

2021 Environmental Social and Governance Report

Shanghai Electric Group Company Limited



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Notes for Report Preparation



Overview

Shanghai Electric Group Company Limited ("Shanghai Electric", "Group", "Company" and "we") began to prepare and disclose its Environmental, Social and Governance ("ESG") report since 2017, and issued the report on an annual basis. This is the sixth ESG report of our Group, truthfully revealing the Group's performance of its responsibility to shareholders, customers, partners, employees, environment, communities and other important stakeholders. And it shows the Group's performance in environment, society and governance.



Basis of Preparation

This report is mainly prepared with reference to the Guidelines No. 1 for the Self-regulation of Listed Companies on the Shanghai Stock Exchange — Standardized Operation and the Environmental, Social and Governance Reporting Guide of The Stock Exchange of Hong Kong Limited, and partially refers to the GRI Standards 2021 of Global Reporting Initiative (GRI), aiming to disclose information on environmental, social and governance performance of the corporate for relevant parties and shareholders. The content of this report is determined according to a set of established procedures, including identifying and ranking important stakeholders and ESG issues, collecting relevant data of the report, and reviewing quantitative data in the report.



Scope and Boundary of the Report

The policies and data provided in this report cover the Group's headquarter, internal divisions, branches, wholly-owned subsidiaries and holding companies, and the environmental data includes the important production-oriented subsidiaries of the Group. The data disclosure is from January 1, 2021 to December 31, 2021. Unless otherwise specified, the currency mentioned in the report is RMB, and the density data is based on revenue data in 2021 annual report of Shanghai Electric.



Source of Data and Guarantee for Reliability

The data and cases in this report mainly come from the Group's statistical reports and related documents. The report has not been verified by a third party. The Board of the Group undertakes that there are no false records or misleading statements in this report, and is responsible for the authenticity, accuracy and completeness of its content.



Confirmation and Approval

This report was confirmed by the management of the Company, and then approved by the Board on April 18, 2022.



List of Companies Mentioned in the Text of this Report

Full Name	Short Name
Shanghai Electric Group Co., Ltd. Central Academe	Central Academe
Shanghai Electric Wind Power Group Co., Ltd.	Shanghai Electric Wind Power Group
Shanghai Mitsubishi Elevator Co., Ltd.	Shanghai Mitsubishi Elevator
Shanghai Electric Power Transmission & Distribution Group Co., Ltd.	Shanghai Electric Power Transmission & Distribution Group
Shanghai Electric Power Generation Equipment Co., Ltd. Power Station Auxiliary Equipment Plant	Shanghai Electric Power Generation Auxiliary Equipment Plant
Shanghai Electric Power Generation Equipment Co., Ltd. Turbine Plant	Shanghai Electric Turbine Plant
Shanghai Electric Digital Technology Co., Ltd.	Shanghai Electric Digital Technology
Shanghai Electric Thales Transport Automation Control System Co., Ltd.	Shanghai Electric Thales
Shanghai Electric Group Shanghai Electric Machinery Co., Ltd.	Shanghai Electric Machinery
Shanghai Electrical Apparatus Co., Ltd. Renmin Electrical Apparatus Works	Shanghai Renmin Electrical Apparatus Works
Shanghai Electric Guoxuan New Energy Technology Co., Ltd.	Shanghai Electric Guoxuan

Chairman's Statement

The year 2021 was of extraordinary significance. It marked the historical intersection of China's "Two Centenary Goals" and the beginning of the 14th Five-Year Plan. It was also a year of opportunity and transformation for Shanghai Electric.



Leng Weiqing

Secretary of Party Committee
Board Chairman, CEO

Over the past year, Shanghai Electric continued to study and implement Xi Jinping's thought on ecological civilization, comprehensively implement the spirit of Xi Jinping's important speeches and the spirit of important CPC meetings, and strictly implement the important instructions of the municipal CPC committee and the municipal government. In line with the national strategies such as the goals of "carbon peaking and carbon neutrality", we adjusted our development plan in a timely manner, adhered to the general keynote of "seeking progress while maintaining stable performance, pursuing innovation on the basis of what has worked in the past, and steadfastly following the path of high-quality development", made every effort to promote the industrial restructuring, the change of growth driving forces, the technological innovation and management change, and accelerated the deployment in emerging fields such as green, low-carbon, and digital economy.

In 2021, the lingering global COVID-19 pandemic continuously affected the economy and society of every country. Shanghai Electric paid close attention to the global pandemic updates, with all of our staff working together to face the challenges and overcome the difficulties to ensure that all planned tasks were performed steadily and that breakthroughs were made in the year. Recently, facing the most severe situation since the normalization of epidemic prevention and control, Shanghai Electric resolutely obeyed the government's epidemic prevention arrangements and, while seriously implementing the current epidemic prevention requirements, went all out to guarantee the city's operation, satisfy the government's needs in epidemic prevention, empower customers to accomplish emergency tasks, ensure the scheduled delivery of key products, and fought the battle to guarantee our normal operation. These efforts demonstrate our sense of responsibility and commitment and ability of contract performance.

In 2021, Shanghai Electric pursued the industrial structure transformation under the guidance of national strategies, aligned the development of the Group with serving national strategies, focused on the low-carbon and digital transformation, and firmly upheld the

two-pronged approach of "innovation and transformation of existing industries" and "cultivation and development of emerging industries". We stuck to our core values: strive for excellence, seek value innovation, pursue win-win cooperation and put customer success first. We took a further step forward to make "important instruments of the state", lead the technological innovation, achieve a green and low-carbon economy, and make life smarter. We gave priority to advancement of high-end equipment, development of new products and new industries, and low-carbon development. We served customers with smart solutions and made contribution to a better life of humankind. As a result, we won municipal and national awards in the fields of technology, quality and green development one after another.

In 2021, we continued to promote technological innovation and innovation-driven high-quality development. We held the Science and Technology Month, strengthened joint innovation, collaborative innovation and open innovation with stakeholders to build a domestically and internationally open platform. We launched the Petrel Platform SEW11.0-208, the then largest offshore wind turbine in Asia, bringing China's offshore wind turbine into the 10MW+ era. We participated in the construction of the first medium-capacity digital rail track in China, empowering the new concept of urban development, enhancing the level of urban transportation automation, and helping urban transportation move closer to the goal of emission reduction.

Looking ahead to 2022, we are determined and ambitious. We will continue to focus on our main responsibilities and main business, enhance our core competitiveness, build a smart energy and power equipment group in a new era, strengthen our corporate governance in all respects, further enhance internal supervision and risk control, and build a clean corporate ecology. We will also continue to fulfill our mission and responsibility as a state-owned enterprise, take up the responsibility of achieving China's goals of "carbon peaking and carbon neutrality", make it our value pursuit to win glory for the country and create a better life for the people, steadily go along the path of high-quality development, and create a better future together!

President's Statement

In 2021, we stayed true to our mission and forged ahead. In the face of the external uncertainty, Shanghai Electric adhered to the general keynote of seeking progress while maintaining stable performance, pursuing innovation on the basis of what has worked in the past, and steadfastly following the path of high-quality development. We provided customers with comprehensive systematic solutions that are green, environmentally friendly, smart and interconnected, created an equal, diversified, safe and comfortable employment environment for employees, built a clean, open, mutually beneficial and win-win industrial ecology, and took the initiative to fulfill our responsibilities as a leading energy equipment manufacturer and go forward together with the motherland aggressively.



Liu Ping

Deputy Secretary of Party Committee
President

We emphasized laying a solid foundation of corporate development, continuously improved the internal management system, strengthened internal supervision, created a clean culture, implemented the accountability mechanism, and regulated information disclosure, so as to ensure compliance throughout the course of corporate development. We attached great importance to communication with stakeholders, understood their concerns and demands in all respects and from multiple perspectives, and carried out in-depth discussions, so as to promote sustainable development. We deeply implemented the spirit of the 19th CPC National Congress and the 5th and 6th Plenary Sessions of the 19th CPC Central Committee, took Xi Jinping's Thought on Socialism with Chinese Characteristics for a New Era as the guidance, and gave full play to the leading role of CPC members to promote the high-quality development of the Group.

We concentrated our efforts on promoting the synergy of "smart energy and intelligent manufacturing", the dual-drive approach of "industry intelligence and service industrialization", and the interaction of "energy Internet and industrial Internet". We focused on the low-carbon and digital transformation of the industry, and built up powerful new drivers for development with technological innovation. We kept our quality commitment, pursued steady improvement in product quality, and advocated continuous improvement in service awareness. We followed new ideas in safety and environment management, strictly controlled emissions and pollution, constantly designed green solution for office work and manufacturing, implemented the goals of carbon peaking and carbon neutrality, detailed the scope of environmental risk management, created a sustainable supply chain, and increased efforts in emerging fields of wind energy, photovoltaic power, energy storage, hydrogen energy and new energy while maintaining our conventional advantageous industries. We strengthened exchanges and cooperation with players in various fields and made their respective advantages complementary to each other, so as to promote the collaborative development across the industries and create win-win situations.

We continued adhering to the people-oriented approach, protecting the legitimate rights and interests of employees, providing democratic communication channels, creating a platform for growth and development, establishing a customized training system, and creating a healthy and safe working environment so that employees can feel the warmth of the Shanghai Electric family. We actively shouldered social responsibility and fulfilled social obligations, boosted cohesion among stakeholders by advancing practice in industry, ecology, education, culture, epidemic fight, and assistance to rural areas, etc., and spread love and care to areas and people in need. These efforts demonstrate the responsibility of a state-owned enterprise and its attitude of gratitude to the society.

Recently, facing the escalating epidemic situation in Shanghai, we strictly executed the decision and deployment of municipal CPC committee and the municipal government, resolutely obeyed the government's epidemic prevention arrangements, and seriously implemented the epidemic prevention requirements. We united and led the masses of workers to fight the epidemic at the front line by guaranteeing urban operation and serving enterprises and communities to control the epidemic. We called on all CPC members and cadres in the Group to be models in observing social public order, assisting publicity of epidemic prevention policies, and consciously cooperating in screening potential virus carriers. As a result, a strong synergy was created to contain the epidemic while ensuring the high-quality development.

In 2022, we will continue to face new challenges, embrace new missions and embark on new journeys with a steady, courageous and innovative attitude, and continue to actively fulfill our social responsibilities, serve stakeholders sincerely, reinforce the feeling of happiness of our employees, implement national strategies and goals, and deepen sustainable development. Let's look forward to a bright future.

Special: Embracing a future with “carbon peaking and carbon neutrality” as the driver

The year 2021 marked the beginning of the 14th Five-Year Plan and the starting point of a journey to the goals of “carbon peaking and carbon neutrality”. The energy industry and its upstream and downstream areas saw different dimensions of development change such as new policies, new technologies and new directions. Shanghai Electric, as a representative of advanced enterprises, accomplished its mission of “carbon peaking and carbon neutrality” through a series of practices and deployments and giving full play to its strength in alignment with China’s strategy of “carbon peaking and carbon neutrality”, under the general keynote of “seeking progress while maintaining stable performance, pursuing innovation on the basis of what has worked in the past”, and in step with the new stage of China’s high quality development, which aims to “effect a comprehensive green transformation in respect of economic and social development, with a special focus on the development of green and low-carbon energy”.

Governance and Strategy

Shanghai Electric has incorporated climate change risks into its risk management regime. The Board of Directors is the highest decision-making body for climate change issues, and the ESG Management Committee is the management body for climate change issues. ESG Management Committee members report directly to the Board of Directors on the implementation results of climate change efforts.

Based on the results from the materiality questionnaire, we convene discussion meeting among all responsible climate departments to identify, determine and assess material risks and opportunities, and the results of review are validated by the ESG Management Committee.

Based on the results of the climate change risk and opportunity assessment, we set objectives and countermeasures, and conduct education and training. We also monitor, evaluate and review climate change policies, management, performance and progress toward relevant objectives.

Risks and Opportunities

Shanghai Electric ESG Management Committee convenes discussion meeting among all responsible climate departments to identify, determine and assess material climate risks, and the results of review are validated by the Board of Directors. Based on the results of the climate change risk assessment, we set objectives and countermeasures, and constantly monitor, evaluate and review climate change policies, management, performance and progress toward relevant objectives. In 2021, through climate change risk identification and assessment, Shanghai Electric identified the following risks and opportunities the Group may face due to the climate change.

Risk

Following China set its 30/60 “dual carbon” goals, the Fifth Plenary Session of the 19th CPC Central Committee set carbon peaking and carbon neutrality targets in the 14th Five-Year Plan and Vision 2035, escalating the reduction of greenhouse gas emissions to be a national development strategy. The “Climate Summit” in 2021 also emphasized vigorous promotion of transformation and upgrading of economy, energy and industrial structure. The basically completed top-level design for the low-carbon development challenges high-energy-consuming enterprises in terms of energy structure and industrial structure adjustment, forcing them to set low-carbon transition goal. We will be put in a passive position under more stringent policies and assessment mechanisms if no measures are put in place effectively and orderly to prevent and mitigate climate change.

Extreme weather such as floods, thunderstorms, tornadoes, hail, frost, etc. have certain effects on project site selection and construction and the safe operation of electrical facilities. For example, extreme heat could cause wind turbine equipment to overheat and shut down; extreme cold could cause PV stations to have no solar radiation energy available for conversion; heavy wind and storm could endanger wind power equipment such as falling.

Countermeasures

- Embracing a zero-carbon future and establishing a dedicated ESG management committee to coordinate the management of climate change issues;
- Formulating strategies, targets and action plans to cope with climate change and implement them vigorously;
- Paying timely attention to the policy updates of the competent authorities of this industry and provincial and municipal governments regarding electricity, and incorporating policy risks that may affect the Group's operations into risk management regime;
- Promoting the replacement of traditional fossil energy with new energy sources through technological innovation and the transformation into low-energy-consuming processes and equipment;
- Creating a green supply chain and promoting high quality development.

- Focusing on product design and process improvement, implementing strict full-process quality management, improving product quality and adaptability, and reducing the incidence of failures;
- Continuously building digital capabilities and providing intelligent operation and maintenance services such as remote monitoring, remote diagnosis, fault alarms and predictive maintenance to ensure stable equipment operation;
- Always paying attention to the early warning information issued by meteorological department, and managing risk prevention and control and response under extreme weather.

Opportunity

The implementation of the “dual carbon” goals has given rise to a new business model featuring low carbon, zero carbon and negative carbon, the development space of green and clean energy will be further expanded, and the new energy sector will boom. If we seize the huge development opportunities brought by the green transformation in time and follow the path of high-quality development, we will have bright prospects.

Against the backdrop of extensive active response to climate change across the society, urban and rural infrastructure construction will fully consider the impact of climate change and design the response capability in the construction of various urban lifeline systems such as electricity supply and transportation. If we can seize the opportunities in infrastructure construction, focus on energy efficiency improvement, and contribute to intelligent infrastructure development, we will be able to achieve more remarkable results.

Countermeasures

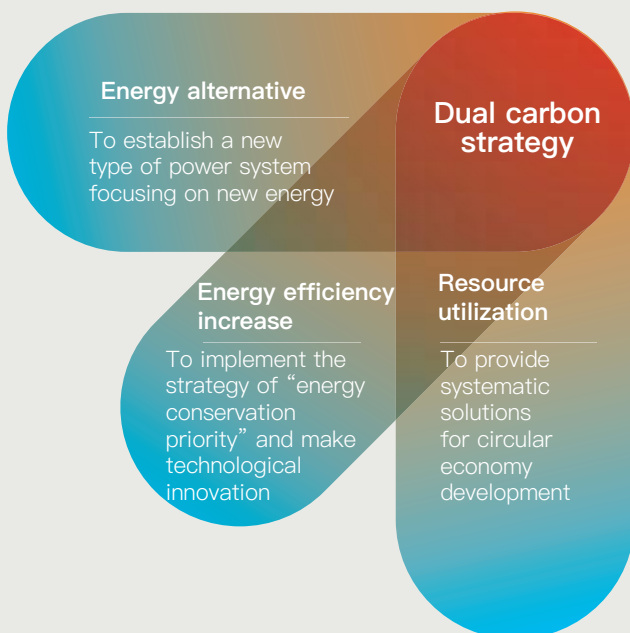
- Accelerating the application of low-carbon technologies such as hydrogen energy, energy storage and carbon capture;
 - Promoting the development and construction of new energy projects by drawing on Shanghai Electric's advantages in the development, construction and operation of new energy projects and supply of quality equipment and products;
 - Improving the presence of integrated energy services and enhancing the capacity of renewable energy consumption.
- Giving full play to the advantages of Shanghai Electric in the fields of power generation, transmission and distribution to accelerate the research and development and application of technologies and products and improve energy efficiencies;
 - Enhancing external cooperation and integrating our own advanced experience and technologies to increase the efficiency in utilization of rail transit;
 - Helping affiliates improve their technology and innovation, and leading them to follow the path of high-quality development and make continuous progress in smart buildings.

Action Plan: Three Paths

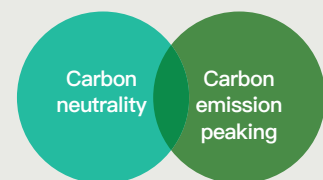
The report of the 19th Party Congress stated that China’s economy has been transitioning from a phase of rapid growth to a stage of high-quality development. The high-quality energy development requires the overall improvement of energy utilization efficiency and the popularization of clean energy consumption. According to the “14th Five-Year Power Plan” of the National Energy Administration, power development needs green transformation and upgrading, with focus on energy conservation and efficiency increase, promoting clean and efficient development of coal-fired power, improving system adjustment capabilities and accelerating the development of electric energy alternative. The Guiding Opinions on Energy-related Work issued in 2021 also requires energy-related work to fulfill the goals of carbon peaking and carbon neutrality, develop high-

quality renewable energies, continuously improve energy efficiency, continuously optimize energy mix, and promote transition towards low-carbon energies.

The power industry, as the main battleground for high-quality development and carbon neutrality, actively responded to relevant policies. Power enterprises promptly formulated plans and took actions to overcome difficulties through innovative R&D in equipment technology while remaining committed to working on renewable energy. Shanghai Electric also actively took the long accumulated industrial advantages to empower major “carbon emission reduction” sectors such as energy, chemical, metallurgy, transportation and construction to achieve the “dual carbon” goals and realize high-quality transformation and development.



Following the national strategic deployment and industry trends and based on its own practice, Shanghai Electric Power worked on cleanliness, efficiency with low-carbon attribute, and explored three paths of “energy alternative, energy efficiency increase, and resource utilization”, and achieved milestone results.



“30-60” Dual Carbon Goals



Energy Alternative

In terms of energy alternative, Shanghai Electric followed the trend and implemented the requirements of the optimal combination of thermal power generation and new energy, vigorously carried out the technical innovation and industrial deployment in “wind energy, photovoltaic power, energy storage, hydrogen energy and grid”, increased the capacity of new energy consumption, so as to promote the change of replacing fossil fuels with new energy and establish a new power system focusing on new energy.

Wind energy

In the field of wind energy, Shanghai Electric has maintained the largest market share of domestic offshore wind power market for many years in a row, continued to promote the development strategy of “lowest cost as a result of leading technology”, vigorously promoted the deep integration of “digital design and intelligent manufacturing”, and vigorously strived towards the established strategic goal of “being No. 1 in offshore wind power market and No. 3 in onshore wind power market”.

Hydrogen energy

In the field of hydrogen energy, through comprehensive analysis on the core key equipment for the four links of “production, storage, transmission and use”, Shanghai Electric has concentrated efforts on large-scale low-cost hydrogen production equipment and large-scale hydrogen equipment, such as “green hydrogen + carbon capture” synthetic methanol and hydrogenated ammonia synthesis, so as to accelerate the formation of a closed loop of large-scale low-cost hydrogen energy industry development, featuring “hydrogen production with renewable energy + carbon dioxide capture and green chemical”.

