



**Environmental, Social and Governance Report 2019**  
Luen Mei Quantum Co., Ltd.

## **PREFACE**

**We provide people with warmth, but we always believe that we can do more.**

**Warmth, while invisible, can be seen on our smile faces; while intangible, can be valued when we enjoy fresh air, blue sky as well as beautiful mountains and clean rivers.**

**Green, the background color of nature, symbolizes vitality as well as our yearning for a better and harmonious life.**

**Green development is a long-term view of development, a universal value, and the responsibility for everyone living on our planet.**

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## CHAIRMAN'S MESSAGE

Dear Stakeholders,

It is a great honor to present you the first Environmental, Social and Governance Report of Luen Mei Holding.

As a company specializing in clean thermal energy, for more than a decade, Luen Mei Holding has been committed to providing safe and reliable heating services to our customers by consistently following the sustainable development concept of “green, low-carbon, safety and responsibility”. We focus on improving the quality of life as well as the living environment of people, and pursue economic returns, social values and environmental benefits in a harmonious way. To date, we have already become the largest clean thermal energy company listed in China’s capital market.

2019 marks the 70th anniversary of the founding of the People’s Republic of China, as well as a crucial year for China to build a moderately prosperous society in an all-round way. During the year, we continued our pursuit for high-quality and sustainable development in accordance with the new development concept, and have achieved significant progresses in many aspects.

**Pursuing steady progress on a solid foundation, and exploring the nationwide market.** With a home base in Shenyang, we have been growing our businesses nationwide steadily. Our heating area keeps growing, and our economic performance as well as profitability keep improving. With our abundant cash flow and healthy financial conditions, we has become an industry leader in terms of comprehensive competitiveness. Insisting on “comprehensive development with multi-energy and multi-purpose”, the Company has expanded its business scope to provide comprehensive energy services such as heating, steam, electricity and cooling, using a variety of energy sources, such as clean coal technology, reclaimed water, biomass energy, natural gas, and residual heat and waste heat, etc. We have achieved leadership in a number of energy related fields, such as the combined heat and power generation in northern cities, combined cooling, heating and electricity supply in southern cities, and the supply of industrial steam.

**Strengthening governance and ensuring stable operation and compliance.** We have been making continuous efforts to modernize our governance mechanism and capabilities, and optimize our governance structure to strengthen the governance performance. We also communicated with investors through multiple channels to understand and address their needs more effectively. We attach great importance to compliance and business integrity, and implements a “no exception, full coverage, and

zero tolerance” policy towards corruption to root out corruption hazards and build a solid foundation for the rapid and healthy development of our businesses.

**Pursuing green and low-carbon development, and protecting the environment for a green planet.** We strictly abide by the low-carbon and environmentally friendly development concept, and actively address the opportunities and challenges brought about by climate change. We integrate environmental protection efforts into operation, and actively promote the transition to clean energy. With the continuous efforts to reduce our comprehensive energy consumption during production and distribution processes, strengthen GHGs and pollutant emissions management, intensify energy conservation and emission reduction measures, and promote more efficient utilization of water, waste and other resources, we have achieved remarkable results and reduced our environmental footprint.

**Focusing on safety and quality, and building a strong brand.** Adhering to the principle of “safety is not only a responsibility but also the bottom line” and the principle of “people-oriented, safe development, safety first, prevention first and comprehensive management”, the Company has developed a comprehensive safety management system. We have also implemented occupational disease protection measures and provided occupational health examinations for employees with exposure to occupational hazards. We continued our efforts to strengthen our information platform. Our intelligent risk control system and quick, efficient customer response mechanism allow us to provide timely, safe and reliable energy consumption services to customers. Upholding the heating needs of 650,000 households and 2,000,000 residents, we continue to improve the service experience and service quality for our customers through technological research and innovation, and service system optimization.

**Insisting on technological innovation and refined management, and leading industry development.** Over the years, we have been powering our development with technological innovation, including exploring new energy technologies, investing in research and development, and organizing coordinated research on key technologies. Our efforts have led to a series of breakthroughs of key research projects. As a rare high-tech enterprise in the heating industry and a provincial post-doctoral innovation practice base, we have developed a number of patented technologies in the field of heating. Our growing reserve of innovation outcomes and self-developed intellectual properties give us great advantage to support our business growth and enhance our core competitiveness.

**Fulfilling corporate social responsibilities and contributing to a harmonious society.** Besides creating economic values, we are committed to giving back to communities and supporting local economic development. We maintain close communication with communities where we operate, continuously carry out cooperation and exchange with industry peers, universities and research institutions,

and protect the rights and interests of employees, and encourage employee career development with sound career path planning. Adhering to the concept of open communication, we organize Open Day events regularly to provide a platform allowing community members to better understand us. We also actively encourage employees to give back to community, such as supporting public welfare, volunteering, and helping disadvantaged groups.

In the high-speed rail media business segment, Mega-info Media, a subsidiary of the Company, is committed to pursuing win-win results for both the travelers and the advertisers by increasing the efficiency of dissemination of information with upgraded media resources and optimized site quality. Mega-info Media also explores new ways to raise the awareness of public welfare by donating advertising time for public service advertisements, making positive contribution to helping the public welfare causes reach more people.

Looking forward to the future, we will continue to improve our corporate governance, enhance our governance capabilities, promote structural upgrading, strengthen the foundation of industrial development and comprehensively implement the concept of high-quality and sustainable development focusing on “green, low-carbon, safety and responsibility” with the purpose to provide more and better clean energy services for society and the people. With our core competence in green development and energy technologies, Luen Mai Holding is committed to creating long-term value for our shareholders, customers, employees and society, and making continuous efforts to protect the environment.

**Su Zhuangqiang**

August 2020

## **ABOUT LUEN MEI**

### **Company Profile**

Luen Mei Quantum Co., Ltd. (hereinafter referred to as “Luen Mei Holding”, “the Company” or “we”) (600167. SH) is currently the largest listed clean thermal energy company in the A-share market, with business scope covering heating, power supply, engineering and networking, and advertising. Driven by technological innovation, the Company has been paying close attention to customer needs and market trends, actively adjusting business strategy, operation and management models accordingly, and leveraging its new energy technologies to provide reliable products and services trusted by customers for society. With its continuous technological innovation, quality customer service, green operation, nimble management system and trailblazer spirit, Luen Mei Holding has achieved outstanding performance and become an influential brand in the public utilities sector.

In 2019, focusing on integrated energy services for industrial parks and urban heating, we continued our pursuit to green and sustainable development and leveraged our expertise to provide better services for both residential and industrial customers. Meanwhile, as China’s high-speed railway system growing from the “four horizontal and four vertical” layout to the “eight horizontal and eight vertical” layout, the digital media network of the Company is able to entertain travelers with more interesting content and create high-quality and impactful communication result for advertisers.

## Company Milestones

Date	Event
Apr 2005	After completing the equity transfer with Nanhu Technology Group, Luen Mei Group became the largest shareholder of Shenyang Xinkai (600167.SH), which had changed its ownership from state-owned holding to private holding.
Jun 2006	Shenyang Xinkai (600167.SH) invested and founded Shenyang Hunnan Heat-supplying Co., Ltd.
Feb 2008	Shenyang Xinkai (600167.SH) was changed to Luen Mei Holding Co., Ltd.
Mar 2008	Stock abbreviation of Luen Mei Holding Co., Ltd. was changed to Luen Mei Holding (600167.SH)
Sep 2012	The No.3 Thermal Plant of Hunnan Heat-supplying Co., Ltd., a subsidiary of Luen Mei Holding (600167. SH), started construction.
May 2016	Luen Mei Holding (600167. SH) completed a major asset restructuring, adding seven subsidiaries, including Shenyang Xinbei Thermolectric Co., Ltd., Guohui New Eco-energy Co., Ltd. and their subsidiaries, which both increased its business scale and added environmentally friendly businesses such as clean coal technology, biomass-based cogeneration and intelligent monitoring to its business scope.
Nov 2016	Luen Mei Holding Co., Ltd. changed its business registration to Luen Mei Quantum Holding Co., Ltd., stilled referred to as Luen Mei Holding (600167.SH).
Apr 2017	Luen Mei Holding (600167. SH) completed an organizational restructuring to achieve nimble management.
Aug 2017	Shenyang Guoxin New Eco-energy Co., Ltd., a subsidiary of Luen Mei Holding (600167. SH), acquired Shenyang Huanggu Heat-supplying Co., Ltd, with the plan to replace its traditional heating model with the centralized heating model.
Nov 2018	Luen Mei Holding (600167. SH) acquired Mega-info Media, the largest high-speed railway media digital operator in China, forming a twin main business model of clean thermal energy and high-speed railway digital media.
Mar 2019	Luen Mei Holding (600167. SH) acquired of Heze Fulin Thermal Power Technology Co., Ltd.



