously screening and rectifying its own safety hazards, the Company pays close attention to the safety management of outsourced construction units. All subsidiaries and departments are required to sign a construction safety agreement with outsourced construction units. The agreement clarifies the responsibilities for and measures to safeguard safe production. Regular and unannounced safety inspections are carried out on the construction site. Once a safety hazard is found, the Company immediately issues rectification requirements and continuously monitors the rectification process, striving to build an organic unity of safe production inside and outside the Company.

#### Contractors' Safety Management

Contractors are an important part of the Company's stakeholders. The Company's sustainable development is closely related to the sound operation of its contractors. To strengthen the effective management of contractors, the Company formulated the Regulations on Assessment of Contractor Production Safety Management, requiring all subsidiaries and departments to sign a construction agreement with contractors. The agreement clarifies the responsibilities for and measures to safeguard safe production. With high standards and strict requirements of its own. the Company requires contractors to actively fulfil their social responsibilities and work together to build a harmonious society. In 2018, the Company signed a total of 108 construction agreements with outsourced contractors.

# Before Construction

During **Construction** 

Construction management departments visit the site to check the implementation of safety measures in each link of operation;

- All contractors for general contracting specialty subcontracting and labour subcontracting should implement safety, environmental and health management:
- Each contractor is required to provide valid audit and review reports.
- For any contractor that has caused a major any project for the Company.

### Hazardous Chemicals Management

There are safety hazards that cannot be ignored in purchase, storage, transportation, use and disposal of hazardous chemicals. Both vertical supervision level by level and horizontal cooperation among departments are required. The Company formulated the Regulations on Management of

### Ganfeng Lithium Hazardous Chemicals Management Measures

- There must be more than two people present in accepting hazardous chemicals. Special warehousing and full-time management are required;
- · It is necessary for management to sign and confirm when hazardous chemicals exit or return to the warehouse.

Transportation must comply with relevant national traffic laws and regulations, and relevant formalities shall be handled.

Transportation

The number of total singed construction agreements with outsourced contractors



### After Construction

If a contractor is found to have violated the production safety management regulations, the Company shall issue the contractor a Notice on Hidden Danger Rectification;

accident, the Company shall take back the "Construction Contractor Qualification Confirmation Certificate" issued to the contractor and forbid it from undertaking The production safety performance of each contractor is summarised and rated.

Contractors with poor ratings are no longer used; contractors with higher ratings are preferred.

Dangerous Goods and Highly Toxic Chemicals, clarifying the safety requirements for transportation, handling, storage, use and disposal of hazardous chemicals and standardising the management procedures for hazardous chemicals to prevent dangerous chemical accidents.



#### Safety Education and Training

Effective safety education and training can enhance employees' safety awareness, improve the safe operation level and promote safety management of an enterprise. The Company established the Safety Education and Training System. A safety training system for all employees was established, and safety training courses for different sectors at different levels were set up to enhance the pertinence and effectiveness of training. In addition, employees to be appointed, promoted and transferred must pass the safety training assessment. The management of the Company must participate in the safety education and training organised by the government and higher authorities in accordance with the relevant requirements of the state. Only after passing the examination can they be certified to work.

In 2018, a total of **18.823** new employees, transferred employees and on-the-job employees participated in our training on safety knowledge, safe operation procedures and emergency measures, which enhanced employees' awareness of risk prevention, emergency response and crisis management.



Ganfeng Lithium Strengthens Operating Permit Management to Reduce Safety Hazards

The Company implements an operating permit management system for on-site equipment maintenance and other special operations. Before operation the maintenance and specialty operators are required to sign and confirm the implementation of various safety measures in accordance with various specialty operation safety requirements, and relevant departments must jointly approve the operation. In 2018, the Company and various subsidiaries issued a total of 23,082 operating permits, and the practice of issuing operating permits for inspection and maintenance operations has been implemented across the Company.