Photovoltaic power

In the field of solar energy, Shanghai Electric actively has embraced the parallel development trend of centralized and distributed photovoltaic industry, established open cooperative alliances with superior enterprises in the industry chain for the core manufacturing links, such as photovoltaic cell and module production, and built the core value of the Group in the photovoltaic equipment industry chain by giving full play to the existing foundation advantages of pan-semiconductor intelligent manufacturing and the integrated market advantages of “photovoltaic+” integrated solutions.

Energy storage

In the field of energy storage, Shanghai Electric has provided the most cost-effective energy storage solution by giving full play to the advantage of several energy storage technologies, such as pumped storage, lithium-ion battery, liquid flow, compressed air, molten salt, flywheel and superconductor; we have adopted “storage-specific” development policy which considers the differences in the core industry chain resources needed for different energy storage technologies, and the coordinated overall market development, so as to form a virtuous development pattern of a huge market of “new type of energy storage”.

Grid

In the field of power grid, Shanghai Electric has accelerated the intelligence and digitalization of transmission and distribution products, and provided systematic solutions for power grid to consume high percentage of renewable energy.

Shanghai Electric Wind Power Smart Energy Demonstration Project in Shantou



Shanghai Electric Wind Power Group Smart Energy Demonstration Project in Shantou was awarded the Typical Case of Energy High-quality Development in June 2021, and obtained the Carbon Neutrality Certification in October, making it becoming the China's second manufacturer and Guangdong Province's first manufacturer obtaining the Carbon Neutrality Certificate. With a total investment of approximate RMB 240 million, it is the largest smart energy project in Guangdong, and also the first industrial park level “energy Internet +” demonstration project by Shanghai Electric Wind Power Group. The project features the integration of wind power, PV, and storage. The project, with high penetration of renewable energy, employs the dynamic control technology integrating “grid, generation, load, and storage”, and makes the most of the rich wind and solar resources in Shantou to achieve self-organization, self-balancing, and self-optimization of energy, while guaranteeing strict power supply reliability and high-quality power. The CO2 equivalent greenhouse gas generated within the production and operation area of the park is 100% carbon neutral through energy alternatives, such as 8MW+4MW smart wind turbines, 2.42MW roof-top PV system, 2MW/1MWh energy storage and peak regulation.



Shanghai Electric's Yangxi Energy Storage and Frequency Modulation Project Performed Excellently in Preliminary Test



On September 26, 2021, Guangdong Yangxi Power Plant No. 1 Unit and No. 2 Unit 26 MW/13 MWh Energy Storage and Frequency Modulation Project passed the “8-hour continuous frequency modulation test”, ranking the first place in the Southern Power Grid test, and marking that the project officially entered the test and evaluation stage. The project will add a 26 MW/13 MWh energy storage auxiliary frequency modulation system to the two 600 MW units of Yangxi Power Plant. After put into operation, the project will effectively improve the comprehensive frequency modulation performance index and the level of automatic power generation control of the generating units, making it one of the best frequency modulation power sources in Guangdong power grid.

Shanghai Electric Smart Energy Demonstration Project in Shanghai's Minhang Industrial Zone



Installed PV capacity as of the end of 2021
361.9
KW

PV power capacity in the year 2021
24.34
KWH

Shanghai Electric Smart Energy Demonstration Project in Shanghai's Minhang Industrial Zone (Phase I) is a smart system integrating energy storage, solar energy, "wind-solar energy storage and power charging". The industrial park is equipped with 2.2MW photovoltaic system, 10kW wind power system, advanced battery energy storage system (4.03MW/12.6MWh), and "wind-solar energy storage and power charging" micro-grid system.



Shanghai Electric's First Overseas Solar Energy Storage Demonstration Power Station Sealed Roof in Dubai



In December 2021, Shanghai Electric's first overseas solar energy storage demonstration power station project was completed and accepted in Dubai, which marks the breakthrough from "0" to "1" for the Group's independent design capability of "photovoltaic + energy storage" system integration. After the project is put into operation, the fuel replacement rate can reach 50% in summer and 70%-80% in other seasons, realizing a good research value of system integration technology and huge economic benefits of project operation.



Shanghai Electric has attached great importance to the deep integration of "technology development" and "industry demand", taken the initiative to understand the development trend of low-carbon technology, and identified the major direction of scientific research with high standards, so as to empower the new energy development with technology.

Energy storage: We continued to keep track of the latest industry trends, continuously updated energy storage technologies, and made R&D deployment and optimization and upgrading in liquid flow batteries, photothermal energy storage, solid-state batteries, sodium-ion batteries, etc. to provide technical support for new power system.

Hydrogen energy: Shanghai Electric accelerated its hydrogen energy deployment, with focus on fuel cell reactors and hydrogen production, and cooperated with third-party research institutes to push forward the demonstration project of the Group's advanced hydrogen production technology industrialization, and contribute to the China's transition towards clean energy.

Wind energy: While importing advanced technology from Europe, Shanghai Electric has been determined to carry out independent technology research and development, develop domestic supply chain, and drive the common development and growth of players in the industry chain. The research and development and hoisting of new units enhanced the traditional efficiency, and the newly launched digital wind farm design platform i-WINDSIGHT is a "edge tool" for the digital wind farm in the new era of wind power.

Solar energy: Shanghai Electric has made layout across the industrial chain from components, brackets, inverters, control systems and intelligent operation and maintenance, improved core technology, core equipment and integration capabilities, optimized bracket structure and developed application tracking technology.



Energy Efficiency Increase

In the field of energy efficiency increase, Shanghai Electric has implemented the strategy of “energy conservation priority”. Through continuous technological innovation, it continuously applied various energy-saving innovative products in several industrial scenarios, and provided efficient energy-saving products and services for several industries.

Smart Building

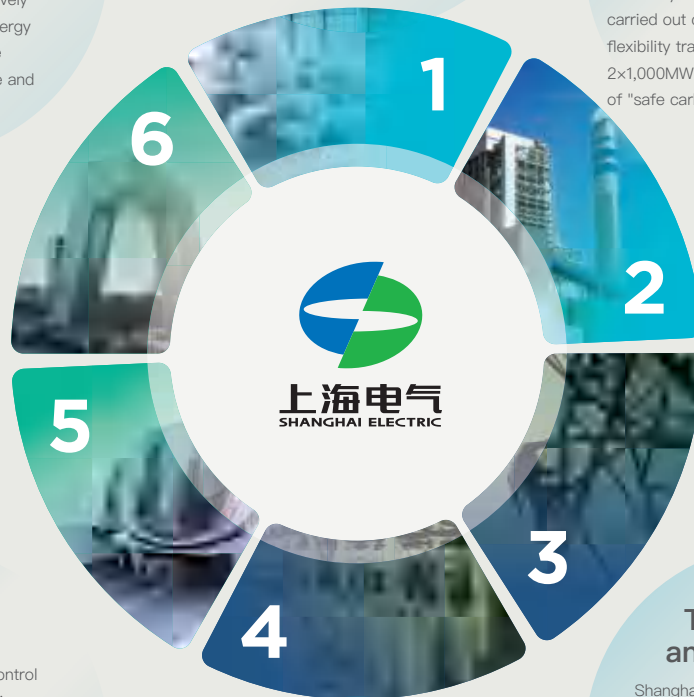
Shanghai Mitsubishi Elevator, a subsidiary of Shanghai Electric, has continuously pursued the minimization of elevator energy consumption, and has innovatively developed a smart elevator energy feedback device to reduce the “carbon footprint” in each rise and fall.

Power Generation

We created an optimal combination of “coal-fired power and new energy”, and the main equipment systems we provided continuously rewrote the lowest coal consumption index in the world. On December 14, 2021, the Unit 4 of Huaneng Ruijin Power Plant, which completed the 168-hour commissioning, set a new world record of 249.7g/kwh coal consumption for power generation.

Thermal Power Flexibility Transformation

In order to meet the requirements for strong and reliable power grid base load and peak load regulation, Shanghai Electric has continuously innovated comprehensive transformation technologies such as capacity increase and efficiency improvement of old units, and has carried out comprehensive thermal power flexibility transformation services including Ninghai 2×1,000MW project, contributing to the realization of “safe carbon emission reduction” goal.



Rail Transit

The new generation of train control system developed by Shanghai Electric hit an industry-wide record of only “86-second” round-trip time, which greatly improves the efficiency of use of rail transit.

Industrial Driver

Relying on the advantages of core equipment such as motors, inverters, fans and mills, Shanghai Electric has provided systematic energy efficiency increase services for energy, chemical and metallurgical industries.

Power Transmission and Distribution

Shanghai Electric made contribution to the demonstration project of the world’s first 35-kilovolt superconducting power cable, which was put into operation on December 22, 2021, and can significantly improve energy efficiency and save 70% of underground pipe gallery space.

Shanghai Electric's Technological Upgrade Plan Adopted in Energy Conservation and Emission Reduction Demonstration Project



Shanghai Electric offered electromechanical equipment and auxiliary furnaces and flexible operation of low-pressure cylinders and cylinder cutting transform plan for Shanxi Ruiguang Heat & Power Co., Ltd. – a national demonstration coal-fired power station, making Shanxi Ruiguang be the first in Shanxi Province to implement ultra-low emissions technologies. Shanghai Electric also provided special flexible heat supply upgrade solutions for its No.2 unit to improve heating efficiency, reduce energy consumption, and achieved efficient heat supply and remarkable social benefits. At the 2022 Spring Festival Eve, General Secretary Xi inspected Shanxi Ruiguang and praised the energy conservation and emission reduction project. He stressed that China shall consolidate basics for energy generation, and coordinate low-carbon development and diversified utilization, as well as comprehensive storage and transportation of the coal-based industry by speeding up green and low-carbon technological breakthroughs.



Wind Turbine Blade of Shanghai Electric Wind Power Increased Power Generation Efficiency



China's longest wind turbine blade S102 independently developed by Shanghai Electric Wind Power successfully rolled off the production line in 2021. The 102-meter long S102 is innovative in shape, material and production technology, making blade generate electricity more efficiently, operate more stably, generate more electricity, and minimize environmental impact.

Shanghai Electric Thales' Innovative Technologies Increased Metro Round-Trip Efficiency by 23%



Leveraging its industry-leading TSTCBTC2.0® signaling system for closed moving trains, Shanghai Electric Thales follows the "track-resource-first" design philosophy, and develops innovative RET technologies for "station/area-integrated and closed moving" scenarios on its own, which shortens the round-trip headway from 112s to 86s, and increases efficiency in both time and space factors. It is learned that this greener technology fills the gap in China in this regard and is likely to be applied in the metro industry to reduce energy consumed and emission in metro operation and contribute to achieving goals of carbon peaking and carbon neutrality.





Resource Utilization

In the field of resource utilization, Shanghai Electric has core process design and system equipment capabilities for flue gas treatment, water treatment, solid waste treatment, carbon dioxide capture and comprehensive utilization, promoting the recycling of energy resources.



In the field of flue gas treatment

relying on its comprehensive technologies and equipment advantages in denitrification, dust removal and desulfurization, which are most competitive in the power industry from a comprehensive perspective, Shanghai Electric is rapidly expanding its iconic cases in ultra-low emission to non-power industries.



In the field of water treatment

Shanghai Electric's products have a wide range of application scenarios from seawater desalination, ship ballast water treatment to rural distributed sewage treatment, urban reuse of reclaimed water, etc. Among them, the daily production capacity of seawater desalination reaches 900,000 tons/day, and Shanghai Electric has maintained the largest share of the domestic thermal seawater desalination market for many years.



In the field of solid waste treatment

Shanghai Electric boasts various technologies and equipment solutions for biomass power generation, waste power generation, hazardous waste treatment, soil remediation, etc.



In the field of carbon dioxide capture and comprehensive utilization

In the field of carbon dioxide capture and comprehensive utilization, relying on the chemical design capability of Shanghai Electric and the core equipment manufacturing capability of Shanghai Boiler Works Ltd., Shanghai Electric continuously built domestic iconic projects. The ongoing Zhejiang Jiahua large-scale carbon capture and comprehensive utilization project will have a capacity of capturing 200,000 tons/year of carbon dioxide, and will be complemented by a demonstration project of synthesizing 130,000 tons/year of methanol with hydrogen in the park, which provides a feasible implementation path to realize the greening of energy consumed by raw material and push forward the “deep carbon emission reduction”.

Shanghai Electric's Thermal Seawater Desalination Project for Sinopec Zhoushan



In April 2021, Shanghai Electric became one of the four suppliers shortlisted for the 2021 Global Water Awards with its thermal seawater desalination project for Sinopec Zhoushan with a daily capacity of 300,000 tons of multiple-effect distillation (MED). With Phase One finished in 2020, the 8 sets of thermal seawater desalination systems — the Phase Two of the project —, with a total capacity of 200,000 tons/day, were installed and commissioned completely in December 2021. The Phase Two was the largest thermal desalination project in China undertaken by Shanghai Electric after the Phase One of 105,000 tons. As at the end of 2021, the total scale of thermal seawater desalination built and put into production by Shanghai Electric for Sinopec Zhoushan reached 305,000 tons/day, making the project be the largest thermal seawater desalination system in China at present.

Waste Incineration Power Generation Project in Dandong



In June 2021, Shanghai Electric's Waste Incineration Power Generation Project in Dandong was designed to process 1,500 tons per day in total, and 2x500 tons per day for Phase I. It is Shanghai Electric's first environmental protection project in the northeastern China and an important move for Shanghai Electric Environmental Protection Group whose market strategy is based on pilot demonstrations. The project will also help to ease Dandong's problem of being surrounded by wastes and to establish a lasting environmental protection mechanism.

Regenerative Braking Energy Feedback Device for Rail Transit

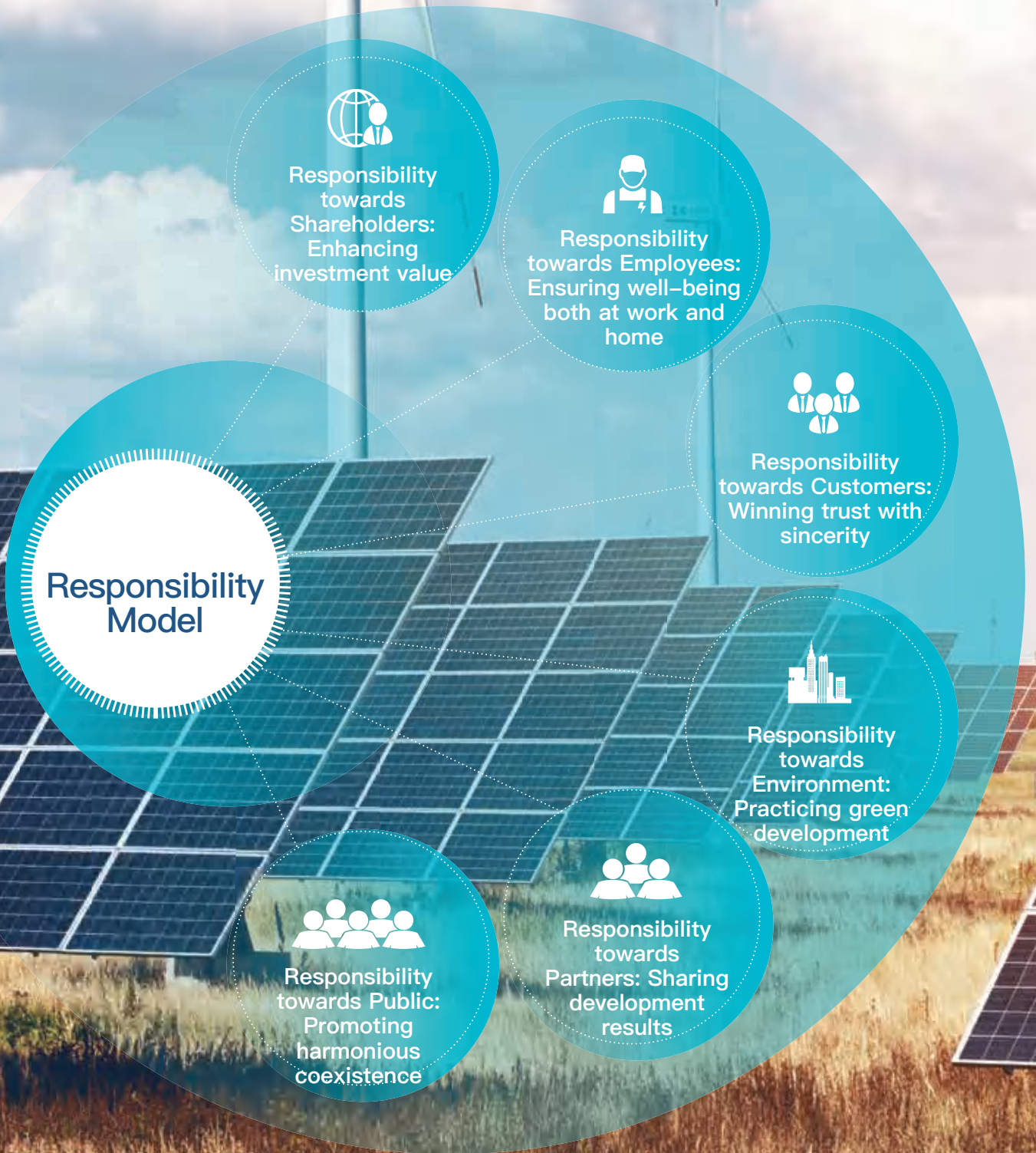


In December 2021, the regenerative braking energy feedback device for rail transit based on super-capacitor energy storage, independently developed and designed by the Technology Center of Shanghai Electric Power Transmission & Distribution Group, passed the national standard type approval testing smoothly and received the CNAS certificate from China Academy of Railway Science. The testing results show that its indicators outperform relevant national standard and industry standard.

The device makes use of the energy storage characteristics of super capacitor, a new physical energy storage element, to store the electricity energy regenerated from the braking of the metro train in the super capacitor and release it when the train moves under traction, so that the regenerative energy can be fully utilized. The research and development of the device considers the operational characteristics of rail transit, such as short distance between urban rail transit stations, frequent start-up, braking and energy interactions, and high power level, makes full use of the advantages of super capacitor, such as fast charging and discharging, high power density, long cycle life, strong grid friendliness and high safety, greatly improves the service life of the super capacitor by adopting interleaved parallel control technology, and features modular design to facilitate production, assembly, capacity expansion and maintenance, and also improve the reliability of the device.



2021 Highlights



Environmental Performance Indicators

ENVIRONMENTAL PERFORMANCE INDICATORS	2019	2020	2021
Total investment in environmental protection (RMB'0000)	10,950	12,650.54	12,162.85
Greenhouse gas emission density (tons of CO ₂ equivalent / RMB '00000000 operating revenue)	271.53	278.50	221.96
Hazardous waste (tons/ RMB'00000000 operating revenue)	2.8	2.5	2.5
Water consumption density (tons/ RMB'0000 operating revenue)	0.6067	0.5131	0.5401

Social Performance Indicators

SOCIAL PERFORMANCE INDICATORS	2019	2020	2021
Total number of employees	33,720	39,312	39,015
Employment contract execution rate	100%	100%	100%
Social insurance coverage rate	100%	100%	100%
The trade union membership rate	100%	100%	100%
Proportion of female management personnel	24.3%	25.7%	34.55%
Employees' medical examination coverage rate	100%	100%	100%
Total investment in employee training (RMB '0000)	7,500	8,770	10,150
Employee training coverage rate	99.9%	100%	98.1%
Training time per capita (days)	3.5	3.6	3.2
Employee turnover rate	2.1%	2.2%	3.9%
The number of working days lost due to work-related injuries	1,814	2,730	6,265
New cases of occupational disease	0	0	0
Charitable donations (RMB '0000)	1,177	922	1,279

About Shanghai Electric

Shanghai Electric,
Creates a bright future with
creators

About Us

Historical development

The history of Shanghai Electric can be traced back to at least 1902, and its long historical accumulation and baptism of trials and hardships have given it an extraordinary composure and richness. In March 2004, Shanghai Electric Holding Group Co., Ltd. (former name: Shanghai Electric (Group) Corporation) implemented the shareholding reform through introduction of diversified investors and thus Shanghai Electric was incorporated. After that, we first listed H shares in Hong Kong in April 2005 and renamed as Shanghai Electric Group Company Limited; then in December 2008, we successfully entered the A share market and became an A+H listed company. Standing at a new starting point, Shanghai Electric is moving forward without any burdens, forging ahead and riding on the sails of a new round of development, and a new era of leadership has begun.