## Awards and Recognitions

Date	Awards and Recognitions	Issuers
<b>Luen Mei Holding</b>		
2019.10	2018 Award for Investor Relations Management	China Securities Journal
2019.10	2018 Golden Bull Award for Board Secretary	China Securities Journal
2019.08	Top 100 Listed Companies in Value in the Chinese Main-Board Market	Securities Times
2018.06	2017 Top 100 Listed Companies in Value by CNISP Group, ranked No. 18	China Development Press
2017.11	Yearly Award for Investor Relations	Quanjing.com
<b>Shenyang Hunnan Heat-supplying Co., Ltd.</b>		
2018.07	AAA-rated (credit rating) heating supplier	Shenyang Heating Industry Association
2017.04	2016 National Safety Production Demonstration Post for Youth	Central Communist Youth League and the National Security Administration
<b>Guorun Low-carbon Thermal Power Co., Ltd.</b>		
2018.7	AAA-rated (credit rating) heating supplier	Shenyang Heating Industry Association
<b>Guohui New Eco-energy Co., Ltd.</b>		
2018.07	AAA-rated (credit rating) heating supplier	Shenyang Heating Industry Association
<b>Shenyang Xinbei Thermoelectric Co., Ltd.</b>		
2018.07	AAA-rated (credit rating) heating supplier	Shenyang Heating Industry Association
2016.09	TOP100 energy-saving and environmental-friendly enterprise in the thermoelectric industry	China Energy Conservation Association
<b>Mega-info Media</b>		
2019.10	Award for Advertising Owner · Award for Golden Partner	China International Advertising Festival
2019.08	Gold Award for Marketing Innovations	2019 CRE International Innovation Festival
2018.12	2018 award for innovative marketing within the industry - the Bronze Award for Transportation and Travel	China Innovation Marketing Summit
2018.09	Yearly Golden Partner	2018 Grand Ceremony of Advertising Owners

# RESPONSIBILITY MANAGEMENT

Luen Mei Holding actively advocates the concept of social responsibility and strives to integrate the consideration for economic, social and environmental factors into its operation and management. It provides clean, reliable and affordable heating services for customers and create value for shareholders, customers, employees, communities and the environment in an honest, responsible and sustainable way.

## ESG Management System

The Company has integrated environmental, social and corporate governance into its own development strategy and business activities, and established an ESG management system to transform sustainability concepts and commitments into actions.

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<b>Decision-making level</b>	Members of the Board of Directors and the Board of Supervisors participate in the deliberation and decision-making regarding major ESG issues, including formulating strategies and guidelines and reviewing the annual ESG report of the Company.
<b>Organization level</b>	The CEO's Office is in charge of ESG management and coordinates ESG related affairs, including collecting ESG performance data, preparing ESG report, and communicating with ESG investors.
<b>Implementation level</b>	The functional and operational departments at the headquarters and subsidiaries are responsible for the centralized management of various ESG issues and the implementation of key ESG practices, and the regular reporting on relevant management approaches, performance indicators and best practices.

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## Materiality Issues

In accordance with the principles of materiality, completeness and balance, and by responding to the demands of stakeholders and referring to the requirements of the GRI Standards, Luen Mei Holding has systematically evaluated its impacts on stakeholders and identified the following material sustainability issues.

Dimension	Material Issue		
<b>Governance</b>	Optimizing governance structure (P13-P14)	Business Ethics (P16-P17)	Comprehensive risk management (P16-P22)
	Compliance management (P16-P17)	Integrity and anti-corruption (P16-P17)	ESG management (P9-P11)
<b>Environmental</b>	Environmental risk management (P33-P36)	Clean energy technological innovation (P33-P39)	GHGs emission management (P37-P38)
	Water resources management (P39)	Waste management (P39)	Air pollution control (P33-P39)
<b>Social</b>	Workplace safety (P21-P22)	Fair and transparent procurement (P23-P24)	Localization and diversification (P42-P43)
	Reliable heating service (P26-P27)	Transparent and lawful tax payment (P17)	Employee career development (P44-P46)
	Quality of service (P29-P31)	Supporting social welfare (P51-P52)	Research and innovation (P28-P31)
	Protecting employee rights (P42-P43)	Occupational health and safety (P21-P22)	Promoting community development (P51-P52)
	Supplier/contractor management (P23-P24)		

## Stakeholder Engagement

Stakeholder	Expectation	Communication mechanism
<b>Government and Regulators</b>	<ul style="list-style-type: none"> <li>Provide reliable heating service</li> <li>Driving local community development</li> <li>Integrity and compliance</li> <li>Lawful tax payment</li> </ul>	<ul style="list-style-type: none"> <li>Government communication conference</li> <li>Regulatory information exchange</li> <li>Information disclosure and reporting</li> <li>Regular visits</li> </ul>
<b>Shareholders</b>	<ul style="list-style-type: none"> <li>Steady performance improvement</li> <li>Integrity and compliance</li> <li>Sound corporate governance</li> <li>Create outstanding performance</li> </ul>	<ul style="list-style-type: none"> <li>Regular reporting and announcement</li> <li>Investor research</li> <li>Shareholder meeting</li> <li>Communication on interactive platform</li> </ul>
<b>Employees</b>	<ul style="list-style-type: none"> <li>Protection of employees' rights and interests</li> <li>Workplace health and safety</li> <li>Training and career development</li> <li>Pay and benefits growth</li> </ul>	<ul style="list-style-type: none"> <li>Employee representative meeting</li> <li>Employee satisfaction survey</li> <li>Employee training</li> <li>Employee complaint mailbox</li> <li>Employee sports and health activities</li> </ul>
<b>Customers</b>	<ul style="list-style-type: none"> <li>Reliable heating service</li> <li>Improve service quality</li> <li>Integrity and compliance</li> <li>Protect customers' rights and interests</li> </ul>	<ul style="list-style-type: none"> <li>Commitment on quality of service</li> <li>Customer room temperature measurement</li> <li>Service hotline</li> <li>Customer satisfaction survey</li> </ul>
<b>Business partners</b>	<ul style="list-style-type: none"> <li>Fair and transparent procurement</li> <li>Win-win cooperation</li> </ul>	<ul style="list-style-type: none"> <li>Bidding meeting</li> <li>Contract negotiation and regular meeting</li> <li>Onsite inspection</li> <li>Supplier evaluation</li> </ul>
<b>Community</b>	<ul style="list-style-type: none"> <li>Job creation</li> <li>Environmental protection</li> <li>Driving local community development</li> <li>Supporting public welfare</li> </ul>	<ul style="list-style-type: none"> <li>Open Day event</li> <li>Community visits and dialogues</li> <li>Employee volunteering activities</li> <li>Knowledge sharing and education</li> </ul>
<b>Environment</b>	<ul style="list-style-type: none"> <li>Carbon emissions management</li> <li>Pollution control</li> <li>Resource recycle and reuse</li> <li>Ecological environment protection</li> </ul>	<ul style="list-style-type: none"> <li>Energy conservation and emission reduction</li> <li>Environmental impact assessment</li> <li>Environmental reporting</li> <li>Environmental awareness raising</li> </ul>



## 1. CREATING SUSTAINABLE VALUES

### Sustainability Context

With a business that is highly related to people's livelihood, Luen Mei Holding fully understands that creating long-term value for shareholders, society and other stakeholders is essential to building a solid foundation for its stable development. The Company strictly abides by laws and regulations, continuously optimizes corporate governance, raises awareness of compliance and integrity among employees, effectively manages risks, and strives to guide its sustainable growth with high standards of governance, and lays a solid foundation for the sustainable development of the Company.

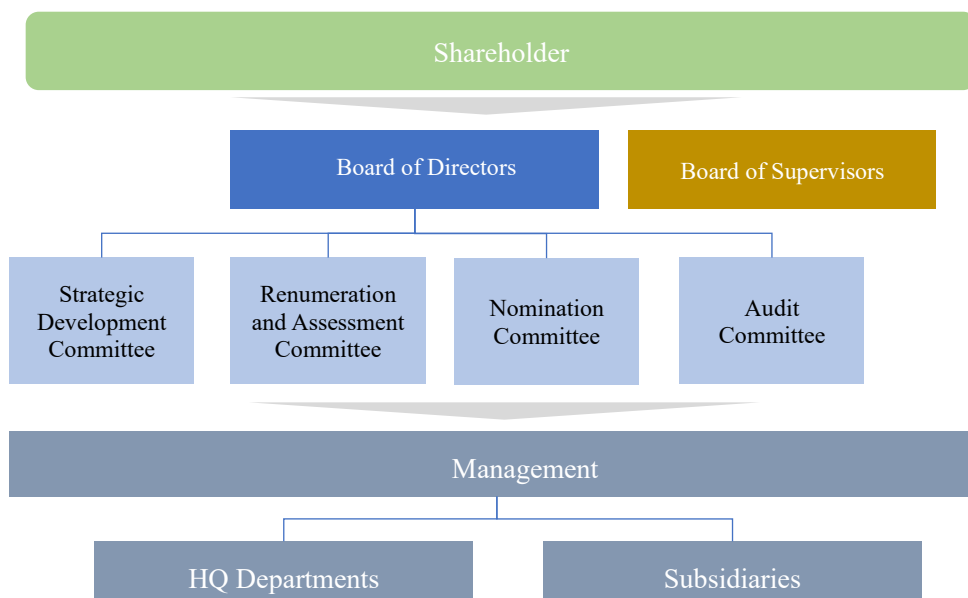


## 1.1 Optimizing Corporate Governance

The Company strictly abides by *The Company Law of the People's Republic of China*, *The Securities Law of the People's Republic of China*, and other relevant laws and regulation, and is committed to establishing a rigorous, scientific and sound governance structure, so as to provide the organizational and institutional guarantees for business decision-making, and support the stable and long-term development of the Company.

### Optimizing Governance Structure

As of the end of 2019, the Board of Directors has seven directors, including four non-independent directors and three independent directors. The Board of Supervisors has three members. The Company continuously standardizes the operation and management of the Board of Directors. With a Strategic Development Committee, a Remuneration and Assessment Committee, a Nomination Committee and an Audit Committee, the Board of Directors plays an effective role in the supervision, check and balance and decision-making of corporate affairs.



## Improving Corporate Governance

The Company maintains close communication with the China Securities Regulatory Commission, Shanghai Stock Exchange and other regulatory authorities, closely follows policy updates and analyzes policy trends, actively participates in trainings organized by regulatory authorities, and regularly adjusts its policies and regulations in accordance with the changes in regulatory policies and in internal and external environments of the Company.