# **Protecting Employees' Occupational Health**

Ganfeng Lithium takes a people-oriented approach to effectively protect the occupational health and safety of employees. It resolutely implements the Safety Production 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, Administrative Measures for Occupational Health Supervision of Employers and other laws and regulations.

#### Ganfeng Lithium 2018 Data on Employees' Occupational Health

Occupational disease incidence rate among employees was

Case





100 % Employees had scheduled physical examination

Case

**Protective Facilities** 

In 2018, the Xinyu Basic Lithium Plant carried out safety transformation of its production equipment as part of its commitment to providing employees with a safe and comfortable working environment. For example, a DCS automated operation system was adopted to reduce direct contact between personnel and equipment, interlocked alarm devices featuring liquid level, temperature, pressure, etc. were installed, and sound and light alarm devices were mounted at key posts. An emergency switch-off button was installed in equipment to ensure the safety of employees to the greatest extent. In addition, KN90 3M3200 masks were replaced with KN95 3MHF-51 masks with higher grade of protection, and more filter pulps were distributed more frequently to ensure the mask's effectiveness.

# Case

Ganfeng Lithium Held a Safety Knowledge Contest in 2018

The Company launched a safety production month in June 2018, and held a safety production knowledge contest on the theme of "Life First, Safe Development" on June 29. To better promote employees' safety awareness and ensure safe production and improve occupational health, this contest specially set up a section to identify hidden dangers in actual production, in addition to multiple-choice questions, fill-in-the-blank questions, quiz questions and short-answer questions. In addition to explaining hidden dangers verbally, participating teams must accurately point out the specific places where hidden dangers exist from photos and propose rectification plans. Through this contest, the Company improved employees' awareness of safety precautions and their ability to find hidden dangers, providing a strong guarantee for effectively preventing safety accidents.



Safety knowledge contest's winning team

### The Xinyu Basic Lithium Plant Improves Production Equipment and



Wearing protective gear



Identifying safety hazards



 $\overline{\Lambda}$ 

# VI People-Oriented: To Build Harmonious Homes

Ganfeng Lithium has always insisted on the idea that "talent is the first core competence of the company". By taking a three-level management system of "recruiting, developing and retaining", the Company creates a management system that adopts "use the wise and employ the capable". The Company introduces "employee management and career development" into its strategic planning level. First, it hires employees legitimately, and then formulates a scientific and sound employee training and promotion system. The Company not only cares for its employees, but also helps them to adapt to opportunities and challenges brought by the development of society, and ultimately realises the common development of employees and enterprises.

# **People-Oriented: To Build Harmonious Homes**

### **Talents Recruitment**

Talents are the main source of vitality in the enterprise' development. Ganfeng Lithium attaches great importance to talent introduction, and has established an employee rights protection mechanism. By constantly widening its talent introduction channels, it can infuse new vitality into the development of the company.

### • Protection of Employees' Rights and Interests

In accordance with laws and regulations, such as the Labour Law of the People's Republic of China, the Law of the People's Republic of China on the Prohibition of the Use of Child Labour, the Law of the People's Republic of China on the Protection of Minors, and other laws and regulations, the Company created the Manual of Labour and Human Resource Administration, which has established a sound human resources system and management system to clarify the processes and methods of operation, recruitment and re-recruitment, so that it can ensure that its employment of personnel is lawful and compliant, and that all forms of discrimination have been eliminated. Forced and child labour is strictly prohibited in any position. In 2018, the Company's labour contract signing rate was 100%, and no discrimination, child labour or compulsory labour was found in any part of the employment process.

In 2018, the Company received a number of honours in employee management, which fully recognised its tireless efforts and outstanding achievements in protecting the rights and interests of its employees.





### Broaden the Talent Recruitment Channels

The Company actively adapts to changes in the talent market and the needs of diverse talents in enterprises, and has adopted diversified, information-based ways to open a variety of channels to attract talented people. As a result, the Company can constantly improve and strengthen the construction of high-quality talents. In 2018, it recruited 197 employees on campuses and many middle and high-level professionals in battery research and development, equipment and processing through headhunting and RPO recruitment and set up a long-term cooperation mechanism with 10 key colleges and universities.