Mission

Empower global industry, Make life smarter

Based on high-end equipment industry, we focus on smart energy, intelligent manufacturing and smart infrastructure to promote the high-quality development of Chinese and global industries with technological empowerment.

- We provide not only leading high-end equipment, technologies and services, but also green, low-carbon and smart solutions that meet diverse needs, in order to make life smarter.

Vision

To become a world-class equipment group leading the industrial development

- To be a maker of important instruments of the state: We focus on high-end equipment as our main responsibilities and main business, undertake the important task of national industry development and concentrate efforts on high-quality development.
- To be a leader of technological innovation: We lead the trend of industrial innovation with science and technology to achieve industrial intelligence and service industrialization.
- To be a practitioner of green and low-carbon development: We firmly implement the dual-carbon goals and promote green and low-carbon development across the industry.
- To be a creator of smarter life: We create green and sustainable value for a better life of humankind with smart solutions.

Core Values

Strive for excellence, seek value innovation, pursue win-win cooperation and put customer success first

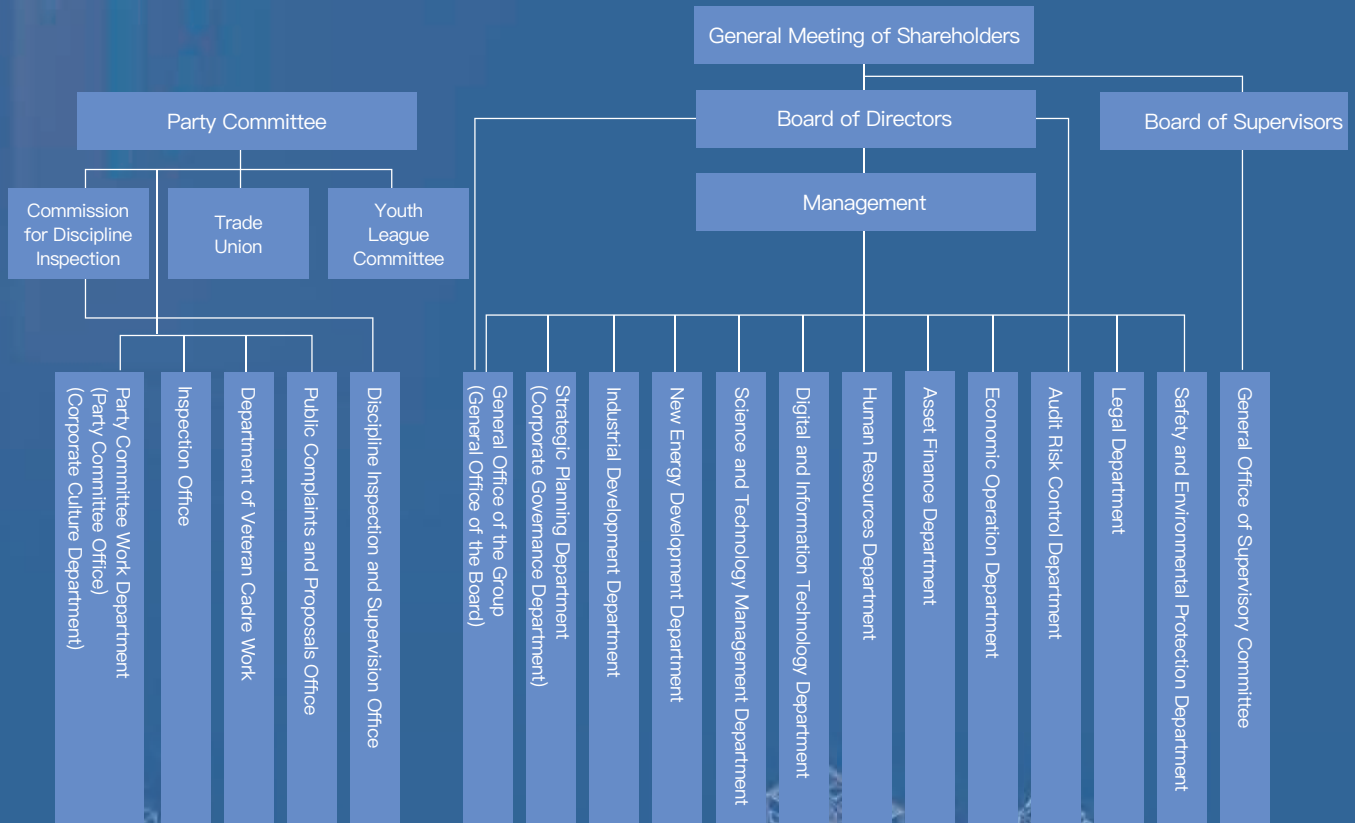
- Strive for excellence: We promote engineering culture and craftsmen's spirit, and advocate dedication, down-to-earth attitude, rigorousness and constant improvement.
- Seek value innovation: We encourage valuable innovation and advocate the use of technology and innovation to empower high-quality, green and sustainable development.
- Pursue win-win cooperation: We maintain an open mind, advocate collaborative development and win-win cooperation with all stakeholders, and attach great importance to the continuous improvement of employees' happiness.
- Put customer success first: We keep customer-oriented, and encourage to gain insight into customer needs, solve customer problems, and achieve customer value.

Spiritual Spectrum

We have given play to the spirit of innovation, spirit of perfection, spirit of shouldering, spirit of undertaking, spirit of ant and spirit of Li Bin. Generation after generation, the spirits of Shanghai Electric have been passed down, leading the people of Shanghai Electric to write glorious chapters and open up new dimension.

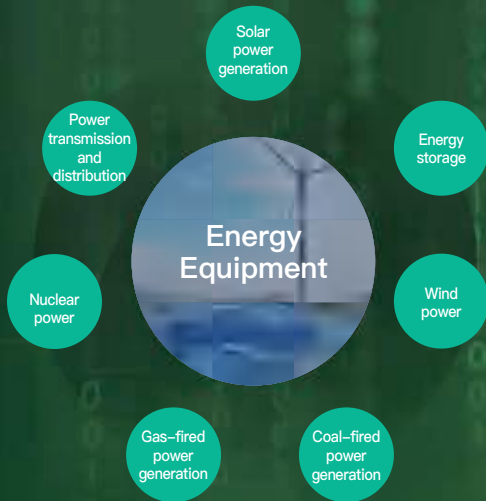
Organizational Structure

Shanghai Electric has established a functional framework with clear division of labor and full coordination and management relationships with the Group's industrial line, branches and subsidiaries, and practiced the responsibility of state-owned enterprises from the aspects of operation compliance, transparency and guidance. On the basis of maintaining stability, our functional framework has been steadily optimized with the needs of industrial transformation and intelligent development of the Group.



Business Highlights in 2021

Shanghai Electric is a large integrated high-end equipment manufacturing conglomerate, and mainly operates three business segments, namely energy equipment, industrial equipment and integration services. Focusing on three industrial orientations, namely smart energy, intelligent manufacturing and smart infrastructure, Shanghai Electric is committed to providing global customers with industry-level green intelligent system solutions. The long-term system operation and collaborative development have forged the capability of Shanghai Electric in multi-segment coordinated development, manufacturing and operation. The various businesses have the advantages of strategic linkage, technological linkage, market linkage, manufacturing linkage, supply chain linkage and talent linkage. According to different application scenarios, combined with the advantages of Shanghai Electric, the Group has formed a number of customer-oriented system integration solutions to provide customers with comprehensive and integrated products and services.



For energy equipment segment, Shanghai Electric has prospectively explored multiple new energy segments and has formed a clear industrial layout of new energy + energy storage. For new energy segments, Shanghai Electric has accumulated technology and equipment manufacturing capabilities, comprehensive energy integration and engineering capabilities, with focus on offshore wind power to promote high-quality transformation and development. For the energy storage segment, Shanghai Electric has innovated a comprehensive expansion path from the consumer side, power generation side to the grid side, and continuously created diversified business models and explored the technological evolution direction through the development of domestic and international energy storage markets and the construction of demonstration projects.

For industrial equipment, Shanghai Electric focused on intelligent manufacturing, developed automation equipment, provided automation equipment and system solutions towards three industrial orientations, namely smart energy, intelligent manufacturing and smart infrastructure; at the same time, by creating the "SEunicloud" industrial Internet platform for the high-end equipment industry, we promoted the transformation of high-end equipment enterprises from manufacturing

to manufacturing services, and helped them enhance the competitiveness in the high-end equipment industry.

For integration services, Shanghai Electric is seeking a positive transformation, in which product servitization and service productization is one of the main ideas of the Group's transformation. Shanghai Electric combined integration services with energy services, gradually formed an integration service model from resources to equipment and then to market development under the new power system, through the implementation of "big service" with full caliber, full industrial chain and full life cycle, and adopted technology integration, service intellectualization, sales platformization, market internationalization and operation and maintenance industrialization to boost the upgrading of energy service industry, so as to realize industrial transformation.

Shanghai Electric is actively seeking transformation in the three major fields, striving for business intellectualization and energy conservation. Through the coordinated development of multiple segments, Shanghai Electric gave full play to its advantages to fulfill its corporate mission of "empowering global industry, making life smarter".



2021 Top Ten News

01

Chinese Premier Li Keqiang Congratulated on Croatian Wind Power Project Engaged in by Shanghai Electric

Shanghai Electric's first wind power project in Europe, the Senj project in Croatia, was connected to grid on November 12, 2021. Chinese Premier Li Keqiang sent a congratulation letter on the successful grid connection. The project has a total installed capacity of 156MW, and uses a total of 39 Shanghai Electric 4MW wind turbines. Shanghai Electric is the provider of onshore wind turbines for this project, so that its wind turbines stand fast and tall on the continent, showing Shanghai Electric's muscles as a stronger competitor on the international market. After officially put into operation, the Senj project is estimated to operate 3,400 hours and generate 530 million kWh averagely every year. reduce carbon dioxide emissions by about 460,000 tons, and provide a powerful boost for Croatia to promote energy transformation and develop a green economy.





02 Shanghai Electric Science and Technology Month Kicked off

On November 22, 2021, the 2021 Shanghai Electric Science and Technology Month & Summit for Innovation and Zero Carbon Driven Development with the theme of “Intelligent Manufacturing Upgrade, Innovation Empowerment” was held in the Shanghai Science Hall. Focusing on the two themes of “low-carbon development” and “integration of digital technology and manufacturing”, this year’s Science and Technology Month carried out a series of activities including an opening ceremony, two summit forums and five thematic activities. Under the guidance of innovation-driven high-quality development strategy, the Science and Technology Month aims to build an open platform for China and the world.

03

Industrial Intelligence and Digital Transformation

On July 9, 2021, the Industrial Intelligence Summit of 2021 World Artificial Intelligence Conference was held at Shanghai. Yang Hong, Vice President of Shanghai Electric, attended the event at the invitation of the conference, and discussed the significance of industrial intelligence and digital transformation with other guests. The summit, themed “Digital Intelligence, Industrial Empowerment”, focused on the role of industrial intelligence in the digital transformation of the economy, stimulated the overall digital transformation and revolutionary reshaping of cities in China, and encouraged the empowerment of AI in the industrial sector. Before the opening of the summit, Yang Hong, on behalf of Shanghai Electric, pressed the start button for the joint construction of “the Planet of Industrial Empowerment – Industrial Digital Empowerment System 1.0” together with other guests present. On August 31, 2021, Shanghai Electric Automation Group and Putuo District officially signed the “Strategic Cooperation

Agreement on Jointly Promoting the Digital City Transformation” to accelerate digital transformation in line with Shanghai’s strategy of building an “international digital capital”. On August 14, 2021, the 2021 SASACS SOE Digital Transformation and Innovation Competition “Digital and Intelligent Manufacturing” Sub-competition hosted by Shanghai Electric ended, and a total of six projects of Shanghai Electric took the top ten places in the sub-competition.



04

No. 1 in Asia! Shanghai Electric’s 11mw Directly-driven Offshore Wind Turbine Rolled Off Production Line

On September 28, 2021, Shanghai Electric Wind Power Group hosted the Zero Carbon Era Offshore Wind Power Forum and Petrel Platform Release Ceremony in Shantou, Guangdong Province and released its latest model Petrel platform SEW11.0-208. The turbine adopts the concept of life cycle in digital design, production and maintenance management, and reduces operational load and enhances operation stability thanks to the application of Shanghai Electric’s latest version of the LeapX control system. The turbine was by far the largest directly-driven offshore wind turbine in Asia, whose intellectual property is solely owned by Shanghai Electric, and marked a new breakthrough in China’s independent innovation for offshore wind power and the start of the 10MW+ era. As the leader of offshore wind power in China, Shanghai Electric will do its best to help achieve the “dual carbon” goals. The launch of the Petrel platform is a milestone, and the Group will continue to develop and provide more and better products and integrated solutions under the guidance of the “dual carbon” goals.

05

Responding to Green Strategy, Empowering a Zero-carbon Future

On October 18–19, 2021, the 2nd Belt and Road Energy Ministerial Conference was held in Qingdao, Shandong Province with the theme of “Join Hands towards a Greener and More Inclusive Energy Future”. As a representative of the industry, Shanghai Electric delivered a keynote speech entitled “Responding to Green Strategy, Empowering a Zero-carbon Future” and put forward a proposal. In addition, Shanghai Electric shared with the guests and representatives of the “Belt and Road” energy ministers the specific actions taken in the wind power industry in response to the national goal of “carbon neutrality”, summarized the achievements of China’s wind power industry in recent years, the strategic presence of Shanghai Electric Wind Power Group in the world and the typical cases created under the national strategy of “carbon neutrality”. In December 2021, the State Ministry of Industry and Information Technology announced the list of “Green Manufacturing” for 2021, and Shanghai Electric Wind Power Equipment Dongtai Co., Ltd. and Shanghai Electric Wind Power Equipment Putian Co., Ltd. were selected as a national-level “Green Factory” of the year 2021 respectively.

- ◆ Shanghai Electric Wind Power Group Co., Ltd. delivered the speech themed “Responding to Green Strategy, Empowering a Zero-carbon Future”



06

Industrial Internet, a link to connect with new infrastructure fields

On May 17, 2021, the 2021 List of Top 100 Industrial Internet Pioneers, with the theme of “Accelerating the Digital Transformation of Manufacturing Industry”, was officially announced, and Shanghai Electric’s SEunicloud Industrial Internet Platform ranked 23rd. In June 2021, the Internet Weekly, supervised by the Chinese Academy of Sciences, released the 2021 List of Top 50 Industrial Internet Solution Providers”, and Shanghai Electric ranked 14th on the list for the previous excellent performance of its industrial Internet platform “SEunicloud”. On December 22, 2021, Shanghai Electric released SEunicloud 3.0 at the summit forum. Being user centric, SEunicloud 3.0 improves the platform service capability, digs deeper into the digital transformation development needs of the industry, helps enterprises construct an industrial Internet platform with all elements interconnected each other and meet their requirements for business digitization, integrates upstream and downstream resources within the supply chain and the industry chain, and lead the industry to achieve digital transformation model innovation and collaborative development.

07

R&D Investment Rate Increased and China’s new power system saw significant breakthroughs

In 2021, Shanghai Electric ensured a R&D investment rate of over 3.4%, and increased proportion of investment in pre-research and critical R&D, and R&D investment in core equipment, and drove the fast increase of the Group’s investment in major products and forward-looking technologies. In 2021, the Group won a second prize in the National Science and Technology Awards, two first prizes, four second prizes and two third prizes in the Shanghai Science and Technology Awards. On December 22, the demonstration project of the world’s first 35 kilovolt superconducting power cable (1.2 kilometers), which was built with the participation of Shanghai Electric, was put into operation in Shanghai. It effectively solves the problem of large capacity power transmission through a narrow channel, provides a new solution to the “bottleneck” problem of power supply in high-load-density areas, and marks a major breakthrough in core technologies of China’s construction of a new power system.



08

“Shanghai Electric Day” at the China Pavilion, Expo 2020 Dubai

On December 1, 2021, the “Shanghai Electric Day” event with the theme of “Low-Carbon Development for a Smart Future” was held at the China Pavilion of the Expo 2020 Dubai. The guests visited the Shanghai Electric exhibition area in the China Pavilion at the Dubai Expo to gain a comprehensive understanding of the technical strength and development achievements of Shanghai Electric in new energy, integrated energy, environmental protection, intelligent infrastructure and industrial automation. They also visited the construction site of Shanghai Electric’s Concentrated Solar Power project in Dubai to learn more about the progress and innovative achievements of the project. Through the five dimensions of Innovation, Coordination, Green, Open and Share, the event fully reflected the contribution of Shanghai Electric to the “Belt and Road” initiative and the Carbon Peaking and Carbon Neutrality goals, and let the world know more about the Group.



09

Shanghai Electric Saw Brand Value Leading the Machinery Category in China

On June 22, 2021, the 18th World Brand Summit organized by the World Brand Lab took place in Beijing. At the summit, the ranking of China’s 500 Most Valuable Brands 2021 was released. Shanghai Electric placed among the top 50 in this annual list, with a brand value of RMB 145.165 billion, up by 37.4% year on year, continuing to lead the machinery category in China. From the start of the 14th Five-Year Plan, Shanghai Electric has restructured its brand strategy, defining “synergy” as its brand core and incorporating intelligent manufacturing and industrial digitalization. It seeks to drive the development of a one-of-a-kind industrial ecosystem and deliver optimal solutions in the sectors of smart energy, intelligent manufacturing, and smart cities.



10

Li Bin Showroom Opened after Renovation

In order to further explore the rich connotation of the Spirit of Li Bin in today, and show the spirit of Shanghai electric industry workers in the new era represented by Comrade Li Bin, we renovated the Li Bin Showroom. On April 20, 2021, the newly upgraded and renovated Li Bin Showroom of Shanghai Electric officially opened to the public. The renovated showroom adds historical materials and pictures on many firsts in the New China created by Shanghai Electric in the 1950s and 1960s, which not only demonstrates a strong sense of historical deposits, but also completes the inheritance path of the Spirit of Li Bin, and thoroughly shows the group image of Shanghai Electric’s model workers and craftsmen represented by Comrade Li Bin.