In 2019, the Company revised the *Articles of Association* and the *Proposal on the Provisions of the Working Rules of the Audit Committee of the Board of Directors*, reviewed and passed a number of policies, including *The External Guarantee Management System*, *The Affiliated Transaction Management System* and *The Material Information Internal Reporting System*, and conducted information disclosure strictly in accordance with regulatory requirements, having released a series of reports and policies, including *Performance Commitment Form*, *Equity Pledge Status Form*, *Investor Protection Report*, *Listed Company Development Report*, *Capital Serving Real Economy Report*, etc. Meanwhile, in order to further enhance the capabilities of the directors to perform their duties, the Company also provided four training sessions on topics such as regulatory policy developments and information disclosure to its directors throughout the year.

Indicator	2019
Number of Board meetings held throughout the year	6
Number of motions passed by the Board of Directors throughout the year	24
Number of training sessions for Board members	4

## Encouraging Idea Exchange and Communication

In compliance with *The Securities Law of the People's Republic of China*, *The Company Law of The People's Republic of China*, *Shanghai Stock Exchange Stock Listing Rules* and other regulations, the Company has formulated its *Information Disclosure Management System* and made continuous efforts to improve information disclosure management, ensure the appropriate fulfillment of its information disclosure obligations and protect the legitimate rights and interests of the Company and its investors, creditors and other stakeholders.

The Company actively communicates with its investors to build a harmonious and trusting relationship. In 2019, the Company sent representatives to participate in more than ten strategy meetings of brokerage firms, actively handled calls and on-site visits from brokerage firms and investors, and organized field researches for investors, including Industrial Securities, Haitong Securities, Guangfa Securities, Ping An Bank, Taiwan Dongteng and other investment institutions. The visitors was able to have the first-hand knowledge of the Company’s business strategy and operation models, and was able to communicate with the front-line staffs to get a better and more timely understanding of the Company.

Indicator	2019
Number of information disclosure documents released	65
Number information disclosure items of the Company released	47
Number of investor communication meetings organized	2

### **Promoting Exchanges and Cooperation for a Brilliant Future**

On January 8, 2020, the 2019 Luen Mei Holding investor communication meeting was successfully held in Beijing. Our Chairman introduced the industrial layout and development of Luen Mei to more than 140 institutional and individual investors, helping them know the Company better.



Investor communication meeting



Field research of investors



## 1.2 Ensuring Integrity and Compliance

Integrity and compliance are an important guarantee for the long-term healthy development of enterprises. The Company takes integrity and compliance as its bottom line, and continuously promotes the awareness of compliance management as well as optimizes governance and management capabilities to ensure operational compliance and efficiency.

### Internal control

With reference to the *Basic Standards for Enterprise Internal Control*, the Company continued to standardize its internal control system, establishing regular accounting closure and reporting system, and specifying regulations and policies on its capital budgeting, operation, fund raising, guarantee and investment activities. The Company continued to optimize its operation management and risk prevention capabilities to ensure the compliance of all business activities with applicable laws, regulations and regulatory requirements.

Besides completing its regular control and supervision responsibilities and special supervision tasks, the Company regularly carries out internal control assessment to realize its management targets and use them as risk and value benchmarks to guide its efforts to improve operational efficiency and achieve continuous growth. As of the end of 2019, the Company had over 95% of its total assets covered by its internal control assessment.

The Company's annual *Internal Control Assessment Report* is available together with its Annual Report, both are accessible at the Shanghai Stock Exchange website <http://www.sse.com.cn>.

### Ensuring Business Integrity

Adhering to the guidelines of “no exception, full coverage, and zero tolerance”, the Company is committed to ensuring business integrity and anti-corruption and adopted a variety of measures accordingly, such as special inspections, regular inspections, whistle-blowing hotlines and mailboxes, etc. In 2019, there was no incident of corruption or violation of professional integrity among employees.

## Hunnan Heat-supplying Co., Ltd.: Reviving the Values

In order to strengthen the integrity and anti-corruption awareness among employees, and highlight the leading role of party members, Hunnan Heat-supplying Co., Ltd. organized party member employees to recite their vows, study integrity and self-discipline principles, and sing revolutionary songs to celebrate the 70th anniversary of the birth of the nation.



“Reviving the Values” Party Day activities

## Tax Policy Compliance

The Company adheres to lawful tax payment, educates employees on tax policy compliance, and continuously improves its tax management practice. In 2019, the Company paid a total of Rmb438 million yuan of taxes.

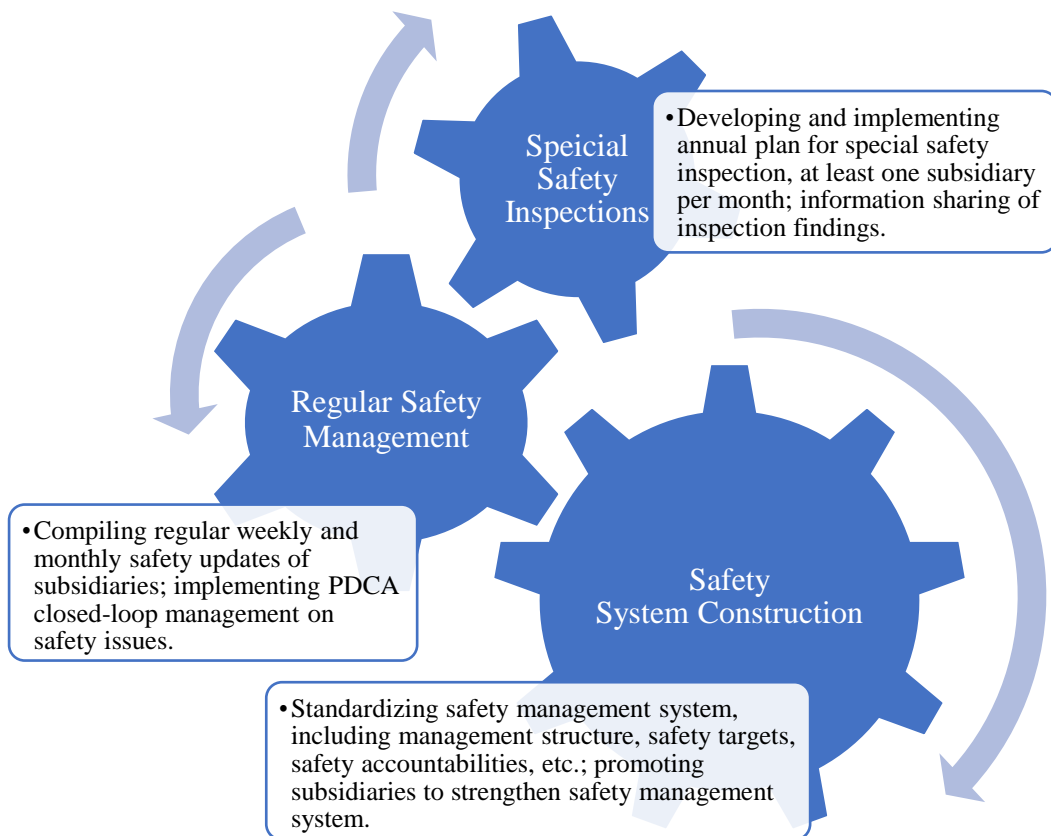
## **1.3 Stringent Safety Management**

The Company takes safety as its utmost priority. It has established a stringent safety management system, implemented comprehensive and effective rectification and control measures against safety hazards in production and operation activities, and allocated adequate resources to strengthen safety protection facilities and equipment, to prevent safety incident and ensure employee health and safety.

### **Strengthening safety management system**

In accordance with the management concepts of “people-oriented, adhere to safety-first, prevention-first and comprehensive control”, the Company has established a series of systems and policies to optimize its safety management system, including *Safety Production Expense Management Measures*, *Safety Hazards Management Measures*, *Special Hazardous Operations Management Measures*, *Safety Production Reward and Punishment Management Regulations (Trial)*, etc., and ensured the continuous and effective operation of its safety management with clear accountability, specified focus and sound supervision.

The Company budgets 0.5% of its annual revenue on safety management, which will be used for implementing safety technologies and rectification measures to meet safety standards.



The Company has established the Part-time Safety Administrator system and implemented a dual-track safety management model at front-line production units to ensure workplace safety. Employees recommended by their departments could become part-time safety administrators after completing relevant training and assessment, who will assist with the day-to-day workplace safety management under the guidance of the Safety Supervision Department of the Company. The Company also regularly organizes themed trainings and drills for the part-time safety administrators to help them improve their safety management knowledge and problem-solving capabilities.

## Preventing Safety Hazards

To ensure the timely elimination of safety hazards and prevent accidents, the Company has formulated *The Safety Hazard Management Measures*, established a safety expert team, and specified detailed hazard prevention protocols, building a standardized, institutionalized, and normalized long-term mechanism for hazard screening and prevention.