**Talents Growth since 2008** 

50





1111

Recruiting

through

Headhunters

• Expand online recruitment channels, launch an online application platform for the first time to break through geographical and time constraints

Build the "talent centre" website of the Company to increase favourable channels for talents to learn about the company

Carry out lectures and send campus ambassadors

Adopt the "HR plus excellent Alumni" model and recruit in the corresponding colleges and universities

Π Campus Recruitment

ı

Talents

Recruiting

through the

Channel of Government

Meet the demand for high-end talents through recruitment of headhunters

Recruit Engineering Professionals through PRO

Actively participate in high-level talent recruitment activities organised by the provincial and municipal governments in other provinces or abroad

**Talents Development** 

Ganfeng Lithium attaches great importance to both the recruiting and cultivation of talents. The Company has set up a scientific and reasonable job promotion and training system, and proudly established Ganfeng Lithium Business School to provide resources and support for the growth of talents and the company.

### • Career Promotion System

The Company holds the philosophy that "professional people do professional things", hence a "dual-channel promotion mechanism" has been set up so that talents can play to their strengths.



In the Management Measures for Judging and Employing the Professional and Technical titles of Ganfeng Lithium. the professional titles, evaluation conditions and selection processes are clearly stipulated to standardise employee promotion and management. In addition, the Company has established the Incentive Measures for Serving Employees

### • Employee Training

The Company takes "employee development through practice" as the concept behind employee training, and provides scientific and comprehensive training courses for employees in their work. We set up a "mentor system" to assist and support employees in their personal life, career planning and spiritual development. Effective training courses for employees of all ranks and posts are available. Employees are trained multi-dimensionally, through classroom training, video and on-the-spot practice and other forms. The Company combines day-to-day training with personal performance, and makes clear rules on the training hours that employees need to complete, to encourage employees to actively learn by themselves, help them realise their personal value and grow together with the company.

## **Employee Training and Curriculum System Development**

Operational Skills Training	Vocational Quality Training
Skills training for the production process, including process, equipment, quality, safety, etc.	Communication skills in business management, workplace skills, and leadership skills in teamwork, etc.
锋锂业	2018年



to Acquire National Professional Qualifications and Titles to reward employees who have obtained gualifications. In 2018, the Company participated in drafting the Evaluation Standard for Professional Title of Li Power Specialty in Jiangxi Province, which has been implemented in Jiangxi Province and contributes to professional title evaluation.

A total of

# 62.550

employees were trained throughout the year

Training hours per capita throughout the year

#### Professional **Upgrading Training**

Knowledge reserves, institutional processes, job specifications, operational guidelines, etc., for different positions and professional needs

#### **Promotion and Qualification Training**

External training mainly includes national professional qualification certification. professional manager training, etc.



#### Training and Capability Rising Activities for New Graduates in Ganfeng Lithium

Every July the Company organises comprehensive training and outdoor activities for all new graduates, which cover professional management knowledge, technical innovation, production control, quality management, and psychological and physical fitness. At the same time, according to their professional background and positions, the Company designates excellent employees or professionals as teachers, offering one on one guidance in work, life and many other aspects to help them integrate into the company and team as soon as possible, improve ideological awareness and professional skills, and ultimately enhance individual competitiveness.



Outdoor activities for new graduates in 2018

2018 "Lithium Dream Trip" activities

#### Ganfeng Lithium Business School

Ganfeng Lithium Business School was established on April 10, 2011 based on the Company's talent development strategy. It aims to create a learning organisation and act as a "cradle for management talents". It is a professional training institution mainly for the training of employees and middle and senior-level managers in the company.