Honors and Awards

National Science and Technology Awards

NO.	NAME OF PROJECT AWARDED	NAME OF ENTITY AWARDED	GRADE AWARDED
1	Wide-area Collaborative High-end Large-scale Programmable Automation System and Its Application	Shanghai Electric Group Company Limited	2 nd Prize for Science and Technology Progress

China Machinery Industry Quality Awards

NO.	NAME OF ENTITY AWARDED	GRADE AWARDED
1	Shanghai Electric Turbine Plant	1 st Prize for Excellent Quality Management Group Activity Results
2	Shanghai Electric Power Generation Auxiliary Equipment Plant	2 nd Prize for Excellent Quality Management Group Activity Results
3	Shanghai Electric Machinery	Outstanding Organization Award for Quality Management Activities
4	Shanghai Electric Machinery	Benchmark Group of Quality Management Activities
5	Shanghai Electric Machinery	1 st Prize for Quality Management Activity Group Results
6	Shanghai Electric Machinery	2 nd Prize for Quality Management Activity Group Results
7	Shanghai Electric Machinery	2 nd Prize for Quality Management Activity Group Results
8	Shanghai Electric Wind Power Group	Outstanding Organization for Mass Quality Management Activities
9	Shanghai Electric Wind Power Group	2 nd Prize for Excellent Quality Management Group Activity Results
10	Shanghai Electric Wind Power Group	2 nd Prize for Excellent Quality Management Group Activity Results
11	Shanghai Electric Turbine Plant	1 st Prize for "Brand Story"

China Association for Quality Awards

NO.	NAME OF ENTITY AWARDED	GRADE AWARDED
1	Shanghai Electric Wind Power Group	National Excellent Quality Management Group
2	Shanghai Mitsubishi Elevator	Professional Achievement Award for Field Management Improvement Project
3	Shanghai Mitsubishi Elevator	Quality Trustworthy Group Improvement Achievement Award

Green Production

NO.	WINNER/PROJECT NAME	NAME OF ENTITY AWARDED	GRADE AWARDED
1	/	Shanghai Electric Wind Power Equipment Dongtai Co., Ltd.	Green Factory from the Ministry of Industry and Information Technology of China
2	/	Shanghai Electric Wind Power Equipment Putian Co., Ltd.	Green Factory from the Ministry of Industry and Information Technology of China
3	YX2-KK Series Three-phase Asynchronous Motors	Shanghai Electric Machinery	Green Design Product from the Ministry of Industry and Information Technology of China
4	YE4 Series (IP55) Series Three-phase Asynchronous Motors		

Shanghai Science and Technology Awards

NO.	NAME OF PROJECT AWARDED	NAME OF ENTITY AWARDED	GRADE AWARDED
1	Automotive pneumatic-acoustic wind tunnel development and application	Shanghai Blower Works Co., Ltd.	1 st Prize for Science and Technology Progress
2	Independent research and development of the world's first 200MW high-temperature gas-cooled nuclear reactor pressure vessel	Shanghai Electric Nuclear Power Equipment Co., Ltd.	2 nd Prize for Science and Technology Progress
3	Key technologies and applications for thermal fabrication of large vessel components for non-energy nuclear power equipment	Shanghai Electric Shangzhong Casting Forging Co., Ltd. Shanghai Electric Nuclear Power Equipment Co., Ltd.	2 nd Prize for Science and Technology Progress
4	Superhard nanocomposite coatings and key technologies and their industrial applications on machining tools	Shanghai Tool Works Co., Ltd.	2 nd Prize for Science and Technology Progress
5	Internal components development of China's first European advanced pressurized water reactor (EPR)	Shanghai First Machine Tool Works Co., Ltd.	2 nd Prize for Science and Technology Progress
6	Key manufacturing technology and engineering applications of ultra-large spliced marine crankshaft	Shanghai Electric Shangzhong Casting Forging Co., Ltd.	3 rd Prize for Science and Technology Progress
7	Integrated key technologies and applications of Multi-megawatt battery energy storage high-efficiency converter and wind-solar energy storage	Shanghai Electric Distributed Energy Technology Co., Ltd.	1 st Prize for Technological Invention
8	Research and application of key technologies for efficiency enhancement of rural wastewater treatment system based on smart supervision	Shanghai Donghao Lansheng Smart Technology Co., Ltd.	2 nd Prize for Technological Invention

Shanghai Youth Organization Awards

NO.	NAME OF PROJECT AWARDED	NAME OF ENTITY AWARDED	GRADE AWARDED
1	Liu Chuan	Shanghai Electric Power Plant Engineering Company Dubai 950MW Solar-thermal Project	Construction Contributor in 2020 Shanghai Key Project Merit Competition
2	Chen Guodong	Technological Center, Power Transmission and Distribution Branch, Shanghai Electric Group Company Limited	2020 Shanghai Young Top Talent Program
3	New Energy Mulei Project Youth Team	Shanghai Electric Environmental Protection Group	2020 Shanghai Youth May 4th Medal (Collective)
4	Youth Team of Operation Office of Manufacturing Department	Shanghai Electric Nuclear Power Equipment Co., Ltd.	2020 Youth Civilization Unit of Shanghai Municipal State-owned Assets Supervision and Administration Commission
5	Youth Team of Energy Storage Liquid Flow Battery	Central Academe	
6	Marketing Center East China Youth Team	Shanghai Electric Machinery	
7	Assembly & Welding Joint Commando of First Pump Case Safety End at Zhangzhou Main Pump	SEC-KSB Nuclear Pumps & Valves Co., Ltd.	
8	Baoshan MSR Waste-to-energy "Magic Blue" Youth Commando	Shanghai Electric Turbine Plant	2020 Youth Commando of Shanghai Municipal State-owned Assets Supervision and Administration Commission
9	3D Blade Commando	Shanghai Techgine Laser Technology Co., Ltd.	
10	Technology Center Youth Commando for Promotion of Standardization, Institutionalization, and Process	Shanghai Electric Machinery	
11	Youth Commando of 660MW Fuel Lignite with Fan and Mill Tower Type Thermal Boiler Design	Shanghai Boiler Works, Ltd.	
12	Ye Zhen	Central Academe, Surgical Robotics Product Room	2019-2020 Young "Craftsmanship" Talent of Shanghai Municipal State- owned Assets Supervision and Administration Commission (Technical Category)
13	Wang Yong	Shanghai Electric Digital Technology	2019-2020 Young "Craftsmanship" Talent of Shanghai Municipal State-owned Assets Supervision and Administration Commission (Management Category)
14	Shanghai Electric Environmental Protection Group CCYL committee	Shanghai Electric Environmental Protection Group	2020 Typical Representative Selection in Shanghai Grass-roots League Organizations (Youth League Committee)
15	General Party Branch of Design Consortium	Shanghai Electric Turbine Plant	2020 Typical Representative Selection in Shanghai Grass-roots League Organizations (General Youth League Branch)

01

Keeping the Righteousness and Integrity, Strengthening the Development Foundation

Shanghai Electric deeply understands that good corporate governance is the cornerstone and guarantee of enterprise development.

We take strengthening our internal compliance management, consolidating and further improving the level of corporate governance, and improving the integrity and diversification of corporate governance framework as the basic principles, and enhance the competitiveness of the enterprise, maintain a smooth communication channel and protect the rights and interests of investors.

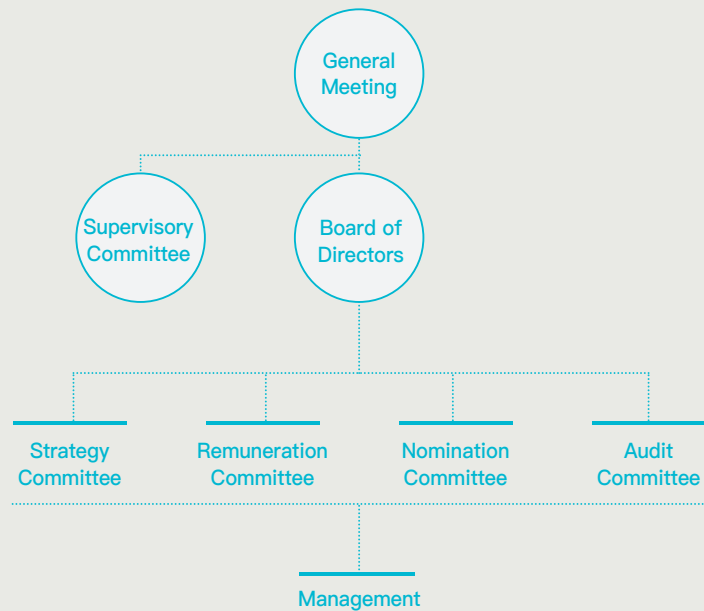
Compliant Operation, Integrity and Self-discipline

We operate in compliance with legal and regulatory requirements, strengthen internal compliance management and continuously improve the corporate governance sustainability.

Corporate Governance

Shanghai Electric strictly implemented the laws and regulations on corporate governance of listed companies, such as the Company Law, Securities Law, and Guidelines on Corporate Governance for Listed Companies, improved and built the corporate governance framework composed of the general meeting, the board of directors, the supervisory committee and the management, and set up the strategy committee, remuneration committee, nomination committee, audit committee and other governance bodies under the board of directors, so as to ensure the compliance and transparency of the Company's operation.

Shanghai Electric's Corporate Governance Framework



The supervisory committee, as the supervision body of the Company, is responsible for overseeing the Company's operations, financial status and the performance of directors and senior management personnel, and making recommendations. As of the end of 2021, the supervisory committee of Shanghai Electric had three supervisors and assumed due responsibilities through division of labor and cooperation. For more detailed information on the board of directors and supervisory committee of the Company, please refer to the 2021 annual report of Shanghai Electric.

Board of Directors of Shanghai Electric

*3 of them are female



As of the end of 2021, there were 10 senior management personnel in the management team of Shanghai Electric headquarters, and female senior management personnel accounts for 30%.

In 2021, Shanghai Electric held 4 general meetings, including one annual general meeting and three extraordinary meetings, which considered and approved 15 proposals in total; held 16 meetings of Board, 9 audit committee meetings, 2 remuneration committee meetings, and 3 nomination committee meetings.

In order to optimize the procedures for convening general meetings, in 2021, Shanghai Electric completed the amendment to relevant provisions of the Articles of Association in accordance with the requirements in the "Official Reply of the State Council regarding Adjusting the Application of Provisions to Matters Including the Notice Period for Convention of Shareholders' Meetings by Overseas Listed Companies"; and completed the formulation and issuance of systems such as "Performance Management System for Directors and Supervisors Dispatched" and "Registration and Management System for Insiders Who Have Access to Insider Information".

We regularly collected compliance questionnaires from the compliance focal points of each industrial group and key enterprises and established a smoother communication channel for compliance information covering the entire company.

In response to significant risk events that occurred during the reporting period, we took active steps and closely monitored related litigation and investigations.

In the coming years, we will constantly optimize and continue advancing the securities market compliance work, strengthening the study of relevant laws and regulations, sorting out and standardizing the approval process of periodic reports and temporary announcements, and continue optimizing the organization and preparation of the "two meetings" and the meetings of special committees under the Board. We will also continue making use of information technology to strengthen the contact mechanism with various functional departments and corporate compliance focal points, enhancing training and dissemination, strengthening the implementation of responsibilities, and improving the compliance management level. In response to the negative compliance incidents, we will keep close contact with the relevant departments and professional intermediaries.



Supervision and Accountability

Shanghai Electric has implemented the Group's strategic deployment and fulfilled its audit and supervision duties to ensure the sustainable and healthy development of the Group.

In 2021, Shanghai Electric further improved internal supervision and actively carried out relevant work in line with its internal plan and the audit instructions from Shanghai Municipal State-owned Assets Supervision and Administration Commission.



Improving mechanism

In 2021, while keeping the integrated management model, the Group further optimized the internal audit mechanism by strengthening the development of organizational functions, management mechanism, audit capability and audit quality, so as to maximize the value of audit and provide better services for the Group's transformation and development.

Strengthening the development of organizational functions

- ◆ **Improved audit leadership mechanism:** We implemented the mechanism of reporting the audit work to the Party committee, board of directors, audit committee, supervisory committee and the management, and reporting key audit results regarding economic responsibilities to the Party committee.

Strengthening the development of management mechanism

- ◆ **Comprehensively promoted the audit rotation system:** The audit teams regularly rotated the audit of industrial segments, and the auditors regularly rotated the audit teams to carry out substantial review on internal audit.
- ◆ **Improved the supervision and coordination mechanism:** We explored the establishment of a communication mechanism with departments for risk control, finance, economical operation, regular inspection and discipline inspection to strengthen linkage and promote management consensus.
- ◆ **Strengthened the intermediary agency management:** We continued to implement the management for audit project information recording, the annual quality evaluation for intermediary agencies, with full coverage in the assessment and accountability against intermediary agencies.

Strengthening the development of audit capability

- ◆ **Established the continuing education system:** We carried out training on "Investment Merger & Acquisition and Due Diligence", Internal Control Manual and newly released systems to expand auditors' horizon and enable them to quickly and deeply understand the latest systems and business segments of the Group and improve their professional ability.
- ◆ **Established the knowledge sharing mechanism:** We shared the latest laws and regulations and interpretation of accounting policies through different learning channels, such as WeChat Group, Group E-Academy, and Quarterly Internal Magazine on Audit Knowledge to intensify the professional guidance for internal auditors.

Strengthening the development of audit quality

- ◆ **Improved enterprise risk assessment:** In 2021, the Group optimized the enterprise risk evaluation model and indicators, and increased the risk evaluation frequency (4 times), to provide directional guidance for the arrangement of audit plan, the formulation of audit schemes and the accurate implementation of audit projects, and improved the quality of problem discovery and risk disclosure.
- ◆ **Improved the audit problem tracking system:** We refined the process in relation to audit problems to the extent of specific secondary process, and the granularity of data analysis, so as to have a more accurate and timely knowledge of the weak links of the Company.

On the basis of centralized management of internal audit, the Group improved the work reporting mechanism to ensure that information is transmitted to the intended receivers, and incorporated the leadership mechanism of the Party over state-owned enterprises into the audit work in line with the requirements of Shanghai Municipal State-owned Assets Supervision and Administration Commission, and reported to the Party Committee of the Group the important audit issues such as the summary of the 2020 audit work and the 2021 audit plan. We also established a joint supervision meeting system where the quarterly audit work is reported to the Supervisory Committee of the Group on a quarterly basis.



Strengthening supervision

The Group constantly strengthened its supervisory functions and established risk-based corporate evaluation standards. The Group carried out internal and external audits for its subsidiaries within the scope of consolidated statements, completed internal control evaluations, economic responsibility audits, special audits and infrastructure reviews, which have played an active role in strengthening management and preventing risks, laid a good foundation for promoting integrity and provided professional support for management in making decisions.

We evaluated the effectiveness of internal control of subsidiaries. The self audit rate rate was

100%

Continuous internal control self-evaluation

- ◆ The Group formulated the 2021 internal control evaluation and audit plan which generally covers the domestic enterprises within the scope of the consolidated statements, and included some overseas enterprises in the audit business scope in line with the requirements of the Shanghai Municipal State-owned Assets Supervision and Administration Commission and the Group to strengthen supervision over overseas assets and promote the safe development of overseas business.
- ◆ The business process focused on high-risk areas such as equity investment, mergers and acquisitions, EPC projects and integrated investment and construction projects. We fully disclosed the defects and risks in key control links, put forward rectification suggestions, and supervised the timely and effective implementation of rectifications.
- ◆ We actively cooperated with internal control audits by third parties, dynamically tracked, coordinated and communicated on audit progress, attached great importance to the evaluation results of internal control audits, and supervised the implementation of rectification.

The self audit rate rate was

100%

Continuing to carry out economic responsibility audits

- ◆ We continued to audit the economic responsibility of the management, objectively evaluated the responsibilities of business operators in performing their duties, and submitted the results of economic responsibility audit to Party organization for deliberation.
- ◆ We focused on evaluation on business efficiency and management, with audit effect further improved to ensure the pertinence and effectiveness of audit supervision.

Carrying out special audits in a timely manner

- ◆ We flexibly promoted the implementation of special audits. On the basis of 3-year full-coverage audits, we continued to carry out unannounced inspection in a flexible manner, directionally revealed and assessed the Group's potential problems and risks, and put forward improvement advice to prevent risks.
- ◆ We advanced investment project post-evaluation in an orderly manner. We implemented the Measures for Supervision and Administration of Investments by Enterprises That Are under the Supervision of Shanghai Municipal State-owned Assets Supervision and Administration Commission, and fully promoted the implementation of the Group's Investment Project Post-Evaluation Management System (2020 version) on the principle that department making investment is responsible to organize post-evaluation with the hierarchical management approach.



Rectification and accountability

In 2021, in order to implement the rectifications in terms of procurement, capital, cost and inventory, the Group improved the rectification tracking mechanism and steadily improved the accountability management. We advanced the accountability-related work, accepted accountability clues, established and managed clue ledger, organized the verification of clues as to non-compliant operation and investment and accepted complaints in accordance with the provisions of the Group's "Management of Accountability for Non-compliant Operation and Investment" so as to accountability clues for promoting the rectification.

Strengthening the implementation of rectification measures

- ◆ Ensured the establishment and implementation of rectification plans; properly used the Audit Deficiency Platform and List-based Management Approach; properly tracked the rectification progress of problems and deficiencies; reached the annual rectification target.
- ◆ Established rectification analysis mechanism, found common problems, and put forward suggestions for management improvement.

Stressing the closed loop on key issues

- ◆ Focused on problems and deficiencies, such as delayed and difficult rectifications; adopted the enterprise-specific policy and list-based management approach.
- ◆ Organized functional departments and enterprises under the joint meeting mechanism to study closed-loop measures and to jointly promote rectifications of problems that had not been solved for a long time.

Strengthening the linkage between rectification mechanisms

- ◆ Continued to promote the efficiency of joint management among audit department, enterprise audited, industrial groups, functional departments, and risk management department.
- ◆ Promoted the upgrading of the deficiency rectification platform, and used IT to establish a long-term efficient rectification mechanism

In addition, Shanghai Electric cooperated in external audits and followed up on external rectification projects. In 2021, the Group received or cooperated in several audit supervision by Shanghai Audit Bureau and Shanghai Municipal State-owned Assets Supervision and Administration Commission, kept abreast of the progress and ensure effective implementation of supervision and guidance opinions from superior authorities, and continued to follow up on rectification projects required by Shanghai Municipal State-owned Assets Supervision and Administration Commission and completed the rectification reporting as scheduled.

Clean Hands

The Group consistently adheres to the principle of honesty and integrity in business operation, adopts a zero-tolerance policy for any violations against business ethics and anti-corruption regulations, and strictly abides by the laws and regulations applicable to the enterprises in the places where it operates and the highest standards of business ethics. The Group formulated the Shanghai Electric Group's Implementation Opinions on Building a Mechanism That Can't Corrupt, Don't Dare Corrupt, and Don't Want to Corrupt, and Promoting the Construction of an Honest and Clean Management Team, which requires party members and cadres to respect for law and discipline, strictly protect the "red line" of discipline and the "bottom line" of law, always preserve the political character of integrity, uphold the principle that the Party should run itself with strict discipline, and forge ahead.

The Group formulated the Operational Procedures (Guidance) for Dual Responsibilities for One Leadership Position, which emphasizes addressing weak links in building a clean leading body, and links the task of "Dual Responsibilities for One Leadership Position" with the assessment, as an important basis for assessment, selection and appointment of cadres, and appraisal for advanced or excellent staff, so as to ensure the effective assumption of their responsibility for Party Conduct Improvement and Integrity Building. We also emphasized the involvement of the discipline committee of each directly affiliated enterprises in their operation and management, strengthening the control over enterprises outside Shanghai or China and newly joined (or established) enterprises, creating the integrity files for leaders and personnel in important positions of the enterprises, carrying out special inspection, the communication between discipline committees at all levels with the relevant functional departments, mutual cooperation and coordination in problem solution, so as to enhance the capability to prevent and control integrity risks.

Shanghai Electric has also continuously implemented the Measures for Prevention of Conflicts of Interest in Operation and Management Activities of State-owned Enterprises, and completed the "seven must-nots" registration for leading cadres of the Group Headquarters, and leaders and personnel in important positions of subsidiaries in 2021. The number of personnel registered was 7,042, and among them, 214 were cadres managed by the Group's Party Committee, 2,971 were cadres managed by the Party committees of the subsidiaries, and 3,857 were in important positions.