<b>Classification</b>	<ul style="list-style-type: none"> <li>Analyze safety hazards comprehensively and classify them into five categories according to their sources and types, including personal safety hazards, electricity safety accident hazards, equipment and facilities accident hazards, safety management hazards, and other accident hazards.</li> <li>Classify hazards into major hazards (including Grade I major hazards and Grade II major hazards) and general hazards based on severity.</li> </ul>
<b>Identification</b>	<ul style="list-style-type: none"> <li>In accordance with the principle of prudence, a hazard is classified based on its most severe direct consequences. Hazards of different types are also classified based on its most severe accident/incident possibilities.</li> </ul>
<b>Screening</b>	<ul style="list-style-type: none"> <li>Daily screening: including daily patrol inspection, “spot check” and regular analysis of equipment, and daily inspection carried out by production management personnel at all levels.</li> <li>Regular screening: including regular (preventive) inspections carried out by technical supervision personnel; major hazard assessment, safety risk assessment, and seasonal safety inspections in spring, autumn and flood seasons.</li> <li>Special screening: including special or dedicated inspections carried out due to state, industrial or enterprise level safety incidents or accidents.</li> </ul>
<b>Rectification</b>	<ul style="list-style-type: none"> <li>General hazards are supervised at the subsidiary level, and major hazards are managed at the headquarters level.</li> <li>Analyze safety hazards at monthly safety diagnosis meetings, safety committee meetings or special meetings, and formulate and implement rectification plans accordingly to ensure the closed-loop management of hazards.</li> <li>Implement both review and supervision notification models, subsidiaries with major hazards will receive notification and on-site supervision and inspection, so as to timely follow the rectification progress.</li> </ul>
<b>Review of rectification</b>	<ul style="list-style-type: none"> <li>General hazards are inspected and reviewed by the relevant department at each subsidiary, and the safety supervision department at the subsidiary will supervise the review the result of rectification.</li> <li>Rectification of major hazards will be reviewed by relevant department at the headquarters at the request of subsidiaries. If a regulatory body is involved, the hazards will go through the internal review process first, and the external review process afterwards. Only after being cleared by both reviews, the hazards can be delisted from the system.</li> </ul>
<b>Reporting</b>	<ul style="list-style-type: none"> <li>Each subsidiary shall establish a hazard log to record the screening and rectification of hazards. The subsidiaries are required to submit their Safety Accident Hazard Screening and Inspection Table to the headquarter before the 5th day of each month, and report hazard screening and rectification information from the previous month to the government.</li> <li>Major hazards are reported in real time, and their rectification process are also reported timely through the enterprise information integration system.</li> </ul>

In 2019, the Company carried out a number of special safety inspections and screened out 88 safety hazards. Among them, 72 hazards have been rectified. For the remaining 16 hazards, the Company had already formulated rectification plans and started the implementation of the rectification plans.

## **Ensuring Workplace Health and Safety**

The Company strictly abides by *The Law of the People's Republic of China on the Prevention and Control of Occupational Diseases*, comprehensively evaluates occupational hazard factors in its production and business activities, conducts environmental monitoring of workplaces, implements prevention and control measures for occupational disease hazards, and strives to eliminate hazardous factors in the workplace. Meanwhile, the Company issues *Occupational Disease Hazard Notice* when signing contracts with employees for positions with occupational disease risk, specifying the potential hazards, occupational disease risks and the occupational disease protection measures prescribed by the Company. The Company also attaches great attention to workplace protection during its daily operations, and provides employees with occupational health examination to comprehensively protect the health and rights of its employees.

In 2019, the Company's provided occupational health examination for all employees with exposure to occupational disease hazards. There were seven incidents of work-related injuries and no incident of work-related death occurred throughout the year.

<b>Workplace protection gears</b>	<p>The Company has formulated <i>The Management Measures of Workplace Protection Gears</i>, clarifying the purchasing principle of workplace protection gears, formulating annual purchasing plans, compiling the catalogue of specialty workplace protection gears, and distributing appropriate and reliable workplace protection gears to employees who needed them; and required all employees who enter operation sites to wear proper protection gears.</p>
<b>Special operation management</b>	<p>The Company has formulated the <i>Special Hazardous Operations Management Standards</i> for operations with complex hazardous factors and high risk, and allocated employees who are familiar with the environment and risk factors in the operation area, with high technical level and experience in handling emergencies to take charge or as supervisor of the operation. The list of special hazardous operations is updated annually.</p>
<b>Handling of work-related injuries</b>	<p>The Company has formulated the <i>Management Measures for Work-related Injuries</i>. Employees who are injured during work will be sent to the designated hospital or the nearest medical institution for emergency treatment. There is a cross-departmental mechanism for the handling of work-related injuries: Safety Supervision Department conducts investigation, analysis and handling of the incidents, Human Resources Department handles the filing and reimbursement of the medical expenses of work-related injuries; and General Department (Trade Union) arranges the treatment plans and coworkers to help, etc. All work-related injuries will be handled in accordance with the <i>Work-related Injury Insurance Regulations</i> and <i>The Employee Leave Management Policy</i> of the Company.</p>

## **1.4 Practicing Responsible Procurement**

The Company is committed to establishing an integrated, standardized and transparent procurement management system to ensure efficient procurement and build long-term and stable cooperative relations with suppliers. Besides ensuring supplier compliance, the Company also evaluates its suppliers, encouraging them to uphold business integrity, fulfill social responsibilities and improve their environmental and social performance.

### **Fair procurement**

The Company has formulated a strict supervision and whistleblowing system regarding its procurement and bidding process, including whistleblowing channels in bidding documents and delegating the Internal Control Department to participate in key bidding processes. Anyone can report violations of laws and regulations in the bidding process to the Internal Control Department, which will be thoroughly investigated accordingly and the bidding project will be suspended or have its result revoked if the reported violation is proved.

To ensure the fair participation and competition of small and medium-sized suppliers, the Company has established a supplier registration system. Only registered suppliers are eligible to participate in project biddings. Suppliers have not registered can also participate if they pass the qualification review. Except for large equipment and insulation pipes, more than 90% of the Company's bidding projects do not require a minimum size of registered capital for suppliers.



## Win-win Cooperation

During the procurement process, the Company requires suppliers meet relevant environmental, safety and quality requirements for their products, and encourages them to continuously improve and upgrade their products to better serve customers.

In order to deepen the cooperation with suppliers, the Company takes the initiative to assess suppliers before bidding, and carries out on-site inspections and communications with winning suppliers. In 2019, the Company had inspected a total of 22 suppliers of engineering equipment, including the comprehensive evaluation of factory scale, the comprehensive evaluation of product quality, the comprehensive evaluation of technological capabilities, and comprehensive evaluation of their business performance.

Indicator	Unit	2019
Number of centralized procurement projects		876
Total budget of centralized procurement	Rmb100 million	3.42
Average project cycle of centralized procurement	day	20
Number of suppliers by region		532
Number of suppliers with contracts signed within the year		532
Number of suppliers managed with supplier management regulations		532
Supplier assessment coverage rate	%	100
Number of CSR trainings for suppliers		297
Number of biddings for procurement of engineering and other services		125
Number of engineering and construction suppliers assessed		73



## 2. RESPONSIBLE SERVICE FOR CUSTOMERS

### Sustainability Context

Heating is an important public utilities service and an indispensable livelihood necessity in certain modern cities. It is closely related to the quality of life of people. Aiming at providing satisfying heating services for people, Luen Mei Holding strives to keep growing and innovating to provide safe, stable and sustainable thermal energy, quality heating service, and efficient customer service.



## 2.1 Ensuring Stable Heating Supply

With a solemn commitment to providing stable, safe and quality heating service for all customers, the Company takes a variety of measures to provide thousands of households with quality heating services to warm up their winter days.

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### **Ensuring project quality**

Adhering to the “quality-first” principle, the Company formulated *The Project Quality Management Measures (Trial)*, *The Heating Source and Heating Pipeline Construction Project Acceptance Management Measures (Trial)*, *Level 1 Pipeline Project Construction Management Measures (Trial)*, and *Level 2 Pipeline and Heat Exchange Station Project Construction Management Measures (Trial)*, etc., and carried out on-site inspections on material, welding work and thermal insulation of projects, ensuring full-process quality management of construction projects.

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### **Optimizing heating pipeline**

Timely maintenance of existing pipeline is a key aspect to ensure the stable supply of heating service. Every year, the Company conducts inspections and maintenance of key areas based on the heating situation of the previous year and conducts a trial operation of the pipeline before the heating season starts to identify and solve problems in advance. In 2019, the Company completed a total of 173 heating pipeline maintenance and upgrading projects and 124 heating source maintenance and upgrading projects, and carried out the trial operation smoothly, laying a solid guarantee for providing customers with stable heating service during the coming heating season.

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### **Improving emergency plans**

The Company formulated *The Management Measures for the Notification of Heating System Accidents*, requiring its subsidiaries to report all production incidents that affect heating quality. Incidents are categorized into general incidents, main incidents, major incidents and extraordinary incidents according to factors such as the scope of impact and the time it takes to fix them. When an incident occurs, the Company will immediately activate the emergency response mechanism to complete the relevant work accordingly, such as incident reporting, problem solving, and customer notification, etc.

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## **Ensuring Heating Quality During the COVID-19 Epidemic**

During the 2020 Chinese New Year holidays, there were frequent rains, snows and cold waves throughout the country. The China Meteorological Administration once initiated a Level III cold wave and blizzard emergency response plan. Moreover, the outbreak of the Covid-19 epidemic coincided with the heating season in North China. The Company activated a variety of emergency plans to ensure secure and quality heating service and create a warm environment for front-line medical workers and community residents.

- Required all heat-supplying subsidiaries to increase heating parameters and heating standards in advance to ensure 24-hour above-standard residential room temperature, and allocated dedicated personnel to oversee the heat-supplying work for 38 designated medical institutions and fever clinics.
- Set up 24-hour service hotlines at all departments to handle customer complaints efficiently, ensuring satisfying temperatures at their homes.
- Formulated emergency plans in advance and asked the emergency team to standby 24-hour a day to deal with possible heating disruptions and ensure smooth operation.
- Purchased enough coal to ensure secure fuel supply for power and heat generation.

## **Guorun Low-carbon Thermal Power CO., Ltd.: Improving heating facilities and heating methods to benefit residents**

Guorun Low-carbon Thermal Power Co., Ltd. provides heating service for several old residential neighborhoods, where antiquated heating facilities affected the heating effect in winter. In order to ensure quality heating service for local residents, in 2019, Guorun Low-carbon invested about Rmb1.2 million to upgrade the heating facilities in these old residential neighborhoods it served, replacing 2413 valves with serious corrosion and 584 meters of secondary network pipeline, and effectively improved the quality of heating.