#### Performance of Ganfeng Lithium Business School in 2018





### **Curriculum in Ganfeng Lithium Business School**



Ganfeng Lithium Business School employs both its own lecturers and hired lecturers. It formulates strict training plans every year and has created a learning organisation and established a high-standard talent training platform and training mechanism that contribute to the training of high-quality management teams.



### • "Theory + Practice" School-Enterprise Cooperation in Education

Based on years of experience in recruiting and training, the Company has realised the importance of integration of academic and engineering talents. Cooperation between universities and enterprises, as well as the combination of teaching and experience, is an effective way to promote the sustainable development of talents. In 2018, the Company and Xinyu College jointly set up "Ganfeng Lithium class", which expands the channels for talent transfer and school employment; the Company cooperates with colleges and universities such as Central South University, China University of Geosciences (Wuhan) to carry out enterprise practice activities to help college students integrate their theoretical knowledge with actual work.

Case

#### The Company established "Ganfeng Lithium Class"

In 2018, Ganfeng Lithium co-established "Ganfeng Lithium Class" with Xinyu College, offering courses such as enterprise management, lithium battery manufacturing, lithium salt product technology and enterprise induction training. It selected senior professional engineers as teachers and set up scholarships to encourage outstanding students.



The graduation ceremony of the first "ganfeng lithium class"



### Educational Cooperation of School-Enterprise in Ganfeng Lithium

#### The Company cooperate with colleges and universities to offer internship for college students

Since June 2018, the Company has successively partnered with China University of Geosciences (Wuhan), East China University of Science and Technology, Jiangxi Agricultural University, Central South University and other universities. More than 160 college students interned with the Company to support the integration of production, education and talents development.



# **Retaining Talents**

As a "talent-centred" enterprise the Company actively attracts and retains outstanding talents by providing equity incentives, achievement incentives and promotions to enhance employees' sense of ownership.

#### **o** Compensation and Benefits System

Attracting, sourcing, engaging and retaining talents are top priorities for Ganfeng. It has established a competitive compensation system for employees with competitive advantages in the industry and set up the *Compensation and Benefits Management System* to clarify the salary and benefits management mechanism. In addition, the Company researches salary and welfare issues and selects outstanding employees every year.

We set up an equity incentive mechanism to comprehensively evaluate contributions, abilities, positions, work attitude and development potential to determine stock shares, to ensure that each employee "has value for his/her work". By the end of 2018, 11.8% of the employees had received equity incentives. Besides basic wages and subsidies, the Company has set up "10 employee care programs", to effectively provide benefits for employees in every aspect.



### • Caring for Employees in Need

We attach great importance to and care for every employee, thus we aid employees in need as much as possible. The Company established the "Ganfeng Li Industry employee hardship relief fund" in March 2017, and formulated the *Measures for the Management of Ganfeng Li Industry*  *employee hardship relief fund*. The Company provides 5% of employees' salary in a special account every month as a rescue fund under a full-time manager. In 2018, the Company helped 18 employees with the fund.

#### **Creating a Comfortable Environment**

- The Company has its own cafeteria and dormitory for employees
- Sports and entertainment facilities are available, such as basketball courts, libraries, gyms, table tennis rooms, etc.





The Company cares about the needs of each employee and carries out effective care activities, such as outing activities on the Double-ninth Day every year for retired employees and regular friendship activities for singles. The employee activities strengthen communication and exchange between the departments, enhance the cohesion and sense of belonging of employees, and promote physical and mental health.



The Company cares about its employees' physical and mental health, strives to create a rich, relaxed and positive corporate cultural atmosphere, advocates for work-life balance, encourages promotion and enriches the life of all employees. It is committed to providing employees with a high-quality work environment and living conditions to offer all-around, multi-level care.



#### **Developing Interests and Hobbies**

- The Company has established trade unions and subsidiary branches to safeguard the legitimate rights and interests of employees
- The Company organises a variety of sports activities on a regular basis to provide a platform for employees to develop their interests and hobbies







### Statistics for female employees in 2018

### Ganfeng Lithium Organised the 4<sup>th</sup> Employee Sport Games

In October 2018, the Company organised the 4<sup>th</sup> Employee Sport Games, and the participating members organised regular training to prepare for the event. To improve the quality of the games, the Company also set up a team of sports volunteers to provide support.