In order to detect corrupt practices in a timely manner and prevent the spread of corrupt practices, the Group has established various reporting channels, including telephone reporting and on-site reporting, to obtain clues from internal and external parties.

According to several opinions of the General Office of the Central Commission for Discipline Inspection of the Communist Party of China on standardizing discipline inspection and supervision and letters and visits in accordance with disciplines and laws, we identified responsibilities for dereliction and neglect of duty in which, for example, investigation and treatment of cases were impeded due to leaks of letters and visits, the accuser was retaliated against, or adverse effects and serious consequences resulted from delayed treatment of important letters and visits or emergency incidents, and dealt with them seriously in accordance with Party and political discipline.

In 2021, Shanghai Electric established business ethics of the Group's leading body, executives and employees and created an anti-corruption culture within the Group through thematic meetings on integrity building, dialogue on Party Conduct Improvement and Integrity Building, and Month of Party Conduct Improvement and Integrity Building.

During the reporting period, there were no corruption lawsuits within the Company.



Shanghai Electric's Thematic Meeting and Inspection Promotion Meeting on Party Conduct Improvement and Integrity Building

On December 29, 2021, the Group held a thematic meeting on the Party Conduct Improvement and Integrity Building and the inspection promotion meeting. The meeting targeted the members of the Group's leading body, senior management and heads of functional departments of the Headquarters. The meeting analyzed and concluded the problems in the Group's Party Conduct Improvement and Integrity Building in 2021 and made preparations for the Party Conduct Improvement and Integrity Building to be carried out in 2022. The meeting emphasized that the leading cadres of the Group at all levels must not forget their original mission, be strict with themselves, be unable to and not dare to commit corruption, keep a clear head and a clean political nature at all times, devote themselves to achieve high-quality development of the enterprises, and jointly create a healthy and clean ecology.

Expanded Meeting of Shanghai Electric's Leading Body

On August 20, 2021, the Party Committee of the Group organized an expanded meeting for members of the Group's leading body and senior management and executives. The meeting called for all staff of the Group to deeply grasp the spirit of the attack against the "four bad work styles" (formalism, bureaucracy, hedonism, and extravagance) and cultivation of new work styles in Shanghai and involve actively in the comprehensive and strict governance of the Party; the Party committees at all levels must strengthen the construction of work style of Party members and cadres, implement effectively the dialogue system for the Party Conduct Improvement and Integrity Building, and instruct Party members to discipline themselves strictly and abandon their greed.



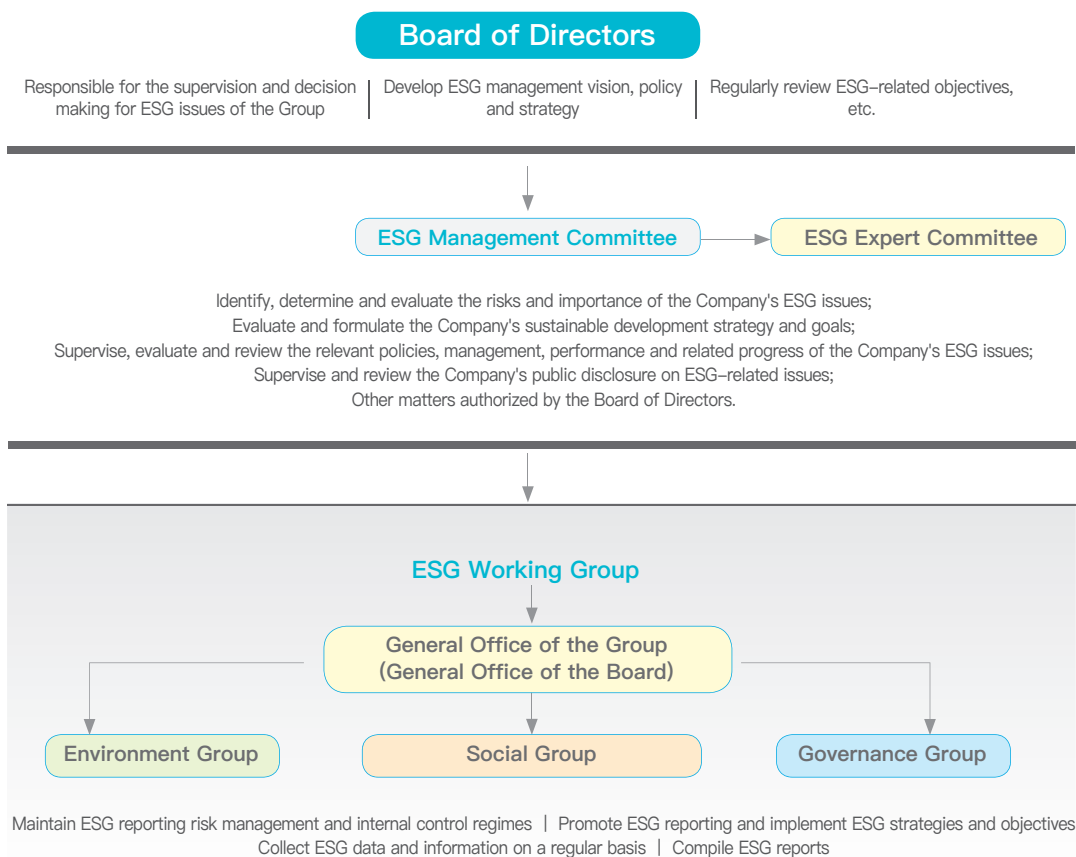
Shanghai Electric's Month of Party Conduct Improvement and Integrity Building

In May 2021, the Party School of the Group's Education Center organized a series of monthly Party integrity publicity activities with the theme of "maintain integrity and self-discipline and keep ringing the alarm bell" in line with the spirit of the relevant meetings of the Party Central Committee and the guiding thought of the Group's Party Committee and Discipline Inspection Committee. We conveyed the importance of cleanliness and honesty to all Party members and cadres through integrity publicity and education, signing commitment by Party members and the mass, annual meeting on strict governance of the Party, and the calligraphy competition with the theme of integrity.

Responsible Governance and Responding to Expectation

Establishing a sound ESG governance system and making joint efforts with stakeholders to advance sustainable development

Shanghai Electric consistently follows the concept of sustainable development, integrates the concept of sustainable development into its strategic development goals, and implements it throughout its daily business management and innovation activities. Shanghai Electric has established a special ESG governance structure, strengthened the top-level design of ESG governance, and further helped the Board of Directors and the management of the Company to coordinate and manage the Group's sustainable development. Our ESG governance structure is composed of the Board of Directors, the ESG Management Committee and the ESG Working Group from top to bottom. Among them, the ESG Management Committee governs the ESG Expert Committee. The ESG Working Group is composed of three sub-working groups which are composed of relevant functional departments and are responsible for contact and communication with relevant departments of the subsidiaries.



We have complied with the Environmental, Social and Governance Reporting Guide to fully implement the Group's ESG governance, and reviewed the establishment and implementation of ESG objectives and the effectiveness of ESG risk management and internal control systems. For details of the governance structure, please refer to the section "Responsible Governance for Sustainable Development" of this report. In addition, the Board of Directors has been involved in the evaluation, prioritization and management of ESG issues, as described in the sections "Communication with Stakeholders" and "Materiality Analysis".

This report, which discloses in detail the progress and effectiveness of the Group's ESG efforts in 2021, was considered and approved by the meeting of the Board of Directors on April 18, 2022.

Communication with Stakeholders

Following the conversion of its old momentum into a new one and the acceleration of its pace in innovation and transformation, Shanghai Electric's development of smartness entered into the emerging industry. Strengthening the Group's publicity in the capital market is an important step to enhance the competitiveness in the new race. Shanghai Electric attaches great importance to communication and exchange of views with stakeholders, disseminates its social responsibility values and practices through various channels, informs itself with the demands of stakeholders, and takes measures to make reasonable response. In addition, we also hope that this ESG report will provide a more complete response to the issues that stakeholders are concerned about.

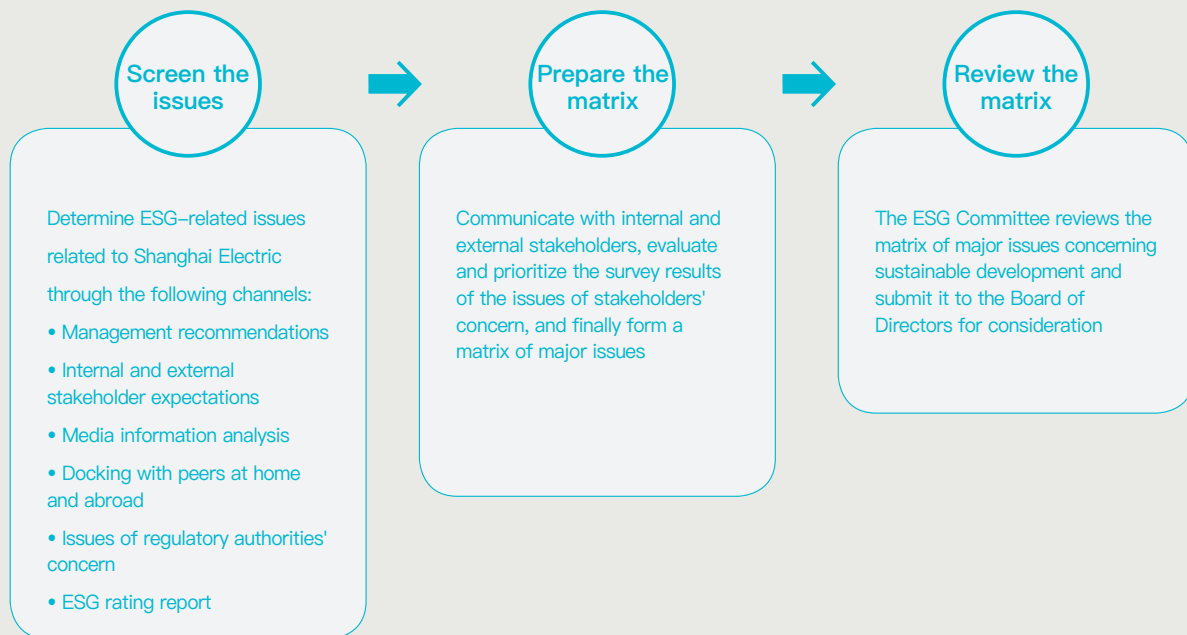
STAKEHOLDER GROUP	COMMUNICATION CHANNEL / FEEDBACK METHOD	KEY ISSUES OF CONCERN
Investors	– General meeting of shareholders	<ul style="list-style-type: none"> – Industry trends and policies – Governance structure – Technology and innovation – Product safety and health – Economic impact – Legal compliance
	– Performance briefing	
	– Roadshow activities	
	– Investor research activities	
	– Investor factory visit	
	– Investor summit	
	– Shanghai Stock Exchange(SSE) E-Interaction	
	– Investor hotline	
	– Company announcement	
	– WeChat public account	
	– Facebook homepage	
Employees	– Bimonthly Shanghai Electric News (《上海電氣報》)	<ul style="list-style-type: none"> – Occupational health and safety – Employee benefits and compensation – Sustainable development strategy – Employee rights and interests
	– Investor relations e-mail box of Shanghai Electric	
	– Employee training	
	– Employee activity	
Partners (including suppliers and contractors)	– Employee satisfaction survey	<ul style="list-style-type: none"> – Product safety and health – Energy use – Greenhouse gas emissions and climate change
	– Forum	
	– On-site review	
	– Supplier assessment	
	– Technical training	
	– Online communication	

STAKEHOLDER GROUP	COMMUNICATION CHANNEL / FEEDBACK METHOD	KEY ISSUES OF CONCERN
Customers	– Customer satisfaction survey	<ul style="list-style-type: none"> – Product quality and aftersales maintenance – Customer privacy information protection – Product safety and health
	– Customer complaint handling	
	– Brand promotion	
Communities	– Community charity activities	<ul style="list-style-type: none"> – Exhaust emissions – Biodiversity in the place of operation – Charity and donations
	– Regular visits	
Media	– Press release/information announcement	<ul style="list-style-type: none"> – Sustainable development strategy – Product quality and aftersales maintenance – Governance structure
	– Interview	
	– Results press briefing	
Regulatory Authorities	– Press release/ information announcement	<ul style="list-style-type: none"> – Energy use – Industry trends – Legal compliance
	– Regular communication	
NGO or non-profit organizations	– Regular communication	<ul style="list-style-type: none"> – Charity and donations – Community development support
	– Community charity activities	
Colleges and universities	– Scientific research exchange and cooperation	<ul style="list-style-type: none"> – Waste water disposal – Exhaust emissions – Product quality and aftersales maintenance
	– Recruitment activities	
End-users of products	– Brand Promotion	<ul style="list-style-type: none"> – Product quality and aftersales maintenance – Legal compliance
	– Press release/ information announcement	
Scholars	– Scientific research exchange and cooperation	<ul style="list-style-type: none"> – Technology and innovation – Waste water disposal – Exhaust emissions
Grantees	– Community charity activities	<ul style="list-style-type: none"> – Charity and donations – Community development support – Promoting shared prosperity
	– Regular visits	

Analysis of Major Issues

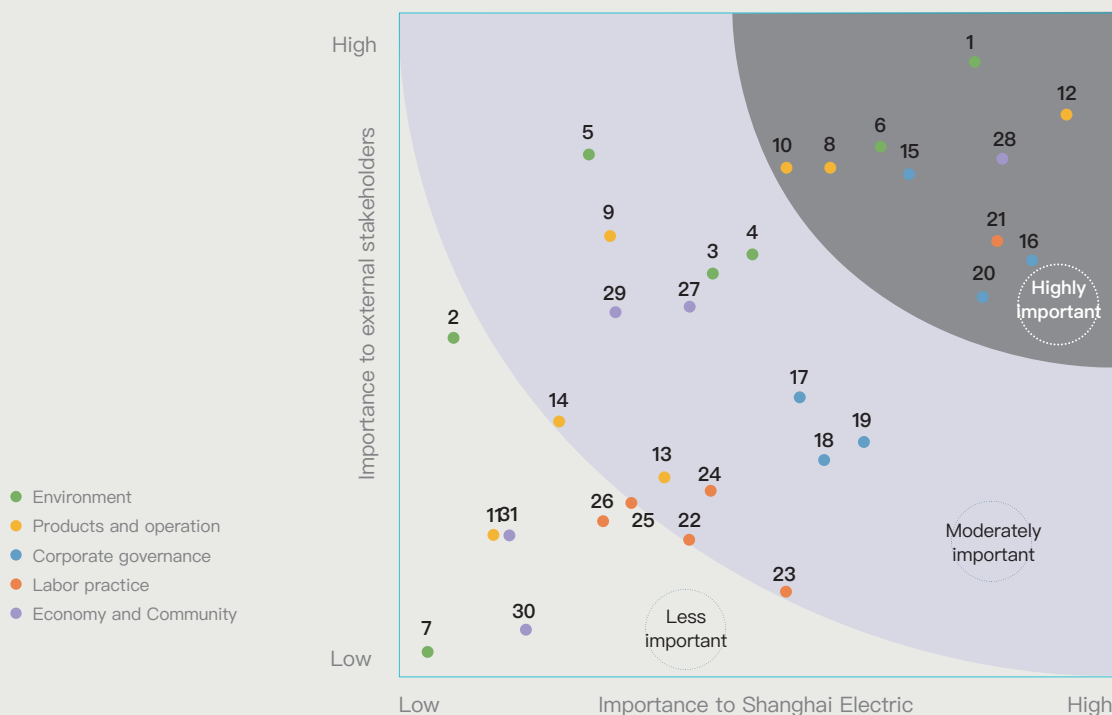
During the reporting period, we held more than 20 in-depth on-site discussions with stakeholders, and collected opinions from investors and other stakeholders on our ESG management and disclosure in a number of large-scale road shows held in China and overseas. In addition, we focused on getting in touch with the government and investment institutions and conducted in-depth communication through interviews. We combined the focus and expectations of various stakeholders on Shanghai Electric with the results of the questionnaire survey and interviews last year, and adjusted and updated the matrix of major issues.

The identification process of Shanghai Electric's material issues



Through the above identification process, we concluded 31 ESG issues, 10 of which are highly material ESG issues. For the future ESG development, the Group will continue to focus on the highly material ESG issues, which also constitute the key subjects disclosed in this report to varying extent.

The Matrix of Shanghai Electric's Major Issues



NUMBER	ISSUE	NUMBER	ISSUE
1	Renewable energy	17	Performance and remuneration for sustainable development
2	Water resource management	18	Anti-corruption
3	Wastewater discharge	19	Risk and crisis management
4	Exhaust gas emissions	20	Legal compliance
5	Solid waste treatment	21	Occupational health and safety
6	Coping with climate change	22	Employment and employee retention
7	Biodiversity in the place of operation	23	Employee benefits and remuneration
8	Product quality and aftersales maintenance	24	Education and training
9	The protection of customers' privacy information	25	Diversity and acceptance
10	Product safety and health	26	Human rights
11	Brand management	27	Economic impact
12	Technology and innovation – Clean technology opportunities	28	The trends and policies of the industry
13	Supply chain management	29	International trade situation
14	Raw material procurement	30	Support for community development
15	Governance framework	31	Charity and donations
16	Strategy of sustainable development		

Standardized disclosure and effective communication

Timely, transparent, efficient and strict information disclosure to establish the authority of information disclosure. We pay attention to the needs of investors, fully communicate and interact with shareholders and investors, enhance corporate transparency and promote corporate development.

Effective communication

Shanghai Electric has attached great importance to investor relation management, strictly implemented the Articles of Association of Shanghai Electric Group Company Limited and the Information Disclosure Management System of Shanghai Electric Group Company Limited in accordance with laws and regulations and the requirements of the listing rules of Hong Kong and Shanghai, disclosed information in a transparent and efficient manner, strengthened interaction with investors through various channels so that they can have a comprehensive, accurate and timely understanding of the Company's performance and development strategies.

In terms of interaction with institutional investor, Shanghai Electric maintained contact and communication with institutional investors through on-site research and conference calls, and other online and offline means. In 2021, we held 69 research meetings (1–2 meetings per week on average) with investors, including CICC, Chengding Fund, Hua Chuang Securities, HSBC, CLSA, Lazard Fund, Luxence Capital, Tatong Securities, unwah Kingsway, and Fullgoal Fund.

In terms of interaction with minority shareholders, we continued to maintain the “SSE E-Interaction” platform dynamically, where we actively responded to the hot topics of investors' concern and further recommended the stocks of the Company by leveraging the influence and communication capacity of the platform.

In 2021, Shanghai Electric made 446 A-share and H-share announcements, of which 169 were A-share announcements and 277 were H-share announcements

In the coming year, we will continue to reflect and improve, optimize and promote securities market compliance, make media-based announcements and guide public opinion at key points, continue to maintain relations with investors, and truly respect and reward investors.



2020 Annual Results Press Briefing of Shanghai Electric



Shanghai Electric's 2020 annual results press briefing was held on March 30, 2021 by means of live video + conference call. The press briefing attracted more than 100 domestic and international institutional investors and analysts, such as Morgan Stanley, Citibank, Everbright Securities, BOCOM Schroder, to participate in the exchange and interaction.

At the briefing, Shanghai Electric stated that it would continue to promote the high-end development of the industry, further accelerate the digital transformation, empower traditional industries with digital approach, and make the Company more vital and more dynamic towards the vision of "providing world-class equipment and solutions for global industry" steadily. Shanghai Electric said that it was upgrading its business model, finding new paths and joining new races to provide comprehensive solutions for customers. It was integrating industrial advantages to promote the smart development of city. The Company has engaged in the new industry of new energy plus energy storage, initially boasted advantage and digital foundation with a unique presence in new energy, outlined a clear strategic route for the transformation of the energy industry. The intelligent application solutions of the industrial Internet platform also empowered the Company's industrial transformation.