Guorun Low-carbon Thermal Power Co., Ltd. also invested Rmb2.72 million to lay 400 meters of primary pipeline and build a new heat exchange station in a neighborhood to replace the previous heating model with water source heat pumps to centralized heating that has better heating quality.

## 2.2 Strengthening Research and Innovation

Technological innovation is a core competence of the Company. Luen Mei Holding is committed to providing customers with better heating experience and services through continuous technological innovation. As of the end of 2019, the Company owned 22 patents, including nine invention patents. In 2019, the Company had filed 25 patent applications and had seven research projects under development. It owns scores of patents, including fixed-bed boiler with laminated combustion, water surface multi-tube self-excited wave generation for flue treatment, combined supply of distributed clean energy and centralized heating, self-cleaning heat pump, and intelligent household temperature control and meter device, etc. Its subsidiary Guohui New Eco-energy Co., Ltd. is a rare high-tech enterprise in the heating industry and a post-doctoral innovation and practice base of Liaoning Province, and has developed a number of patented technologies related to the heating supply field.

In 2019, the Company invested a total of Rmb23.796 million in research and technological innovation.

- **The flue dedusting, desulfurizing, denigration, and dehumidifying-recycling and residual heat recycling technology** was highly recognized by China Renewable Energy Society and Liaoning Renewable Energy Society.
- **The industry-leading heat combinations in primary, secondary, and micro areas proposed by the Company** was in the process of becoming proprietary technologies with independent intellectual property rights, which the outstanding environmental benefit of reducing pollutant emissions from the thermal generation process by over 30%.
- **Shenyang Water Bay Park** is a project focusing on water source heat pumps with the biggest unitary installed capacity in China. It is a pioneer and takes the lead internationally in autonomously developing self-cleaning technologies for heat pumps.

## **Intelligent Household Temperature Control and Meter Device**

While most areas in North China have completed the transformation to centralized heating, the limited application of real-time indoor temperature adjustment still prevents people from having personalized heating settings. Guohui New Eco-energy Co., Ltd. developed a household customized temperature control system for centralized heating customers as a solution to this challenge.

The device is easy to install. Through wireless remote data transmission and control, it not only allows the customers to control heating settings remotely to have their desired room temperature, but also can accurately collect and upload temperature and heating data to a customized user account, ensuring billing accuracy and satisfying the customized heating needs of customers at the same time.

The device can also detect incidents and sent alerts for incidents such as leakage or misuse of heating water, allowing the heating service provider to respond promptly to minimize the losses to customers even when there is nobody at home.

## **2.3 Improving Customer Service System**

The Company is committed to providing customers with quality heating experience and services, and has made a series of efforts accordingly, including guaranteeing 24-hour quality heating service during the heating season, providing low-temperature heating for the periods before or after the heating season with cold weather, and flexible and customer-friendly billing methods. During the heating season, the Company deploys a quick response mechanism with dedicated personnel to address customer needs, including 24-hour door-to-door maintenance service.

In 2019, the Company served nearly 650,000 households and over 2,000,000 residents in Shenyang City, and handled more than 50,000 customer inquiries, maintenance, and other service requests without leaving any customer unsatisfied.

<b>Improving service efficiency and quality</b>	<ul style="list-style-type: none"> <li>• Launched mobile App and enabled competition among employees to encourage them to respond to customer requests with greater enthusiasm.</li> <li>• Included customer requests handling in employee performance evaluation, provided regular training for customer service personnel, and encouraged employees to improve customer service.</li> <li>• Sent timely notification to customers, either by posting posters or through WeChat, regarding key scenarios, such as billing, leakage testing, starting of heating, and having service problems.</li> </ul>
<b>Protecting customer rights</b>	<ul style="list-style-type: none"> <li>• Heating customers with bedroom or living room temperature lowering than 18°C even after maintenance were be given improvement plan or economic compensation.</li> <li>• Formulated the <i>Compensation Measures for Leakage Damages</i>, and customers who suffered property damage caused by heating water leakage due to the Company’s reasons will be compensated after the damage is surveyed and the compensation plan is approved.</li> <li>• Provided heating fee exemption to public welfare customers, and customers requiring changing their heating mode or low indoor temperature.</li> <li>• Implemented the policy of “All requests get answered” policy to ensure 100% closed-loop handling and feedback of customer requests to improve customer satisfaction.</li> </ul>
<b>Ensuring smooth customer communication</b>	<ul style="list-style-type: none"> <li>• Ensured the service hotline (25948888) for heating maintenance, billing questions, and customer complaints have 24-hour uninterrupted service during the heating season (November 1 to March 31).</li> <li>• Launched the Internet service App and the “366e Life” WeChat enterprise platform, enabling customers to file maintenance requests, make inquiries and pay bills online.</li> <li>• Handled customer requests and feedback through government websites, business halls, media and other channels.</li> </ul>
<b>Listening to customers</b>	<ul style="list-style-type: none"> <li>• Set up a dedicated customer service team and an integrated call center to handle all heating related customer inquiries, maintenance requests and complaints.</li> <li>• Formulated the First Responder Accountability mechanism, requiring the employee first contacted to oversee the entire process of handling the customer request, including asking for customer feedback.</li> <li>• Promoted a service culture among all employees, encouraging employees to take responsibility to handle customer requests to improve customer experience.</li> </ul>
<b>Protecting customer privacy</b>	<ul style="list-style-type: none"> <li>• Protected customer information with dedicated system and personnel with clearly specified authorization.</li> <li>• Required customers to present appropriate IDs before providing billing, service suspension or contact information that requested by them.</li> </ul>
<b>Caring for disadvantaged groups</b>	<ul style="list-style-type: none"> <li>• Provided door-to-door service for customers with physical difficulties to leave their homes, and set up dedicated online customer service personnel to serve customers with special needs.</li> <li>• Equipped service halls with chairs, drinking water and emergency kits to better serve customers.</li> </ul>

### **Shenyang Xinbei Thermoelectric Co., Ltd.: Providing convenient services to customers**

Before the 2019 heating season started, ShenYang Xinbei Thermoelectric Co., Ltd. arranged employees to visit the areas with high customer complaint rates historically and communicate with representatives of property companies, homeowners and community workers to understand their heating needs. It also strengthened the training for customer service personnel and door-to-door maintenance personnel to improve customer service.

Shenyang Xinbei Thermoelectric Co., Ltd. also distributed service cards printed with its 24-hour service hotline number to customers, ensuring timely maintenance.

<b>Indicator</b>	<b>Unit</b>	<b>2019</b>
Customer service hotline satisfaction rate	%	100
Online customer service satisfaction rate	%	100
Customer complaint resolution rate	%	100





### 3. GREEN AND ENVIRONMENTALLY FRIENDLY DEVELOPMENT

#### Sustainability Context

Lucid waters and lush mountains are invaluable assets. China has been vigorously promoting green development, implementing the three action plans for prevention and control of air, water and soil pollution, and taking the lead in issuing *The National Plan for Implementing the 2030 Agenda for Sustainable Development in China*, and implemented *The National Plan for Addressing Climate Change (2014-2020)*. Through these unremitting efforts, ecological and environmental protection in China has undergone historic, transformational and overall changes. Luen Mei Holding firmly upholds the development concept of low-carbon and environmental protection. Focusing on clean heating, the Company constantly improves its environmental management capabilities, and strives to reduce its environmental footprint and contribute to the construction of a beautiful China by adjusting its energy structure and further intensifying its energy conservation and emission reduction efforts.



### **3.1 Improving Environmental Management System**

The Company regards the improvement of the environmental management system as a top priority, and strictly abides by relevant state and local environmental laws, regulations and standards, including *The Environmental Protection Law of the People's Republic of China*, *The Air Pollution Prevention Law of the People's Republic of China*, *Opinions of the State Council on Strengthening Key Environmental Protection Work*, *Environment Protection Regulation of Construction Projects*, *Thermal Power Plant Air Pollutant Emission Standards*, and *Boiler Air Pollutant Emission Standards*, etc. The Company has formulated *The Luen Mei Holding Environmental Management Measures* to integrate environmental protection into business operations, striving to strictly control pollution and minimize the amount of emissions, effluents and solid wastes generated during its production process through the implementation of a number of management measures, such as ensuring environmental protection accountability, following environmental protection and safety operational procedures (including accident prevention and emergency plans), keeping operation logs and journals, and setting inspection standards for the purchase of desulfurization and denitrification agents, etc.

## Environmental Management System of Luen Mei Holding

### Headquarters level

<b>Design Management Department</b>	To provide detailed technical requirements for new construction, maintenance and technical transformation of environmental protection facilities, and review and evaluate the produce design, processing capacity, operational stability and economy of suppliers' products and solutions.
<b>Centralized Purchasing Department</b>	To select suppliers of environmental protection facilities and supplies according to the requirement of the Design Management Department, sign contracts, and ensure maintenance and product accountabilities.
<b>Engineering and Cost Management Department</b>	To supervise the environmental protection, work in external projects, such as the restoration after construction, dust suppression during construction, and inspect the quality of environmental protection supplies.
<b>Production Management Department</b>	To supervise the company-wide operation of environmental protection facilities and coordinate environmental protection related affairs within the company.

### Subsidiary level

<b>Production Technology, Operation and Other Departments</b>	To formulate the subsidiary's environmental protection policies based on the company's regulation, cooperate with local environmental protection agencies, in charge of the operation, management and maintenance of environmental protection facilities of each subsidiary, initiate and supervise major repairs, technical transformation and new construction projects of the affiliated company's environmental protection facilities, test environmental protection supplies, and record discharges and the operation of environmental protection facilities, so as to ensure the regular, safe, reliable and economical operation of environmental protection facilities.
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The environmental protection work of the Company focuses on the following aspects: treatment of air pollution caused by flue gas generated by boiler combustion; treatment of dust caused by the storage of coal and other materials; treatment of waste water from production and living quarters; reduction of noise and vibration; treatment of production waste and environmental greening; and environmental protection measures for construction projects such as enclosure and dust reduction measures, and the restoration of roads and greening after construction.