Case



Tug of war





Basketball games



Rope skipping games

#### • Caring for Female Employees

The Company resolutely upholds the legitimate and special interests of female employees, hence the *Special Collective Contract for the Protection of the Rights and Interests of Female Workers* clearly stipulates that the Company shall not apply unequal pay to male and female for equal work, shall not reduce the basic wages of female employees, dismiss them or unilaterally cancel their labour contracts during pregnancy, maternity or lactation.

The Company actively helps female employees to maintain work-life balance, increases opportunities for them to interact with their families, and enhances their sense of happiness. In 2018, the company organised tours, along with health lectures and other activities to promote the formation of harmonious labour relationships. **100** % Physical examination rate for female employees in 2018





# **Giving Back to Society**

Ganfeng Lithium is undergoing its own rapid development; however, we never forget to give back to society. Thus, we have responded to the national targeted anti-poverty strategy, and are eager to provide public services for local economic and social development.

In particular, the Company has set up a poverty alleviation special fund to help poor families in the community escape poverty. Over the years, the Company has carried out a number of activities, such as social donations and "poverty alleviation through employment", to help poor villages improve their infrastructure, provide targeted jobs for poor villagers, and raise their income levels. The Company also strives to improve the living conditions of poor families and promote the development of local education, culture and health. In 2018, the Company's targeted poverty alleviation program provided 320 jobs for the poor with a total salary of RMB **25.6** million.

In 2018, the Company undertook village construction work in Huantian Xinwu Village, Fenyi Dongcun Village, Hushan Town of Yushui District, Fenyi Shaoshan Town, Xinyu YaoWei Town, Fengcheng Luocheng Town and **100** % Collective contracts signing rate







other areas, to repair and strengthen infrastructure with a total investment of nearly RMB**510,000**. To help poor families lifted out of poverty, the Company provides jobs to contribute to the society and improve self-reliance. In the

area of education assistance, in 2018, a total of RMB**310,000** was invested to support the development of local education in Xinyu, which is an active response to the activities carried out by the Xinyu Municipal Federation of Industry and Commerce. The program provides grants to many poor college students to help them realise their dreams. The Company's executives have formed supporting pairs with a number of poor families and visit them with gifts of money and other living essentials.





Sending warmth to poor families



In terms of social service, the Company established the Ganfeng Voluntary Service team in 2017, with a total of **82** volunteers. In 2018, a number of voluntary service activities were organised, including garbage clean-up in Yangtiangang Forest Park, Xinyu City, planting trees for the Company, and participating in building a civilised city in Xinyu City.



Cleaning up garbage in Yangtiangang, Xinyu Cit



Helping watermelon farmers out of poverty







Purchasing agricultural products from poor households

# Disclosures and KPIs Compliance with HKEX ESG Reporting Guide

Environmental,	Social and Governance Reporting KPIs	Page
Environment		
A1 : Emissions		
General Disclo	sure	P36
A1.1	The types of emissions and respective emissions data.	P38-P39
A1.2	Greenhouse gas emissions in total (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	The Company's greenhouse gas emis- sions are verified annually by the exter- nal third-party professional institution. as at the time of publication of this report, no data on greenhouse gas emissions verified by third parties was available. The relevant data will be disclosed on the Company's website.
A1.3	Total hazardous waste produced (in ton) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	P39
A1.4	Total non-hazardous waste produced (in ton) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	P39
A1.5	Description of measures to mitigate emissions and results achieved.	P36-39
A1.6	Description of how hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved.	P39
Aspect A2: Us	e of Resources	
General Disclo	sure	P40
A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility).	P40
A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility).	P39
A2.3	Description of energy use efficiency initiatives and results achieved.	P36 - 40
A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency initiatives and results achieved.	P36,39
A2.5	Total packaging material used for finished products (in ton) and, if applicable, with reference to per unit produced.	P39
Aspect A3: The	Aspect A3: The Environment and Natural Resources	
General Disclosure P41		P41
A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	P41
Social		
Employment ar	nd Labour Practices	
B1: Employme	nt	
General Disclosure P50		P50
B1.1	Total workforce by gender, employment type, age group and geographical region.	P51
B1.2	Employee turnover rate by gender, age group and geographical region.	1
B2: Health and	Safety	