Shanghai Electric Held Extraordinary General Meeting of Shareholders



On August 23, 2021, Shanghai Electric held the second Extraordinary General Meeting of Shareholders in 2021 to consider the election of the Group's Chairman. At the meeting, the management responded to the shareholders' concerns on "dual carbon" goals, nuclear power and industrial Internet. In response to the goals of "carbon peaking" and "carbon neutrality", Shanghai Electric has actively worked on the business of energy storage, distributed power stations, photovoltaic, wind power, and the transformation of traditional energy sources. In terms of nuclear power, Shanghai Electric is confident that it will achieve tremendous development in the promising nuclear power sector with its world-class nuclear power technology and capabilities. In terms of industrial Internet, Shanghai Electric has been vigorously developing the intelligent platform "SEUnicloud" in recent years to connect Shanghai Electric's energy and industrial equipment for intelligent operation and maintenance.

Shanghai Electric's Information Session on Smart Energy



On March 31, 2021, Shanghai Electric held an offline information session on smart energy solutions with the theme “New Pattern of Innovative and Smart Energy”, which was also livestreamed online.

Shanghai Electric shared its energy storage business system, strategic thinking and future planning, and showed its strength and technical advantages in the field of energy storage by introducing shared energy-storage power stations, independent energy-storage power stations in Jinzhai, Anhui Province, Smart Energy Demonstration Project in Shanghai's Minhang Industrial Zone, and “wind-solar energy storage and power charging” micro-grid system in Shantou and solar energy storage micro-grid system in Dubai.

Effective Brand Communication

Shanghai Electric has deeply practiced and explored brand building, communication, management and innovation, and steadily promoted comprehensive management and classification management of brand.

As the core department of brand management, the Corporate Culture Department of Shanghai Electric is responsible for overall design and coordination, brand strategy planning, research on brand classification management mode, and planning of related activities. The Market Development Department and the Industrial Development Department assist in strategy formulation, activity execution and management mode evaluation, and examine and approve applications for the use of trademark and trade names. The General Office of the Group (General Office of the Board of Directors), Human Resources Department, Labor Union and Youth League Committee are responsible for promoting the brand building of shareholders and employees. The other departments and subordinate enterprises provide technical and legal support for brand management and cooperate in the promotion and implementation of other tasks.



"2021 China's 500 Most Valuable Brands" Award

Based on the characteristics and actual needs of different industries, Shanghai Electric implements brand classification management for its subordinate industrial groups, enterprises and products. Through the comprehensive judgement on the decision model and standards of brand classification management application, brands at all levels are managed under five brand classification management application modes: “unified brand, joint brand, strongly endorsed brand, weakly endorsed brand and independent brand”. The brand management model has seen excellent results in its application. In 2021, Shanghai Electric was awarded "2021 China's 500 Most Valuable Brands" by the World Brand Lab.

The Group formulates brand communication strategies based on market objectives, competitive environment, market demand and development trends. Brands are communicated through multiple forms and channels such as videos, official website, exhibitions and media advertising. Shanghai Electric received the ESG Communication Award, PRNewswire New Communications Awards 2021.



ESG Communication Award, PR Newswire New Communications Awards 2021

Party building strengthened to provide essential guarantee

Adhering to the leadership of the Communist Party of China, strengthening the Party building and emphasizing the political guidance to provide essential guarantee for the high-quality development

The year 2021 marks the 100th anniversary of the founding of the Communist Party of China. Guided by Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, Shanghai Electric deeply studied and implemented the spirit of the Fifth Plenary Session and the Sixth Plenary Session of the 19th CPC Central Committee, further played the leading role of the Party Committee in “setting the direction, managing the overall situation and promoting implementation”, and drove the Party organizations at all levels to take up the main responsibility for supervision over Party conduct and for Party governance to celebrate the 100th anniversary of the founding of the Party and to create a new situation of high-quality development of Shanghai Electric.

Strengthening Party self-discipline

General Secretary Xi Jinping stressed at the Sixth Plenary Session of the 19th Central Discipline Inspection Commission that comprehensive and strict governance of the Party is a great practice of the Party's self-revolution in the new era. The Party Committee of Shanghai Electric has been implementing the general requirement of the Party Central Committee to comprehensively governing the Party with strict discipline, mobilizing all Party members to play a vanguard role and lead workers to take responsibility so as to ensure the implementation of the system of strict governance of Party and firmly promote the strict self-governance in every aspect of the Party in depth and breadth.



Strengthening political guidance to ensure high-quality development

- ◆ **Strengthened political theory study.** In 2021, the Party Committee of the Group carried out 2 thematic discussions and organized 25 sessions of study for the Party's theoretical study center group. Party committees at all levels organized 550 sessions of study for theoretical study center group and 161 sessions of centralized rotation training for party organization secretaries.
- ◆ **Accurate understanding of functional positioning.** Shanghai Electric required the Group's party committees at all levels to integrate Party building into corporate governance with focus on "three firmly grasps" and "two must nots", and to fully include the provisions of Party building in the Articles of Association.
- ◆ **Implemented the main responsibility for ideology.** The Group took the Party building responsibility system as a tool, divided the main responsibility at all levels, and established and improved the general ledger of the Group's ideological positions.

Promoting the study of Party history and drawing strength for high-quality development

- ◆ **Attached great importance to top-level design.** The Group established a system of learning and education on Party history. In 2021, the Group's Party organizations at all levels conducted 2,580 Party-themed activities, 864 "Party classes" and 699 special study and exchange sessions on the Party Constitution.
- ◆ **Promoted the transformation of results.** The Group promoted Party organizations at all levels to expand the coverage of practical projects, completed 397 key development projects, and solved 645 "most pressing difficulties and problems that are of great concern to the people."

Improving the Party building mechanism and promoting the implementation of system of comprehensive strict governance of Party

- ◆ **Improved the regimes.** The Group revised the Measures of Shanghai Electric Group Party Committee to Implement the Main Responsibility for Comprehensive Strict Governance of Party and other 7 regimes, and established the Shanghai Electric Group's unique system "1132 Party Building Navigation Map".
- ◆ **Strengthened the process management.** The Group standardized, tracked and guided the work of the direct Party committees and grassroots Party branches.
- ◆ **Carried out comprehensive evaluation.** The Group formed a comprehensive evaluation mechanism of quantitative evaluation, qualitative evaluation and exchange evaluation of Party building, and fed back the final results of comprehensive evaluation to the company's Party committee on work deficiencies and improvement suggestion through specific table.

Solidifying the foundation of Party building and promoting the overall progress of grassroots Party building

- ◆ **Promoted full coverage of the Party's organization and work.** The Group promoted the establishment of separate Party branches in all state-controlled independent legal entities and established "Party building work spot check cards". The Group's state-owned enterprises in normal operation orderly implemented activities such as "three meetings and one class" and mechanisms such as democratic evaluation of Party members.
- ◆ **Stimulated the vitality in grass-roots Party building.** The Group created 40 Party building brands, 2,552 demonstration posts for Party members, 78 Party members' commando teams and 67 Party members' responsibility zones.
- ◆ **Consolidated the foundation for grass-roots Party building.** The Group kept problem-oriented and demand-oriented, and promoted "two-way entry and cross-appointment" and precise rectification and improvement.



Development of Party Members

Shanghai Electric has always paid attention to the quality development and ideological construction of its Party members, and has continued to promote the deep integration of Party leadership with corporate governance, as well as the deep integration of Party building with production and operation.

In 2021, the Group held various special meetings to strengthen the construction of the Party work style and integrity building and convey the spirit of rectifying the "four bad work styles" and cultivating new work styles, with focus on Party history learning and education in a deep and practical manner. We also held awarding ceremony for exemplary posts of domestic and overseas Party members and called on all Party members to greet the 100th anniversary of the founding of the Party with good spirit and excellent performance.

Innovative Learning Forms

Shanghai Electric intensively studied and carried out the spirit of the important speech made by General Secretary Xi Jinping at the Party history learning and education mobilization meeting, strengthened organizational leadership, carefully made plan and implementation, and innovated learning forms to create a strong atmosphere of "studying the Party's history, understanding its theories, doing practical work and making new advances" in the Group.



▶ Holding model worker seminar

On April 20, 2021, the seminar of model workers of Shanghai Electric with the theme of "Being a good master, making achievement in the new era, building the dream of Shanghai Electric" was held. Two national model workers and one Shanghai model worker delivered a vivid and wonderful report and showed the charm of model workers in the new era.



◀ Paying tribute to martyrs

In order to promote the noble spirit of the martyrs, the Party organizations of Shanghai Electric Power Station Group, Shanghai Electric Nuclear Power Group Co., Ltd., Shanghai Electric Education Center Party School, Suzhou THVOW Technology Co., Ltd. and Shanghai Electric Group Real Estate Co., Ltd. organized Party members and Youth League members to pay tribute to the revolutionary martyrs.

Offering Practical Services and Bringing Tangible Benefits to the People

Making accurate list ▶

Since the launch of Party history learning and education activity, the Party Committee of Shanghai Electric has conducted the practical activities of “Offering Practical Services and Bringing Tangible Benefits to the People” in the whole process of Party history learning and education, and done practical work for the staff, solved difficult issues in social governance, devised practical measures for the Group’s development.

Shanghai Electric identified the development direction of the Group from three perspectives, namely “field investigation for knowing the actual situation”, “consulting the people for methods” and “listening the people’s voice through more channels”. The leadership took the lead to go deep into the front line, visiting 16 enterprises, comforting front-line employees, and talking with the cadres and the mass about life and development. The Group convened model worker seminar and cadres-mass conversazione, and also set up internal social platforms, staff mailbox and other communication mechanisms to further open up channels for the public to express their voice.



Doing good things

The Party committee of the Group paid high attention to difficult social and livelihood issues of high concern, launched a number of quality projects to serve the people’s livelihood with high quality and high efficiency by taking its industrial advantages. Shanghai Mitsubishi Elevator gave full play to the leading role of the Party building as the first productivity to fully promote installation of elevators for old houses.



Making practical efforts ▲

All Party members of the Group fully played the role of leading by example and working in the front line in different livelihood projects, development projects and practical projects. Party members eased worry of overseas employees, addressed their difficulties sincerely, and thereby enhanced their happiness and security sense.



Shanghai Electric has not forgotten its original mission, and achieved good results by reinforcing Party building and development of Party member. In December 2021, the general Party branch of Engineering Service Branch of Shanghai Electric Wind Power Group Co., Ltd. was awarded the title of “Shanghai Demonstration Unit of Party Branch Construction”. In order to let the Party members at the project sites feel more “warmth” from the organization, the general Party branch of Engineering Service Branch of Shanghai Electric Wind Power Group Co., Ltd. assigned 31 Party members to settle at the front line of the wind farm, accounting for nearly 40% of the total workers at the sites, so as to enhance the sense of integration and participation degree of front-line employees in the organization.

02

Upgrading intelligent manufacturing to empower innovation-driven development

Deeply implementing the spirit of the Sixth Plenary Session of the 19th CPC Central Committee, being guided by the important statements of the CPC Central Committee, the Shanghai Municipal Committee of the Communist Party of China and Shanghai Municipal Government on scientific and technological innovation, adhering to the general keynote of “making progress while maintaining stability, and keeping integrity while making innovation”, Shanghai Electric focused on “low carbon + digital intelligence” and built open innovation platform.

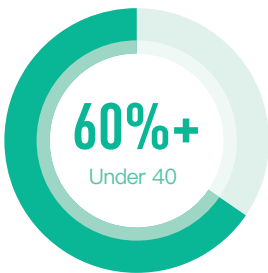
Shanghai Electric also upheld craftsmanship and down-to-earth practice towards product reliability improvement, continuous improvement of customer service quality, continuous increase of industrial competitiveness, and a win-win development situation.



Integrating digitalization and intelligence, and innovation-driven

Empower global industry, Make life smarter. Upgrading intelligent manufacturing in conjunction with empowerment through scientific and technological innovation creates incremental value for enterprises and promotes the digital transformation of enterprises.

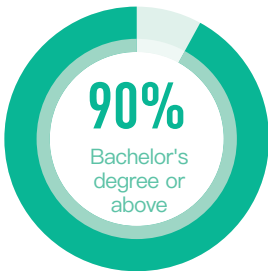
Shanghai Electric drives the innovation and reinvention of the Group's business with value creation as the aim, data as the core and digital technology as the means. We attach importance to the digital transformation of enterprises in the context of the digital economy and thus established the Group Digital Transformation Committee, which is chaired by Leng Weiqing, Chairman of the Company. The Committee is responsible for the Group's digital transformation, including top-level design and overall promotion, setting strategic direction, overall objectives, action plans and assessment indicators of digital transformation, as well as making decisions, guiding, inspecting, handling and coordinating the digital transformation of the Group's vertical business lines and various industries.



R&D Strength

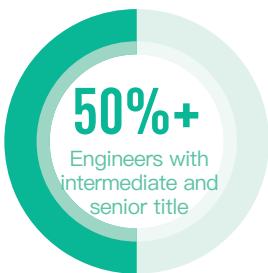
Shanghai Electric takes "technology is the first driving force and talent is the first resource" as its guiding principle and regards "people" as the most active and creative resource in scientific and technological innovation, and continuously strengthens the development of scientific and technological talents and teams to enhance R&D strength and industrial competitiveness.

many forward-looking companies. We have won the "National Mechanical Industry Worker Innovation Outstanding Organization", "National Enterprise Technology Center", "Recognized Enterprise Technology Center of Shanghai", "National Machinery Industry Advanced Unit", "National Mechanical Industry Civilized Unit", "Shanghai Civilized Unit" and other honorary titles.



In 2021, Shanghai Electric completed the construction of its scientific and technological talent pool, covering energy equipment, industrial equipment, digital intelligence, integrated energy utilization, environmental protection and industrial infrastructure, to give impetus to the high-quality development of Shanghai Electric. To develop forward-looking technologies, generic technologies and key technologies which are urgently needed to be solved for the industrial and technological development of the Group, Shanghai Electric establishes the Central Academe, which drives the development of Shanghai Electric's technology innovation system. As the main entity of the Shanghai Electric's science and technology innovation system, Central Academe defines its main development position of "becoming the leader of the Group's technical transformation, the incubator of prospective industry, and the supporter of industry development". Central Academe views R&D as the foundation, regards incubation and investment as the two wings, and gathers a large number of first-class talents. Since establishment, we have assumed 72 National and Shanghai's key technology projects, accumulated 359 patents, incubated 5 startups, and invested

Shanghai Electric Nuclear Power Equipment Co., Ltd., Shanghai United Rolling Bearing Co., Ltd. and Shanghai Zhenhua Bearing Plant Co., Ltd. under Shanghai Electric were included in the third batch of "Little Giant" enterprises in China for their excellent performance in innovation capacity. Little giant enterprises refer to leading SMEs that specialize in niche sectors, command a high market share, boast strong innovative capacity, core technologies, high quality and efficiency, which are the highest level and most authoritative honorary title in the assessment of SMEs nationwide recognized by the industry experts.



While promoting independent research and development and intelligent transformation, Shanghai Electric focuses on the integrated utilization of research and development resources, and actively establishes industry-university-research-application consortia and technology research and development platforms with domestic and foreign universities, research institutes and industrial chain enterprises. On the basis of previous R&D cooperation, Shanghai Electric established various new platforms in different fields in 2021.

Proton Exchange Membrane (PEM) Hydrogen Production Technology R&D Center

- ◆ On March, 2021, Shanghai Electric Power Generation Group and Dalian Institute of Chemical Physics, Chinese Academy of Sciences, inaugurated the jointly-established Proton Exchange Membrane (PEM) Hydrogen Production Technology R&D Center, to conduct in-depth and overall cooperation on the whole hydrogen industrial chain, chemical energy storage, coal-based chemicals and flue-gas treatment.

Shanghai Electric Guoxuan New Energy R&D Center

- ◆ In April 2021, Shanghai Electric Guoxuan R&D Center was established to build a high-level manufacturing base for energy storage systems, create value for customers and shareholders, and become a leader in the electric energy storage and application industry.

Shanghai Electric Smart Low-carbon Innovation Center

- ◆ On May, 2021, Shanghai Electric Smart Low-carbon Innovation Center was established to turn Tianjin Hi-tech Zone into an innovation model for national low-carbon industrial ecological demonstration zone, helping Tianjin Hi-tech Zone, Binhai New Area and even Tianjin City to take the lead in achieving the goal of carbon peaking and carbon neutrality.

Smart Rail Transit Research Center

- ◆ On June, 2021, Shanghai Electric Thales inked an agreement with Tongji University to jointly set up the Engineering Technology Research Center for Smart Rail Transit, focusing on ten directions of smart rail transit construction, such as train operation, green and energy saving, and intelligent technology. Through industry-university-research cooperation, the two sides aim to research and develop forward-looking products and technologies and encourage the application of relevant research findings in engineering.



In 2021

the number of patents applied were

1,546

authorized patents were

1,000

The number of effective patents we had were

5,581

Owning

2,083

invention patents in total

While promoting internal scientific and technological innovation, Shanghai Electric effectively manages and protects its own technological innovation achievements. In accordance with the Patent Law of the People's Republic of China, the Copyright Law of the People's Republic of China, the Anti-Unfair Competition Law of the people's Republic of China, the Intellectual Property Management Practices for Enterprises, the Guide to Intellectual Property Management in Industrial Enterprises, the Working Measures for Outbound Transfer of Intellectual Property Rights (for Trial Implementation) and other relevant laws and regulations, we formulated and implemented the Intellectual Property Management Measures, the Guide to Intellectual Property Management and other system documents, and urged business divisions to develop detailed rules and regulations. During the reporting period, we conducted intellectual property rights certification training activities, intellectual property rights-related policies and hands-on technology salon activities to promote employees' understanding of the protection scope and technical content of patent, as well as patent legal information such as patent owners, patent statute of limitations and patent protection regions, so as to protect our own intellectual property rights from infringement while avoiding infringement of others' intellectual property rights.