The Company has formulated its own environmental self-monitoring plan in accordance with national standards, and entrusted qualified third parties to conduct

inspections and disclosed the monitored data publicly. The Company also allocated dedicated personnel focusing on chemical and environmental management work.

The Company had adopted a number of pollution control technologies to reduce its emissions, including the low-nitrogen combustion technology, and SNCR and SCR flue gas denitrification system to control nitrogen oxides emissions, and the electric-bag filter and fabric-bag filter to control particulate matter emissions, and the in-furnace calcium spraying, lime-gypsum wet method, the magnesia wet method, the slaked lime-sodium carbonate double-alkali method, and the circulating fluidized bed method flue gas desulfurization system to control sulfur dioxide emissions. In 2019, all pollution prevention and control facilities of the Company operated properly, allowing it to meet national and local environmental protection and emission standards and pollution control requirements.

#### **Guoxin New Eco-energy Co., Ltd.: Multiple efforts to reduce environmental impact**

Guoxin New Eco-energy Co., Ltd. strictly conducts daily and weekly energy consumption analysis and benchmarking of its production and operation, to timely identify abnormal energy consumption indicators and make adjustment accordingly. To further bring down its emissions, it adopted circulating fluidized bed boilers with high combustion efficiency, wide coal compatibility, and a large load adjustment range, as well as boiler equipment with low-nitrogen combustion technology. It also adopted back-pressure generators to produce steam in certain some areas to feed the residual steam from the power generation process to heating pipeline, which reduced cooling costs and realized the recovery and reuse of steam and the closed-loop treatment of water.

### **Luen Mei Bioenergy Co., Ltd.: Comprehensive measures to control pollution**

Luen Mei Bioenergy Co., Ltd. is committed to minimizing the environmental impact of emissions and effectively reducing pollutant emissions through sound environmental management.

- Treating flue gas from combustion by using cyclone dust collector, bag filter and the ultra-low emission dust removal method, as well as desulfurization and denitrification processes before discharging it through an 80-meter chimney.
- Reducing dust by using wind proof and dust suppression net around stockyard, using sprinkler truck on roads regularly, and building a sealed material warehouse.
- Controlling possible noise pollution by choosing low noise equipment, rationalizing layout for high noise sources, and allying effective noise reduction measures such as vibration reduction, sound insulation and noise cancellation, etc. Noise reduction equipment is installed at the inlet and exhaust fan of boilers, and the steam turbine and generator is fully enclosed in protective cover for sound insulation treatment.

<b>Indicator</b>	<b>Unit</b>	<b>2019</b>
Ammonia nitrogen emissions	ton	0
NOx emissions	ton	2074
SO <sub>2</sub> emissions	ton	850
Diesel consumption	liter	124200
Biomass fuel consumption	ton	336141
Electricity consumption	MWh	193674

### 3.2 Responding to Climate Change Actively

The Company actively responds to China’s policies and actions to address climate change, promotes energy structural transformation, prioritizes the use of low-carbon clean energy, and accelerate environment-friendly modification of thermal plants. While efficiently meeting the centralized clean heating needs of the areas it currently serves, the Company has also achieved a 100% clean heating rate and greatly reduced its carbon and pollutant emissions from its operations.

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**Using clean energy**

The Company actively promotes the use of clean energy such as biomass energy and has accumulated unique technological and regional layout advantages in the field of biomass energy. Its subsidiary Luen Mei Bioenergy Co., Ltd. is the first biomass combined heat and power generation unit to adopt high-parameter units in China and can process about 240,000 to 300,000 tons of biomass per year with its 30 MW generators and 2\*75 tons/hour steam boilers. Compared with industry average, it has better unit steam consumption and unit fuel consumption, as well as a wider range of biomass fuel adaptability. In addition, Luen Mei Bioenergy Co., Ltd., as one of the earliest biomass company to realize cogeneration of heat and power in China, has realized the high-efficiency and clean cogeneration using renewable energy through the technology of “combined grate technology + unit high parameter and high speed + cogeneration + ultra-low flue gas emission”, producing a combination of electricity, steam and low-grade waste heat.

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**Energy conservation and emissions reduction**

The Company requires all construction projects to pay attention to environmental protection, and go through environmental impact assessment and acceptance processes required by laws and regulations. It also adheres to green production and green operation, continuously optimizes the operating efficiency of boilers and other equipment to reduce energy consumption through technological transformation.

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## Luen Mei Acts up to Provide Clean Heating

Luen Mei Holding produces and utilizes clean energy with four business operations, clean coal-fired high-efficiency cogeneration, renewable water source heat pump (WSHP) heating, biomass cogeneration and natural gas-based distributed cooling, heating and power supply.

- **Clean coal-fired high-efficiency cogeneration:** As a highly efficient way for the cogeneration of heat and power, the Company uses different grades of heat energy for different purposes (high-grade for power generation, low-grade for centralized heating) to improve energy efficiency, reduce environmental pollution, and achieve the comprehensive benefits of reducing both energy consumption and environmental impact, and achieving better heating quality and greater amount of electricity production.
- **Water source heat bump using reclaimed water:** The Company uses reclaimed water as a cooling and heating source, according to the characteristics that the temperature of reclaimed water is higher than outdoor temperature in winter and lower in summer, to utilize the low-grade energy in reclaimed water that cannot be directly used to provide heating and cooling for buildings, which reduces energy consumption, improves operational stability, and reduce the impact on the environment.
- **Biomass cogeneration:** Biomass raw materials include agricultural waste, animal waste, forestry wood waste, specialty energy plants, municipal solid waste and landfill gas, sewage treatment biomass gas, urban wood waste and food residue. Biomass cogeneration is a comprehensive energy system with stable supply, which can make multiple use of resources to achieve full life cycle zero carbon emission, and greatly reduce the impact on the environment.
- **Natural gas-based distributed cooling, heating and power supply:** Mainly based on the comprehensive factors such as the energy load needs of the customers as well as the external constraints, the system is integrated with flexibility and has the characteristics of better power structure, higher energy efficiency, cleaner and less environmental impact, safe and reliable power supply, and more balanced peak-valley fluctuations.

Indicator	Unit	2019
Total amount of electricity generated	10,000 kWhs	55215
Amount of electricity generated with biomass	10,000 kWhs	21772

### 3.3 Promoting Rational Utilization of Resources

Attaching great importance to the rational utilization of resources, the Company innovates technologies in the production and operation process, and encourages employees to put energy-saving, low-carbon, and green concepts into conscious actions to continuously improve its energy conservation and environmental protection performance.

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**Water resource management** The Company strictly abides by the relevant provisions of *The Water Law of the People's Republic of China* to manage its water intake and sewage treatment, and implements water recycling projects, strive to reduce sewage discharge and improve water resource utilization efficiency. It also posts water-saving reminders on office premises and project sites to encourage employees to save water resources in their daily work and enhance their awareness of water conservation.

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**Waste management** The Company strictly abides by the relevant provisions of *The Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Wastes*, resolutely prevents and controls solid wastes from polluting the environment, and conducts centralized collection and management of wastes. The solid waste generated by the Company in the production and operation process mainly include ash, filter residue, and desulfurized gypsum in the boilers. Each subsidiary delivers its waste to a qualified third party for disposal off-site.

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Indicator	Unit	2019
Total water consumption	cubic meters	3314194
Total recycled water consumption	cubic meters	1275476
Percentage of recycled water in total water consumption	%	38.49
Number of video conference calls		159
Energy savings equivalent from reduced business travels	ton	2
Number of computers recycled		30
Number of toner cartridge recycled		50





## 4. GIVING BACK TO SOCIETY AND CREATING A BETTER FUTURE TOGETHER

### Sustainability Context

Luen Mei Holding adheres to the concept of “Connect the Future and Enrich Life” and is committed to continuously contributing to creating better life for people. The Company actively pursues the win-win industry-university-research cooperation, encourages career development of employees, and gives priority to address community needs and encourages employees to devote themselves to support public welfare and contribute to community development.



## 4.1 Win-win Cooperation with the Industry

Luen Mei Holding actively cooperates with other businesses and universities and research institutions to synergize and integrate the expertise and resources of different types of organizations, so as to promote the Company's technological innovation and accelerate its development towards lower energy consumption and higher efficiency.

- Established long-term cooperative relationship with Huolinhe Opencut Coal Industry Co., Ltd. to seek complementary development to each other.
- The Company's subsidiary, Guohui New Eco-energy Co., Ltd. is a postdoctoral innovation practice base of Liaoning Province, giving the Company the advantage of "technology + talent" to further promote energy conservation and environmental protection.

### **Guohui New Eco-energy Co., Ltd.: Realizing complementary advantages with industry-university-research cooperation**

Guohui New Eco-energy Co., Ltd. has signed a number of cooperation agreements on setting up shared laboratories, joint research program application, forming industry-university-research alliance, and promoting industry talent development with Shenyang Institute of Applied Ecology of the Chinese Academy of Sciences and Shenyang University. In the future, the Company will adhere to the principles of "green, low-carbon, energy-saving, environmental protection and recycle" to actively engage in industry-university-research cooperation. The research and development advantages of the cooperating institutions in circular economy and low-carbon technology will help with the technological upgrading and industrialization of the Company, further enhancing its capability to respond to climate change and energy saving and emission reduction challenges.



Signing ceremony of the cooperation agreement

## 4.2 Growing Together with Employees

Only with the hard work of each employees, can an enterprise realize long-term development. Luen Mei Holding attaches great importance to the protection of employees' rights and interests, provides employees with an equal working environment, and encourages career development by a variety of training programs and a sound promotion system.