General Disclosure B2.1 Number and rate of work-related fatalities. B2.2 Lost days due to work injury. Description of occupational health and safety measures adopted, h B2.3 monitored. B3: Development and Training General Disclosure The percentage of employees trained by gender and employee cate B3.1 middle management). B3.2 The average training hours completed per employee by gender and em B4: Labour Standards General Disclosure B4.1 Description of measures to review employment practices to avoid child B4.2 Description of steps taken to eliminate such practices when discovered **Operating Practices B5: Supply Chain Management** General Disclosure Number of suppliers by geographical region. B5.1 Description of practices relating to engaging suppliers, number of sup B5.2 being implemented, how they are implemented and monitored. B6: Product Responsibility General Disclosure B6.1 Percentage of total products sold or shipped subject to recalls for safe B6.2 Number of products and service related complaints received and how B6.3 Description of practices relating to observing and protecting intellectual B6.4 Description of quality assurance process and recall procedures. Description of consumer data protection and privacy policies, ho B6.5 nonitored. B7: Anticorruption General Disclosure Number of concluded legal cases regarding corrupt practices bro B7.1 employees during the reporting period and the outcomes of the cases. Description of preventive measures and whistle-blowing procedures, B7.2 monitored. Community B8: Community Investment General Disclosure Focus areas of contribution (e.g. education, environmental concernation B8.1 sport). B8.2 Resources contributed (e.g. money or time) to the focus area.

	P44
	P44
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now they are implemented and	P44-47
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gory (e.g. senior management,	1
nployee category.	1
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l and forced labor.	P50
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ppliers where the practices are	P21
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ty and health reasons.	P33
they are dealt with.	P33
l property rights.	P32
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how they are implemented and	P20
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s, labor needs, health, culture,	P59
	P59

# **FEEDBACK FORM**

#### Dear readers,

Thank you for reading the *Sustainable Development Report of Ganfeng Lithium in 2018*. We sincerely hope to get your comments and suggestions regarding this report and our work as well. Please send the filled feedback form to us via mail, email after scanning or fax, or call your valuable advice directly. Really appreciate it.

Address: Longteng Road, Economic Development District, Xinyu City, Jiangxi Province Email: info@ganfenglithium.com

- 1. Which of the following stakeholder do you belong to?
- □ Shareholder □ Employee □ Supplier □ Customer □ Government □ Supervising regulator □ Community

□ Other (please specify)

2. Have you read the Social Responsibility report of Ganfeng Lithium? (If no, please ignore No.3, 4, and 5)

#### 🗆 Yes 🛛 No

- 3. If yes, do you read a paper version or an electronic version?
- □ Paper version □ Electronic version
- 4. Do you wish to read a paper version or an electronic version?
- □ Paper version □ Electronic version
- 5. What is your overall evaluation for the report?

·Readability (i.e. intelligible expression, beautiful design, attractive content, and easy to find the required information)

- $\Box$  3 (good)  $\Box$  2 (general)  $\Box$  1 (poor)
- ·Reliability (The information in this report is true and reliable.)
- □ 3 (good) □ 2 (general) □ 1 (poor)

·Completeness (The report should reflect positive and negative information, and meeting your needs in information.)

 $\Box$  3 (good)  $\Box$  2 (general)  $\Box$  1 (poor)

In addition to the contents that have been disclosed, what kind of information do you wish to read?

# Ganfeng Lithium Co., Ltd.

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