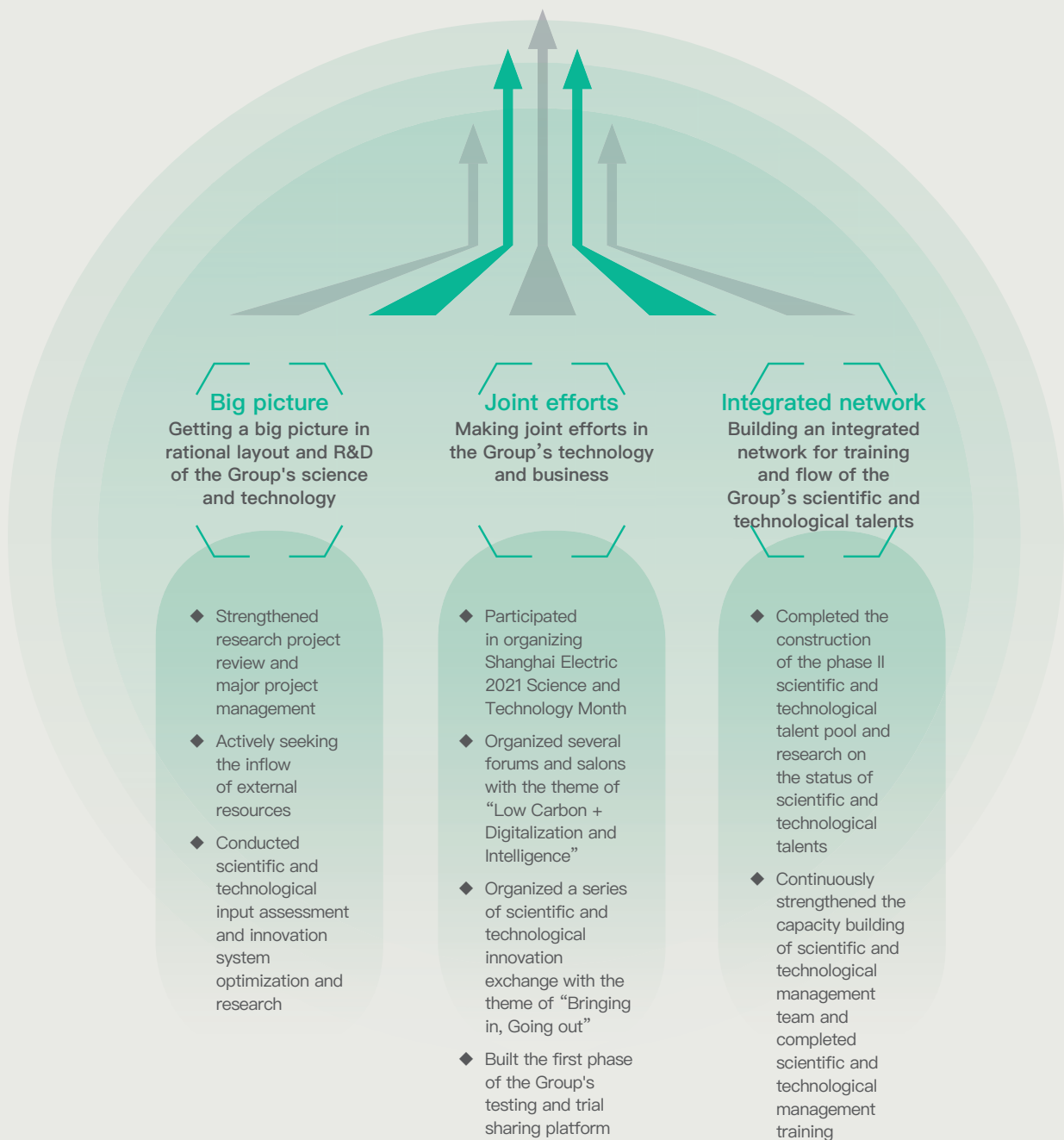
Intellectual Property Right Training



Shanghai Electric has constantly strengthened the capacity building of its science and technology management teams and organized induction training for the Group's intellectual property management personnel. On April 20, 2021, the Legal Department of Shanghai Electric Power Transmission and Distribution Group held a training on intellectual property rights. The trainer introduced the standard for trade secret recognition and current common copyright infringements, prompted the scope of copyright of relevant pictures and font works and the matters needing attention. This training raised the awareness of employees to protect trade secrets and intellectual property rights.

Innovation Strategy

In 2021, upholding the concept of “scientific and technological innovation generates new momentum and takes the lead in new race”, Shanghai Electric firmly implemented the scientific and technological innovation strategy featuring “big picture, joint efforts, integrated network”, improved the rational layout and optimal allocation of scientific and technological resources, promoted cross-industry technology exchanges, and encouraged the flow of scientific and technological talent across industries.





Counting Innovation 2021

R&D investment rate

>3.4%

According to the characteristics of the Company's subordinate industrial groups, the classification assessment indicators are formulated. Shanghai Electric ensured a R&D investment rate of over 3.4%, and increased proportion of investment in pre-research and critical R&D, and R&D investment in core equipment, and drove the fast increase of the Group's investment in major products and forward-looking technologies.

RMB 260

million invested in

18

deemed profit projects

In order to give full play to the role of technological innovation in leading high-quality development, we evaluate scientific research investment as profit, and has established a management system. Shanghai Electric implemented a total of 18 deemed profit projects with a total investment of RMB260 million; for 18 projects, according to the deemed profit projects management system, Shanghai Electric conducted monthly progress inspection and organized progress acceptance at the end of the year, so as to ensure full-cycle management of major projects.

36

special projects declared

about **RMB205**

million of special scientific research funds

Shanghai Electric organized 36 key research projects, including the Ministry of Science and Technology, the Ministry of Industry and Information Technology, the Municipal Development and Reform Commission, the Municipal Energy Bureau, and the Municipal Economic and Information Commission special projects, declaring about RMB205 million of special scientific research funds. Shanghai Electric also organized and completed the Municipal State-owned Assets Supervision and Administration Commission enterprise technological innovation level improvement special acceptance undertaken by Shanghai Electric Power Station Group, Shanghai Electric Power Transmission & Distribution Group, and Shanghai Mitsubishi Elevator.



Science and Technology Month Theming “Intelligent Manufacturing Upgrade, Innovation Empowerment”



◆ Chairman Leng Weiqing delivered a speech at the Science and Technology Month

In December 2021, Shanghai Electric Science and Technology Month with the theme of “Intelligent Manufacturing Upgrade, Innovation Empowerment” was held successfully. Focusing on the two themes of “low-carbon development” and “integration of digital technology and manufacturing”, balancing “bringing in” and “going out”, and relying on domestic and foreign dual-circulation strategic links, this Science and Technology Month aims to build an open innovation collaboration platform for China and the world. In this event, a series of “1+2+5” activities were carried out, including an opening ceremony, two high-end thematic forums on “low-carbon development” and “integration of digital technology and manufacturing”, and five thematic activities on technological talents and technological development. During the event, we also invited external guests and experts to deliver keynote speeches, and announced key core technology breakthrough research projects and high-end talent recruitment needs to accelerate industrial innovation and build new core competitiveness.

During the event, the summit forum on “integration of digital technology and manufacturing, created by Shanghai Electric” was held in December 2021. In the context of “accelerating digital development and building digital China”, experts from external companies such as EDF, Siemens China and Midea delivered three keynote speeches on “digital transformation”. In the three parallel technological forums hosted by Shanghai Electric Digital Technology, dozens of industry experts from within and outside the Group shared their views and latest thinking on cutting-edge technology topics such as 5G, industrial Internet and artificial intelligence.

Shanghai Electric established links between external R&D resources and Shanghai Electric through the “One Port” project R&D innovation service platform. On the one hand, Shanghai Electric planned to introduce graduates from Shanghai Jiaotong University and other universities to visit factories of subsidiaries under Shanghai Electric; on the other hand, it organized “going out” activities, leading technical backbone and young scientists to visit Shanghai University of Science and Technology, the Chinese Academy of Sciences and technological innovation enterprises Flexiv robots and Da CloudMinds robots, to learn from the innovation experience and path of different innovation entities.

Smart Practices

In order to actively promote digital transformation, Shanghai Electric focuses on three major business areas: smart energy, intelligent manufacturing, and smart infrastructure, and concentrates efforts on creating an “industrial triangle ecology” comprising intelligent equipment, industrial Internet, E-commerce and offline service, and strives to become a pioneer in digital-empowered technological innovation and application.

SMART ENERGY 智慧能源

Intelligent Manufacturing

Smart Infrastructure



Smart energy

Shanghai Electric is not only a leader in energy equipment industry, but also a leader in intelligentization transformation of the manufacturing industry. In recent years, Shanghai Electric has accelerated its transformation towards solar energy, hydrogen energy, energy storage, distributed energy, biomass power generation, and so on, and built an intelligent and collaborative smart energy system using intelligence and digitization to help accelerate the energy revolution.

On the one hand, relying on the advantages of integrated energy system solutions, Shanghai Electric actively built and promoting the construction of integrated smart energy demonstration projects, created "smart solutions" at three different levels: consumer side, power generation side and grid side, so as to ease problems in the operation and consumption of new energy, and establish a new power system focusing on new energy. On the other hand, Shanghai Electric integrated industrial Internet, big data and artificial intelligence technologies to provide users with big data analysis services, equipment operation and maintenance services and full-life-cycle management services and realize centralized control and intelligent operation and maintenance of energy storage power stations.

2018

Developing a smart energy project integrating wind energy, solar energy, energy storage and charging for Sanxing Town, Chongming, with focus on renewable energy, energy storage and energy management system, to joint create a zero-carbon community.

2019

Relying on Shanghai Electric's "SEunicloud" industrial Internet platform, Shanghai Electric's smart energy storage operation and maintenance management system ELITE-OPS was created.

2020

The supporting solar energy storage power station integration demonstration project (Phase I) for world's largest solar power project in Dubai was officially launched;

Golmud Meiman Minhang 32MW/64MWh energy storage power station project was officially put into operation;

Shanghai Electric's first large-scale integrated energy project in Tibet was also connected to grid.

2021

Wind power base in Shantou passed carbon neutrality certification, making it becoming the China's second manufacturer and Guangdong Province's first manufacturer obtaining the Carbon Neutrality Certificate;

By signing a memorandum of understanding with Pacific Green Technologies Group (PGTK) to develop various lithium-ion battery energy storage system (BESS) projects worldwide, Shanghai Electric officially entered the international energy storage market.



Shanghai Electric's Smart Energy Big Data Platform Project of Yancheng City

In July 2021, Shanghai Electric won bids for the phase-II project of the platform construction for the smart energy big data center of Yancheng City, which aims to provide support for the capacity expansion of the platform. The platform was developed and designed by Shanghai Electric Digital Technology to comprehensively plan the regional energy in Yancheng based on the concept of "One Energy Network, One Supervision Platform" with the functions of displaying the real-time status of regional energy in Yancheng at various stages by "source, network and load" and centralized monitoring of all aspects of the planning, construction and operation of new energy projects. The platform also aims to be an open and compatible platform for data sharing, information sharing and knowledge transformation, and for providing data support for government agencies, power generation enterprises and regional operation and maintenance service providers.

INTELLIGENT MANUFACTURING

智能制造

Smart Energy

Smart Infrastructure



Intelligent manufacturing equipment



Industrial robot

Intelligent manufacturing

Relying on its rich experience and technical advantages in automation equipment and services, Shanghai Electric made full use of advanced information technologies such as Internet, Internet of Things, big data and cloud computing to provide industry-leading intelligent manufacturing system solutions, automation products and equipment, production management software system and intelligent factory solutions to create a whole intelligent manufacturing industry chain from “basic products, intelligent equipment, software, integration to services.

On December 22, 2021, Shanghai Electric officially launched the “SEunicloud” Industrial Internet Platform 3.0. Compared with the previous version, the version 3.0 is further upgraded in terms of service capability. Based on the comprehensive perception of massive industrial data, the platform can form the edge layer of the network through the deep integration of end-to-end data, and then realize intelligent decision making and control instructions through modeling and analysis to support manufacturing enterprises for platform-based R&D, lean production, service-based operation and maintenance, intelligent management, smart finance and other integrated enhancement of the whole value chain. The platform has deployed 95 APP/API applications, such as steam heat treatment, intelligent operation and maintenance of solar photovoltaic power stations, monitoring of high-voltage inverter equipment, and fault alarm of energy storage power stations, and created 22 digital solutions for vertical industries and industrial sub-sectors, such as intelligent centralized control of new energy and wind energy and solar energy.

In 2021, the Industrial Internet Platform 3.0 continues to expand the number of new subordinate enterprise equipment access, the number of online equipment and the scale of equipment assets under management. With growing number of wind power, photovoltaic, energy storage, machine tool, inverter motors and other equipment access, the platform can enable access of more than 150,000 sets and manage equipment assets of more than RMB143 billion; it is available to dozens types of equipment, and more than 20 types of industrial protocols.

When Shanghai Electric provides the full-life-cycle digital services for smart wind farms, the “SEunicloud” platform improves 10% design efficiency for personnel selecting site for wind farm resources, realizes all-round monitoring of equipment assets, improves the performance management of wind farms, reduces power loss by more than 2%, ensures the efficient operation of equipment, and increases trouble-free operation time by more than 20%.



"Mobile Factory" of Shanghai Electric Turbine Plant

Shanghai Electric Turbine Plant adopts the software and hardware integration solution featuring "Mobile Factory + Intelligent Operation and Maintenance Platform" to solve the difficult problems encountered in the unit operation and maintenance and ensure the healthy operation of the units. The "Mobile Factory" increased the investment in independent research and development of special equipment and officially launch the mobile laser cladding equipment in March 2021. The equipment integrates internationally advanced high-power semiconductor lasers and high-precision robots, and is equipped with a special mobile platform and 3D modeling software for robotic operation to realize robotic path planning for complex lines such as turbine blades. The "Mobile Factory + Digital Application" (APPs) intelligent operation and maintenance platform is also an important means to realize smart power plants. Shanghai Electric Turbine Plant has gradually realized the full-life-cycle operation and maintenance management of equipment in coal-fired power plants, using intelligent APPs. By deeply integrating the digital platform and the on-site service and maintenance capability of the "Mobile Factory", the intelligent operation and maintenance of power plants is realized, and equipment failures are accurately forewarned at the early stage.



Intelligent Production Lines of Shanghai Renmin Electrical Apparatus Works

The intelligent production lines of Shanghai Renmin Electrical Apparatus Works, a subsidiary of Shanghai Electric, are independently designed by the intelligent manufacturing team, and the inspection of the intelligent production line of low-voltage frame and medium-voltage vacuum circuit breaker is automated, and the precision of components is improved and traceable, so that the quality of products is greatly improved. Shanghai Renmin Electrical Apparatus Works not only has the unique "automatic assembly technology of drawer holders in low-voltage frame breaker production line", but also can mix production of different products and the same products with different specifications, which is impossible for general automatic production lines. All production lines can be upgraded and expanded on the existing basis according to the development needs of enterprises. In addition, it takes only a few minutes to switch from issuing instruction at design and process sides to logistics and to production processes, using the TC platform.



Paying Visits to Industrial Robotics Labs in Colleges and Universities

As one of the theme activities of the Science and Technology Month Theming "Intelligent Manufacturing Upgrade, Innovation Empowerment", Shanghai Electric carried out "Close to Robotics" activity under the "Bringing in, Going out" series to organize the research team to visit the Shanghai University's Smart Manufacturing and Robotics Key Laboratory, Flexiv, CloudMinds and other technology companies to explore the DNA of robotics innovation.

Through such visits to key laboratories in colleges and universities, and tech startups, the research team directly understood the most cutting-edge and hottest technological trends and research progress in the field of robotics, knew the innovative practice of cross-border integration of technology and industry in the field of robotics.





Smart infrastructure

In terms of digital transformation of city, Shanghai Electric gives full play to its advantages and empowers the city constructions in all aspects. As an "enabler", Shanghai Electric provides transformation and upgrade services for traditional urban infrastructure, such as intelligent transportation infrastructure and smart energy infrastructure, and provides more optimized and efficient intelligent infrastructure solutions by integrating multiple businesses such as industrial Internet, rail transit, sewage treatment, intelligent elevators and new energy vehicles.



Shanghai Mitsubishi Elevator built interactive platform through elevator Internet of Things

In terms of the intelligent equipment and operation and maintenance, Shanghai Mitsubishi elevator actively responded to the requirements of the State Administration for Market Regulation on construction of intelligent elevator and elevator emergency rescue response platform. The elevator Internet of Things is used to build an interactive platform between users and maintenance service personnel of elevators. This platform can ensure real-time monitoring of elevator failure and operation, meet the needs of users, change the passive service to active on-site service, implement closed-loop control over the full process of elevator maintenance services from service planning, personnel dispatching, service implementation, service quality control, service performance evaluation, so as to improve service efficiency and service quality without significantly increasing service resources and service costs. We have deeply implemented the requirements of “digital transformation of city” put forward by Shanghai Municipal Government, and demonstrated our performance of social responsibility in the process of building “one network for administration” and “one network for handling procedure” for Shanghai.

Shanghai Metro, Built with the Participation of Shanghai Electric, Opened for Initial Operation

On December 30, 2021, Shanghai Metro Line 14 and the northern section of Line 18 Phase I, which were built with the participation of Shanghai Electric, opened for initial operation at the same time. Line 14 is equipped with the TSTCBTC@ 2.0 signaling system provided by Shanghai Electric Thales, making it the China's first high-density, high-capacity, fully automated unmanned line of A type train consisting 8 cars, with an average of 1 million hours of trouble-free time and equipping with the maximum capacity of passage and round trip of the line infrastructure. The control room of Line 18 is equipped with a BIM-based intelligent operation and maintenance platform developed by the Shanghai Electrical Automation D&R Institute Co., Ltd., which is the first automated line in Shanghai using this platform. Using Bluetooth + UWB positioning technology and digital asset information database, the platform enables staff to monitor car conditions in real time at the control center, and to detect problems and respond to emergencies in a timely manner.

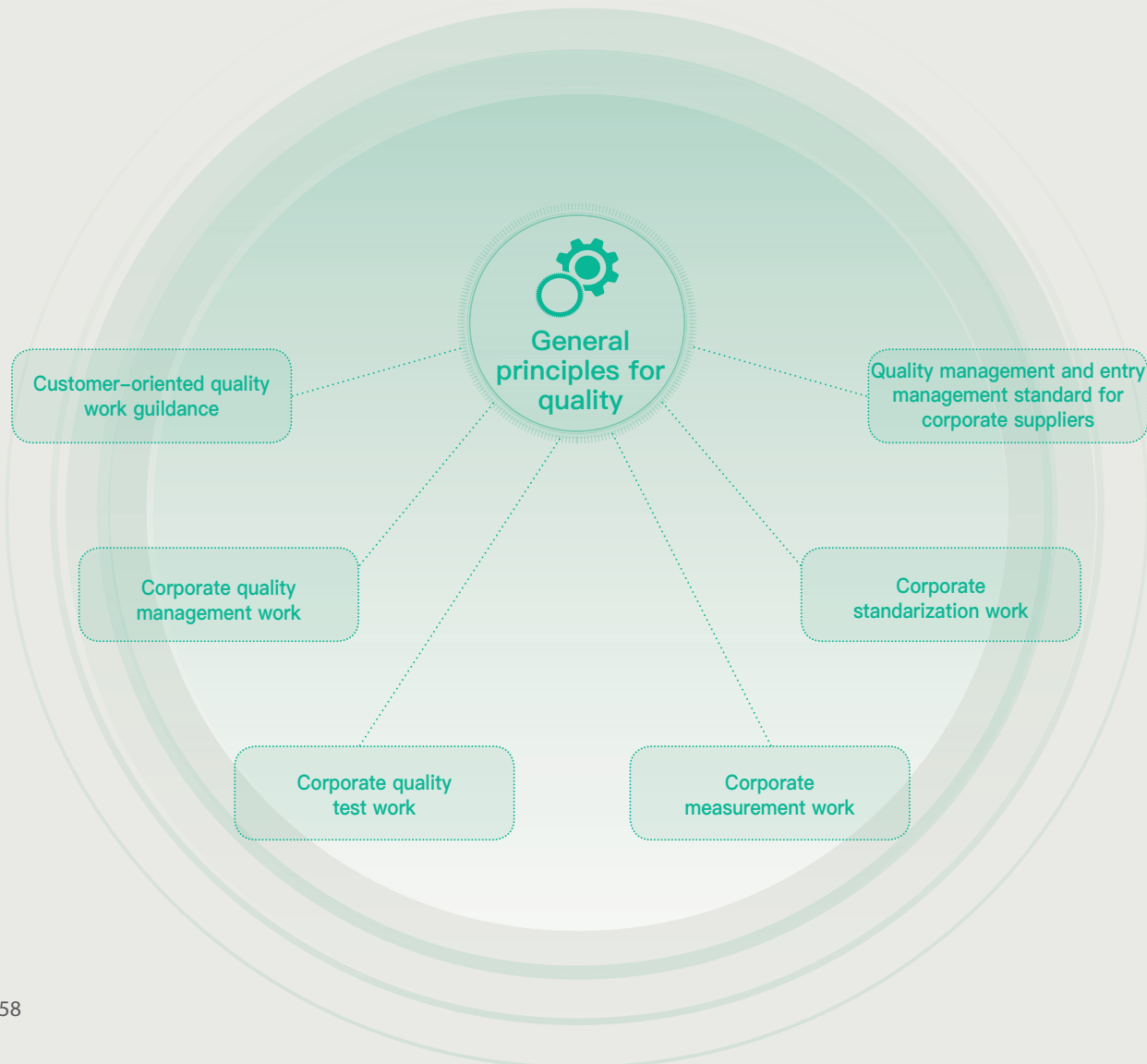


Adhering to craftsmanship to ensure high quality

Adhering to craftsmanship and working in a down-to-earth and diligent manner. Improving the quality management system, standardizing and optimizing the overall management.