### Protecting Employee Rights

The Company strictly abides by *The Labor Law of the People's Republic of China*, *The Labor Contract Law of the People's Republic of China* and other relevant laws and regulations, adheres to the principle of "equality, fairness and openness", and respects and protects the legitimate rights and interests of all employees.

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<b>Salary and welfare</b>	The Company regularly updates its salary and welfare system, ensures its employees are paid at par or above the regional average salary, and provides employees with full social security coverage and the highest housing fund percentage. As of the end of 2019, the Company has a 100% social security coverage rate and a 100% signing rate of labor contracts among its employees.
<b>Talent recruiting</b>	Talents are recruited through three channels: open recruiting for function departments, open recruiting for production positions, and campus recruiting. In 2019, the Company focused on campus recruiting to steadily promote its talent development.
<b>Employee Participation</b>	All subsidiaries regularly hold employee general meetings to actively listen to and address the needs of employees. In Hunnan Heat-supplying Co., Ltd., employee representatives from each department attended the 2019 employee general meeting and jointly deliberated and voted on the reform plans of salary and other systems.

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## Innovating on campus recruiting

In 2019, the Company upgraded its campus recruiting and training programs and created several branded campus recruitment programs to attract young and energetic college graduates.

- Quantum Star Talent Plan is a special training program designed for new graduates, which helps them achieve fast growth through dedicated training and on-the-job training at rotated positions. A total of 36 new graduates were recruited through this program during the year.
- The Good Rep Student autumn campus recruiting plan was implemented in September. The Company formulated detailed criteria that focusing on the comprehensive quality of new graduates and assigned dedicated personnel in charge of the screening process. A total of 47 outstanding new graduates were recruited through this program during the year.

Indicator	Unit	2019
<b>Total number of employees</b>		<b>2746</b>
<b>Employee education background</b>		
High school and below	%	33
College graduate and associate college	%	65
Master degree or above	%	2
<b>Employee diversity</b>		
Female employee ratio	%	13
Male employee ratio	%	87
Female employee ratio in middle management	%	13
Female employee ratio in senior management	%	6
<b>Employee age distribution</b>		
30 years or younger	%	24
Between 30 years and 50 years	%	46
50 years or older	%	30

## Employee Promotion and Training

Based on its management and development needs, the Company provides equal development opportunities for different categories of positions, encourages employees to develop their professional skills and pursue long-time career growth, provides them with sufficient career development space, and leverages both internal and external training resources to help employees improve their capabilities.

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### **Expanding key training**

The Company has formulated training systems, such as the Internal Lecturer Management System, the Talent Development Management System, and the New Graduates Mentoring System, and continuously improved the talent recruiting system, prepared training materials and assessment system for new recruits, and standardized the training process.

In 2019, Guorun Low-Carbon Thermal Power Co., Ltd. launched a training course on emergency response measures after main power supply unit outage; Guoxin New Eco-energy Co., Ltd. organized employee trainings on standardized operation protocols, distributed learning materials, and organized on-the-job practical exercises.

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### **Optimizing career path**

The Company has established dedicated promotion plans for employees to replace the monolithic and administrative promotion channels for management staff, providing employees with more choices and encouraging them to develop their own expertise and grow.

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## Employee Skills Competition

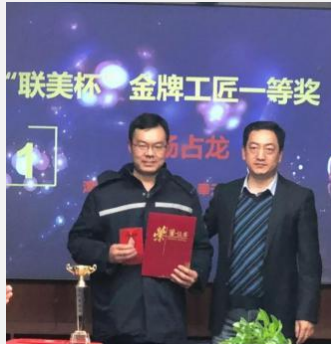
In order to help employees to improve skills and give them an opportunity to showcase their excellencies, the Company regularly organizes a variety of skills competitions, allowing the employees to both exhibit their skills and cultivate teamwork and cooperation with colleagues.



Employee skills competition



Employee skills competition winners



Gold Medal Craftsman program winner



## Internal Recruiting through Open Competition

In 2019, the Company carried out five open competition activities. A total of 42 management staff were selected and appointed from more than 150 employees, including six general managers of subsidiaries, nine deputy/assistant general managers, 16 middle-level directors of core production departments, etc. Internal recruiting through open competition not only optimized the management team of the Company, but also promoted the employees to have better career choices based on their capabilities and interests.

Indicator	Unit	2019
<b>Total number of employees participated in training</b>		1309
Training participation rate of female employee	%	10.12
Training participation rate of senior management staff	%	1.88
Training participation rate of mid-level management staff	%	5.35
Training participation rate of front-line management staff	%	82.79
Total training expenses	10,000 yuan	19.3131
Total participants in trainings related to job responsibilities	person-times	2217
<b>Average training time per employee</b>	hours	3.11
Average training time of senior management staff	hours	2.93
Average training time of mid-level management staff	hours	3.07
Average training time of grass roots staff	hours	3.53
Average training time of female employees	hours	1.8
Average training time of male employees	hours	4.28
<b>Number of trainers (both internal and external)</b>		75

## Caring for Employees

The Company adheres to the enterprise culture of “healthy development and happy work”, and makes various efforts to help employees balance work and life. In 2019, the Company organized a variety of employee caring activities to both enrich employees’ spare time and enhance their sense of identity and belonging to the Company.

### Caring for Female Employees

Each year on March 8th, Women’s Day, the Company organizes seminars, beauty classes and other activities and prepares holiday gifts for female employees. The Company also takes the initiative to set up nursing rooms in workplace for nursing mothers.



Women’s Day activity



A nursing room in workplace



### **Guorun Low-carbon Thermal Power Co., Ltd.: Caring for the mental health of employees**

In order to raise employees' awareness of mental health and help them manage stress and stay positive and optimistic, Guorun Low-carbon Thermal Power Co., Ltd. provided employees with psychological counseling and organized outdoor team-building activities. It also made efforts to understand the employees' thoughts and needs, and developed open grievance channels to help them deal with their difficulties in a timely manner.

### **Luen Mei Bioenergy Co., Ltd.: Organizing May 4th Youth Event**

Every year, Luen Mei Bioenergy Co., Ltd. organizes the "May 4th Spirit" theme activities to promote youth spirits and enrich the leisure time of employees with activities such as basketball games and fun sports, aiming at fostering a healthy and active way of life among young employees.

### **Dumpling-making Competition between Subsidiaries**

Making and eating dumplings is an essential festival activity during the Chinese New Year in North China. Every Spring Festival, Guoxin New Eco-energy Co., Ltd. and Guorun Low-carbon Thermal Power Co., Ltd. organize a dumpling-making competition for their employees, creating an opportunity for them to know each other better and welcome the new year together in a joyful spirit.



Dumpling-making competition

## Hunnan Heat-supplying Co., Ltd.: Writing down your New Year wishes

Before the Chinese New Year, Hunnan Heat-supplying Co., Ltd. organized a Spring Festival couplet writing event for employees, asking them to share their best wishes for the coming new year into Spring Festival couplets.



Chinese New Year festival activities

## Heart-to-heart, a “Guardian” of Employees

The Company regularly conducts home visits to employees in need to get first-hand understanding of their difficulties and help, making sure the employees and their families could have the support to deal with their difficulties.



Home visits of employees with difficulties



Celebrating employees' birthdays



New year games in workplace

### 4.3 Contributing to a Harmonious Society

Besides creating economic benefits, Luen Mei Holding also focuses on giving back to communities. The Company leverages its advantages in human resources, capital and technology to promote local economic development, support public welfare causes, encourage employees to participate in community service and volunteering activities, making active contributions to the development of a harmonious society.

#### Open day events



Organizing site visit for students



Hunnan Heat-supplying Co., Ltd. Family Day



Site visits from community groups

### **Guoxin New Eco-energy Co., Ltd.: The Warm House program for old communities**

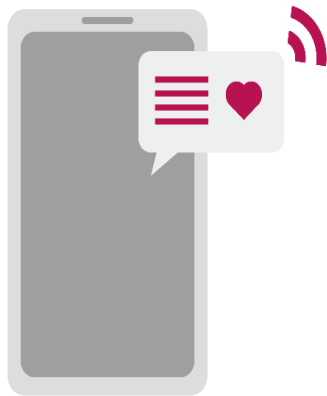
The old community within the service area of Guoxin New Eco-energy Co., Ltd. has a heavy heating load. In order to promote the heating renovation and upgrading of the surrounding communities and a nearby housing project for teachers, the Company implemented the Warm House program. It leveraged its professional expertise and actively communicated with local government agencies, housing administration, and heating administration office, and community residents to come up with a satisfactory solution to providing heating service for these old communities.

### **Fulfilling social responsibilities and supporting public welfare undertakings**

The Company cares for the welfare of the disabled. It regularly donates to the Dongling District Charity Association and calls on its employees to actively participate in volunteering services. The Company was awarded the title of Charity Fundraising Enterprise for Helping the Disabled.



Hunnan Heat-supplying Co., Ltd. employees providing community services



## **5. FEATURE: LIGHTING UP HIGH-SPEED TRAIN TRAVELS WITH DIGITAL MEDIA**

Since the concept of “New Infrastructure Construction” was put forward at the Central Economic Work Conference at the end of 2018, New Infrastructure has gradually become a key direction to stimulate investment and expand demand. As one of the seven major areas related to New Infrastructure, the rapid development of intercity high-speed railway and intercity rail transit systems will drive the development of an overall industrial chain. As new rail lines connect more cities and move more travelers, there is great growth potential for value-added advertising services.

As one of the earliest companies specialized in the digital media business in railway stations in China, Mega-info Media, a subsidiary of Luen Mei Holding, currently has the most digital media resources of railway passenger stations. As of December 31, 2019, the advertising media network of Mega-info Media covered 28 provinces with a network of over 5600 digital media terminals located in more than 500 railway stations it has contacts.

## 5.1 Promoting Efficient Communication

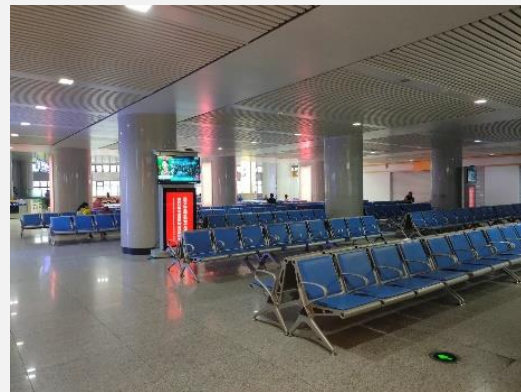
In 2019, Mega-info Media continued to optimize station quality and upgrade media resources, which had significantly improved media quality and advertising effects, and increased the efficiency of communication.

- **Building nationwide coverage to improve communication efficiency:** The media network of Mega-info Media covers major high-speed rail arteries that runs through multiple well-off regions. With an integrated digital media advertising broadcasting platform, the Company can help advertisers reach more high-speed rail travelers and effectively expand the coverage of communication.
- **Optimizing information management to ensure prompt responses to customer needs:** With its secure and efficient network transmission capabilities, proprietary processing technology, Mega-info Media has built an efficient advertising broadcasting information platform that allows it to have centralized control and network distribution of digital media advertising content. Advertisements can be changed quickly and timely within 24 hours during release, allowing the Company to fully meet customers' needs for the timely adjustments of advertising messages according to their marketing strategy.

## 5.2 Raising Public Awareness to Support Public Welfare

Mega-info Media actively fulfills its social responsibilities and donates its large-screen display resources to local railway authorities for playing public service advertisement that aiming at raising public awareness of public welfare. In 2019, Mega-info Media placed a total of 75 pieces of public service advertisements nationwide with a total display time of over 6,500 hours.

- During the 2019 Chinese New Year period (February 4 to February 28), played public service advertisement on travel safety in Shenyang North Railway Station.
- From May 27 to December 31, played public service advertisements every hour in all railway stations in Fujian Province.
- During the “November 9th Fire Prevention Day” period (from November 8 to November 30), played public service advertisements on fire safety twice an hour in Guangzhou South Railway Station.



Public service advertisement on promoting environmental sanitation and civilized behavior for travelers



## Supporting the September 5th Public Welfare Day

In 2019, the September 5th Public Welfare Day initiated by Alibaba focused on the theme of “believing the greatness of small things”, aiming at promoting Internet merchants and consumers to support public welfare during the Public Welfare Week. To help the event have greater influence, Mega-info Media leveraged its large-screen display resources in high-speed railway stations to play the September 5th Public Welfare Day themed public service advertisement repeatedly, allowing the message to reach over 1.8 billion travelers from September 1 to September 9.



Public service advertisement promoting the September 5th Public Welfare Day

## Celebrating the 70th birthday of the motherland

October 2019 marked the 70th anniversary of the founding of the People’s Republic of China. To celebrate this proud moment, a National Day public service advertisement was played six times per five minutes in Hohhot Railway Station from September 9 to October 30.



National Day public service advertisement on display

## ESG RELATED POLICIES

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### Corporate Governance

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Working Rules for the Strategic Development Committee of the Board of Directors of Luen Mei Quantum Co., Ltd.

Working Rules for the Audit Committee of the Board of Supervisors of Luen Mei Quantum Co., Ltd. (Revised in 2019)

Rules of Procedures for the Supervisory Board of Luen Mei Quantum Co., Ltd.

Information Disclosure Management Policy Luen Mei Holding Co., Ltd.

Interim Measures for the Administration of Legal Affairs (Document No. HB-BF-FW-002)

Procurement Management Regulations - Tendering and Bidding Management Measures (Document No.: LR-GD-ZB-001)

Supplier Eligibility Policy (Document No.: LR-BF-004)

Tendering and Bidding Management Measures - Management Measures for Bid Negotiation (Document No.: LR-BF-ZB-003)

Management Measures on Workplace Safety Expenses (Document No.: HB- BF-YY-001)

Management Measures on “Two Votes and Three Systems” (Document No.: HB- BF-YY-010)

Management Measures on Engineering Safety (Document No.: HB-BF-GC-003)

Management Measures on Labor Protection Gears (Document No.: HB- BF-YY-004)

Management Measures for Part-time Safety Officers (Document No.: HB-BF-YY-005)

Management Measures on Safety Hazards (Document No.: HB- BF-YY-006)

Management Measures on Work-related Injuries (Document No.: HB-BF-YY-007)

Management Measures for Special and Dangerous Operation (Document No.: HB-BF-YY-009)

Management Measures on Workplace Safety Rewards and Disciplining (Document No.: HB-GD-YY-002)

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### Environmental

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Environmental Protection Management Measures (Document No.: HB-BF-YY-002)

Regulations on Management of Engineering Procurement (Document No.: HB-GD-CHB-002)

Management Measures on the Construction of Primary Network Project (Trial) (Document No.: HB-BF-GC-001)

Management Measures on the Construction of Secondary Network Project and Heat Exchange Station Project (Trial) (Document No.: HB-BF-GC-002)

Management Measures for Maintenance and Technical Transformation Projects (Trial) (Document No.: HB-BF-GC-003)

Measures for Management of Construction Units (Trial) (Document No.: HB-BF-GC-004)

Management Measures on Engineering Project Quality (Trial) (Project No.: HB-BF-GC-005)

Management Measures for Acceptance of Heat Source and Heat Supply Network Construction Project (Trial) (HB-BF-GC-006)

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### Social

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Management Policy on Employee Training

Management Regulations on Employee Team Building Activities

Management Policy on Apprenticeship for Fresh Graduates

Management Policy on Internal Lecturers

Management Policy on Employee Peer Recommendation

Management Policy on Talent Development

Management Policy on Salary and Welfare Management

Management Policy on Employment Hiring

Management Policy on Employee Labor Contract

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## GRI STANDARDS INDEX

Report content	GRI standards disclosure items	
About Luen Mei	Company Profile	GRI 102-1; GRI 102-2
	Company Milestones	GRI 102-1; GRI 102-2
	Awards and Recognitions	/
Responsibility management	ESG management system	GRI 102-16; GRI 102-26; GRI 103-2
	Materiality Issues	GRI 102-44
	Stakeholder Engagement	GRI 102-40; GRI 102-43
Creating Sustainable Values	Optimizing Corporate Governance	GRI 102-18; GRI 102-22; GRI 102-26; GRI102-32; GRI 103-2
	Ensuring Integrity and Compliance	GRI 103-2; GRI 205-2
	Managing Safety Strictly	GRI 403-1; GRI 403-2; GRI 403-3; GRI 403-6
	Practicing Responsible Procurement	GRI 204-1
Responsible Service for Customers	Ensuring Stable Heating Supply	GRI 103-2
	Strengthening Research and Innovation	GRI 416-1
	Improving Customer Service System	GRI 103-2; GRI 413-2
Green and Environmentally friendly Development	Improving the Environmental Management System	GRI 103-2; GRI 302-1; GRI 305-1; GRI 305-7; GRI 414-1
	Responding to Climate Change Actively	GRI 103-2; GRI 302-4
	Promoting Rational Utilization of Resources	GRI 303-3; GRI 306-2
Giving Back to Society and Creating a Better Future Together	Win-win Cooperation with the Industry	/
	Growing Together with Employees	GRI 102-7; GRI 102-8; GRI 103-2; GRI 401-1; GRI 401-2; GRI 403-5; GRI 404-1; GRI 405-1
	Contributing to a Harmonious Society	GRI 413-1
Lighting up High-Speed Train Travels with Digital Media	Promoting Efficient Communication	GRI 203-2
	Raising Public Awareness to Support Public Welfare	GRI 203-1; GRI 203-2

## ABOUT THIS REPORT

The Environmental, Social and Governance Report of Luen Mei Quantum Co., Ltd. is the first ESG report issued by the Company and its subsidiaries. The report mainly introduces the Company's performance and progress in the economic, environmental, social and governance aspects, and responds to the concerns of its stakeholders. The report is prepared annually.

**Report Boundary:** The content of this report covers Luen Mei Holding and its subsidiaries, including:

- Shenyang Hunnan Heat-supplying Co., Ltd.
- Shenyang Xinbei Thermoelectric Co., Ltd.
- Guohui New Eco-energy Co., Ltd.
- Shenyang Guoxin New Eco-energy Co., Ltd.
- Jiangsu Luen Mei Bioenergy Co., Ltd.
- Shenyang Guorun Low-carbon Thermal Power Co., Ltd.
- Mega-info Media Advertising Co., Ltd.
- Shenyang Shenshuiwan Clean Energy Co., Ltd.
- Lianzhong New Energy Co., Ltd.
- 366 Mobile Internet Technology Co., Ltd.
- Shenyang Huaxin Luen Mei Asset Management Co., Ltd.

**Time Period:** The report covers content from the time the Company was founded to December 31, 2019, with certain contents beyond the above time period to ensure the continuity of the report.

**Reporting Standards:** The report is compiled according to the GRI Standards issued by GSSB. For the disclosure of various indicators in this report, please refer to the GRI Standards Content Index section in this report.

**Information and Data Disclosure:** The materials and data used in the preparation of this report are from the Company's 2019 Annual Report, relevant company policies and cases of outstanding social responsibility practices, as well as the qualitative and quantitative information collected based on the reporting framework.

**Report Accessibility:** The electronic version of this report is released in Chinese and English. The electronic version can be downloaded and accessed through the website of the Shanghai Stock Exchange (<http://www.sse.com.cn/>).

### **Feedback**

Should you have any questions or comments regarding the report, please contact us through the following ways:

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