Shanghai Electric pursues excellence and respects quality. We strictly abide by the laws and regulations such as the Product Quality Law of the People's Republic of China, and the Regulations on the Administration of Industrial Product Production Licenses. All manufacturing enterprises of the group have completed the ISO 9001: 2015 quality management system certification. We have formulated a complete set of quality work standards in years of practice, including general principles for quality management, customer-centered quality work guidance, work in relation to corporate quality, management standards in relation to supplier quality and system documents.

Shanghai Electric has a sound equipment supply chain system and adopts a strict evaluation program for subcontractors in terms of technology, manufacturing, personnel and equipment and quality assurance capability. At the same time, we have a team of experienced manufacturing supervisors to monitor the full process from equipment ex-factory to acceptance to ensure product quality. We also strictly focus on product quality evaluation, assess on and set targets for product grade rate, quality loss rate, material quality issue and key quality problems tackling project, etc., so as to ensure the realization of the promise of quality to customers with all effort while devoting ourselves to researching and developing products.



During the reporting period, Shanghai Electric adhered to cultural guidance, strengthened the quality management awareness and capability cultivation of employees through multiple ways, successfully held the quality month activity under the theme of “focusing on production quality improvement and promoting project quality improvement”. In 2021, there were no issue relating to recall due to the product safety reasons among the products sold or shipped.

Shanghai Electric 2021 “Quality Month”

In September 2021, Shanghai Electric held the special event of “Quality Month”, in which more than 20,000 employees participated in more than 100 activities such as quality training, quality culture publicity, labor competition and internal and external exchanges, forming a good atmosphere for all employees to pay attention to quality and attach importance to quality.

Quality training

Shanghai Electric Wind Power Group held 2021 APQP salon. Business leaders from various departments and module experts participated in the salon, and introduced the major processes of APQP, and shared and exchanged information on the business processes and practices of new product outsourcing.

Quality culture publicity

Shanghai Electric Power Station Group pushed excellent quality culture publicity works on its WeChat official account, held a flag-raising ceremony for the quality month, issued a series of tweets on quality system, released 61 books on quality and management, and organized a quality experience sharing forum to develop new quality in the new period of starting a new undertaking with new measures and new management approach.

Labor competition

Shanghai Electric Power Station Group launched the Quality Culture System Solicitation and Quality Knowledge Contest, and commended employees getting excellent results.



Mass quality activity

Shanghai Electric Wind Power Group hosted the “Quality Month Series Activity – Benchmark Wind Farms Evaluation” in which a total of 6 outstanding benchmark offshore and onshore wind farms were selected and two project managers of wind farms which won the first prize for outstanding benchmark wind farms were invited to share their excellent project management experience.

2021 Shanghai Electric Chief Quality Officer Training

In August 2021, the Group started an 8-day training for the Chief Quality Officer of Shanghai Electric. The training covers multiple dimensions such as strategic quality management, digital transformation, and quality culture. It offered courses on economic analysis on enterprise quality, quality-related legal system and quality development policy, and set up a case workshop module to strengthen employees' awareness of quality and safety laws and quality responsibility, and help them master modern quality management concepts and methods.

Training goal

It shall define the position, responsibility and authority for management by strengthening the awareness in quality, safety and law as well as quality duty awareness, thus to grasp the ideology and method of modern quality management

Required courses (4 days)

- Interpretation of National (Shanghai) quality development policies
- Quality-related legal system
- Chief Quality Officer system
- Digital transformation and enterprise quality management
- Big data and modern quality technology application and statistics
- Site management guidelines and practices
- Basic theory and common methods of quality management
- Enterprise quality culture development
- Economic analysis on quality cost and benefit



Case workshop (2 days)

- ★ Addressing the lack of internal drive for business development caused by the loss of core experience;
- ★ Contextualizing quality management experience, making implicit experience explicit, visualizing explicit experience;
- ★ Achieving universal quality promotion experience;

Written examination

individual case result + achievement reporting

Optimizing services to ensure customer success

Customer-oriented, providing quality one-stop services and maximizing the positive effects of our services; always maintaining a keen insight into the needs of our customers and strictly protect the customers' privacy to ensure customer success and our own success.

Customer feedback

To gain a timely understanding of customer satisfaction and up-to-date needs with our products and services, Shanghai Electric carries out a customer satisfaction survey through a third-party evaluation center every year, covering enterprise in the manufacturing segment, the engineering segment and the new industry segment under the Group, so as to obtain customer feedback objectively and effectively, and take pertinent measures to improve the quality of products and services and finally better meet customer expectations.

In order to actively respond to customer complaint and handle the quality objection in timely manner, while establishing customer files, we continuously improve the customer feedback mechanism, complaint handling mechanism and rapid response mechanism. Meanwhile, the Group requests each department of the subsidiaries has a specially-assigned person to take charge of the record of complaints, organize investigation, analysis and handling of complaints, and properly resolve and give satisfactory responses to complainants within a limited time frame. For example, the Power Generation Group and the technical quality department have set up a 400 quality complaint hotline.

In 2021, the Group's major industrial groups did not receive customer complaints.



Value Increment

While safeguarding the quality of its services, Shanghai Electric strives to bring greater positive effects in the development of green innovation, enhance the value increment of its customers in the development process, and help its customers accelerate development in the field of energy technology innovation and sustainability.

Shanghai Electric Contributed to Grid Connection of the First Overseas Reactor Project of "Hualong No. 1"

In March 2021, Pakistan Karachi Nuclear Power Unit 2, the first overseas reactor project of the third-generation nuclear power technology "Hualong No. 1" independently developed by China, was successfully connected to the grid. Shanghai Electric participated in the project as the main equipment supplier and provided the main equipment such as the reactor components and turbine generator set and other key equipment for the first overseas reactor of "Hualong No. 1". During the participation process, the project team overcame 71 technical and testing challenges, developed independently two materials, made innovations in five welding technologies, four inspection technologies and seven process technologies, and obtained 10 patents for invention. Pakistan Karachi Nuclear Power Unit 2 can generate nearly 10 billion kilowatt hours of electricity per year, which can meet the annual production and living needs of 1 million people in the country, an equivalent reduction of carbon dioxide emissions by 8.16 million tons, and bring about the development of related industries in Pakistan.



Anhui's First 100 Megawatt Centralized Shared Energy Storage Power Station Started Construction

On October 22, 2021, the 100MW/200MWh energy storage demonstration project of Anhui Jinzhai Intelligent Energy Storage New Energy Technology Co., Ltd. jointly invested and constructed by Shanghai Electric and other companies started construction. After completion, the project will improve the peak and frequency regulation capacity of Anhui Province power grid system, promote renewable energy consumption, increase the flexibility of power grid operation, deeply integrate wind power, photovoltaic, energy storage and large power grid, realize source-grid-load coordinated control, build Jinzhai County wind energy-solar-energy storage multi-energy complementary regulation system, and accelerate the development of a new power system focusing on new energy.





Information Security

Shanghai Electric has abided by the Cybersecurity Law of the People's Republic of China and the Administrative Measures for the Classified Protection of Information Security and other laws and regulations, and has established a comprehensive protection system and mechanism for information security. Shanghai Electric has assigned the Group's Network Security and Informatization Leadership Group as the responsible organization for information security of the Group to standardize the internal information security protection in a comprehensive manner in accordance with internal systems and standards, such as Information Security Management and Control, Password Management, and System Security Protection.

In 2021, Shanghai Electric constantly revised and improved the information security system and security standards, including optimizing the “Information Security Management and Control” in terms of system operation security, emergency response, security responsibility content, and added the requirements of new security inspection, security training; increased the client management responsibility requirements in the “Client Management”, increased technical requirements for client management, software list adjustment; increased security requirements for DHCP configuration, network equipment procurement model, network boundary management in the Network Construction Standard.

Shanghai Electric Digital Technology, a subsidiary of Shanghai Electric, obtained the authentication certificates for ISO 27001 information security management system and ISO 20000 information technology service management system in 2019. During the Reporting Period, Shanghai Electric Digital Technology obtained the “Level III Certificate of Information System Security Integration Services”, and continued to give play to its corporate advantages, offering customers the professional information security services with high standards.

Shanghai Electric requires all employees to highly value the security over the information on the privacy of customers. We have formulated a special confidential system for customers' information to regulate the handling methods and confidential measures for information of customers. Meanwhile, we have launched the IT maintenance review system to record and review the operations by internal special accounts such as the system administrator's account and by supporting accounts such as the external consultant's account, so as to avoid the leak of the information of customers.

2021 Shanghai Electric Network Security Conference

In April 2021, the Shanghai Electric Network Security and Informatization Leadership Group convened the Shanghai Electric Network Security Conference. The meeting was attended by the secretary of the Party Committee, chairman of the Board of Directors, deputy secretary of the Party Committee, president of the Group, heads of relevant functional departments of the Group Headquarters, and leaders in charge of network security and informatization of each industrial group and directly affiliated units. The meeting clarified the composition and main functions of the Group's Network Security and Informatization Leadership Group, reviewed the Group's network security work, and put forward requirements for the Group's network security work, and emphasized the importance of network security work to the Group.

Sustainable development to respond to the green strategy

Shanghai Electric combines the characteristics of industrial development in the new era, and safety and environmental planning and task requirements set out in the national and Shanghai "14th Five-Year" Plan, to continuously improve the SEC-LOVE safety and environmental management model.

SEC-LOVE safety
and environmental
management
model

S

Sharing core values

E

Control collectivization

C

Comprehensive standardization

L

Safety leadership improvement

O

All-around goals and responsibilities

V

Vertical supervision

E

Predictable vision

In 2021, based on the analysis of the results on safety production which has been achieved through ten years of exploration and practice, Shanghai Electric optimized and upgraded the SEC-LOVE safety and environmental management model in the new era, which shall give to its seven elements management significance with a more focus on "downgrading and relegation, empowerment, and reducing the burden and increasing the efficiency (降維降級、賦能賦職、減負增效)" and put forward the corresponding work requirements and tasks at each level.

SEC-LOVE optimization concept



Shanghai Electric has optimized the following connotations of the seven elements focusing on responsibility, collectivization, standardization, leadership, comprehensiveness, effectiveness and development, as a basic guideline for establishing, operating and optimizing Shanghai Electric's Environment, Health and Safety Management System (EHS Management System).

S	E	C	L	O	V	E
Continuously promote and emphasize the practice of corporate social responsibility	Focus on strengthening occupational health, environmental protection, collective control on fire and the ability to pay attention to emergency response	Strengthen the requirements of informationization, intelligence and digitization, and incorporate standardized safety management requirements for non-production enterprises	Improve the quality of our leaders in the safety and promote the overall safety and environmental level through leadership building and safety culture	Focus on universal responsibility, optimize full accountability and strengthen horizontal synergy	Establish a multi-type and multi-modal inspection mechanism to conduct more effective inspections with responsibility requirements and risk characteristics	Optimize and improve the performance assessment and incentive mechanism, and promote the development of vision focusing on development goals

Environmental protection to perform our responsibility

We improve the environmental management system, respond to environmental protection policies, and implement environmental protection projects to reduce the impact on the ecological environment.

Safety and environmental risk management

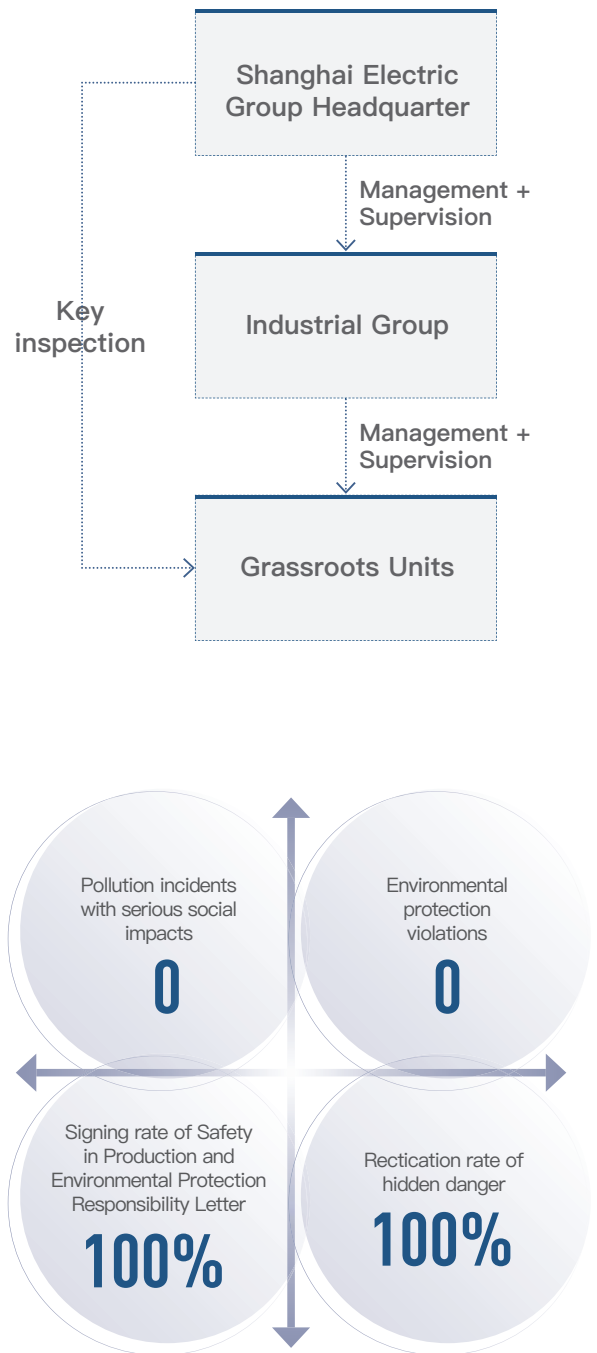
Shanghai Electric insists on well-balanced combination of powers between central management and divisions, forming a three-level supervisory network structure of the headquarters of the Group, industrial groups and grassroots units, to continuously promote the dual prevention mechanism of risk identification and hidden danger investigation and management.

In 2021, Shanghai Electric took the double control mechanism as the entry point, further deepened the enterprise safety and environmental risk grading and control, incorporated the safety risks of engineering construction projects and property management into the control scope according to the characteristics of industrial development, and compiled and released standard documents such as Shanghai Electric Engineering Project Safety and Environmental Risk Grading and Control Guide (《上海電氣工程項目安環風險分級管控指南》) and Shanghai Electric Engineering Project Safety and Environmental Risk Control Standard Operation and Inspection Management Measures (《上海電氣工程項目安環風險管控標準運行檢驗管理辦法》).

At the same time, Shanghai Electric compiled and released the "2021 Environmental Action Plan", which specifies the main tasks and measures, vigorously carries out environmental risk prevention on the consolidation and deepening of air pollution control and enhancement of compliance control on wastewater, hazardous waste and key units, and consolidates enterprise environmental governance through key environmental management project, so as to continuously track and implement various environmental risk prevention tasks and measures for enterprises.

Safety management objectives

We have formulated systems such as Management of Policy Objectives and Indicators for Safe Production Environmental Protection (《安全生產環境保護方針目標與指標管理》) and Safety in Production and Environmental Protection Performance Evaluation and Assessment Measures of Shanghai Electric (《上海電氣安全生產環境保護績效評價考核辦法》). We have compiled Annual Safety and Environmental Protection Responsibility (《年度安環責任書》), formulated annual environmental protection objectives, organized safety and environmental performance assessment, once environmental violations occur, they will be included in the annual performance assessment, to ensure the continuous improvement of the environmental management system. During the reporting period, we set four environmental protection indicators in the environmental safety responsibility book. (as shown in the figure on the right)



Resource management to recycle economy

We reduce the use of resources and improve the efficiency of use, which offers assistance for us to achieve green goals and sustainable development of enterprises.

Energy saving and consumption reduction

Shanghai Electric strictly abides by the industrial energy conservation laws, regulations and standards of the places where it operates, such as Energy Conservation Law of the People's Republic of China and Measures for the Administration of Industrial Energy Conservation, continuously explores and improves energy conservation potential, and conducts energy audits according to the requirements of Shanghai Municipal Commission of Economy and Information Technology, to urge itself to improve the energy conservation management framework and promote the self-restraint mechanism of energy conservation according to the law.

Shanghai Electric has built a three-level working system such as the Group's Economic Operation Department – Industrial Group – Subordinate Enterprise, to steadily promote energy saving and efficiency enhancement. As the responsible department for the Group's energy management, the Economic Operation Department is responsible for coordinating energy management and improving the quality of economic operation; each industrial group and key enterprises have established the enterprise energy management center to supervise and manage energy consumption and energy consumption index assessment.

In 2021, Shanghai Electric responded to the strategic objectives of the State and Shanghai Municipality, further implemented the "double control" target responsibility for total energy consumption and intensity, continued to strengthen the target assessment, decomposed and implemented the total annual energy consumption and intensity control targets to the major industrial sectors and key energy-using enterprises under the Company, and supervised the production and energy consumption of key energy-using units on a monthly basis, to exceed the "double control" target (As shown in the figure below) .



The energy consumption and greenhouse gas emission of Shanghai Electric in 2021 are shown in the following table:

ENERGY CONSUMPTION AND DENSITY	2020	2021	UNIT
Purchased electricity	32,893	36,769.12	'0000 kWh
Natural gas	6,645	6,085	'0000 m ³
Diesel	456.5	392	tons
Gasoline	1,980,377	1,810,245	liters
Direct energy consumption [1]	91,162	83,427	tons of standard coal
Indirect energy consumption [2]	40,425	45,189	tons of standard coal
Comprehensive energy	131,587	128,616	tons of standard coal
Energy consumption per unit of output value	0.0096	0.0098	tons of standard coal / RMB'0000 of operating revenue
GREENHOUSE GAS EMISSIONS AND DENSITY [3]			
Scope 1 Greenhouse gas emissions	149,943	137,200	tons of carbon dioxide
Scope 2 Greenhouse gas emissions	232,392	154,430	tons of carbon dioxide
Total greenhouse gas emissions	382,335	291,630	tons of carbon dioxide
Greenhouse gas emission intensity	278.50	221.96	tons of carbon dioxide/RMB'00000000 of operating revenue

[1] Direct energy consumption refers to the consumption of natural gas, gasoline and diesel.

[2] Indirect energy consumption refers to the consumption of purchased electricity.

[3] Greenhouse gas emissions are mainly generated by energy consumption during production and operation, and the accounting method refers to the "Greenhouse Gas Emission Accounting Methodology and Reporting Guide for Enterprises in Other Industries (for Trial Implementation)" (《工業其他行業企業溫室氣體排放核算方法與報告指南(試行)》) published by the National Development and Reform Commission in 2015. The default values of emission factors for electricity of the company whose main production location is Shanghai, have been updated and adjusted according to the "Notice of Shanghai Ecological Environment Bureau on Adjusting the Values of Emission Factors Related to the City's Greenhouse Gas Emission Accounting Guide" (《上海市生態環境局關於調整本市溫室氣體排放核算指南相關排放因子數值的通知》).



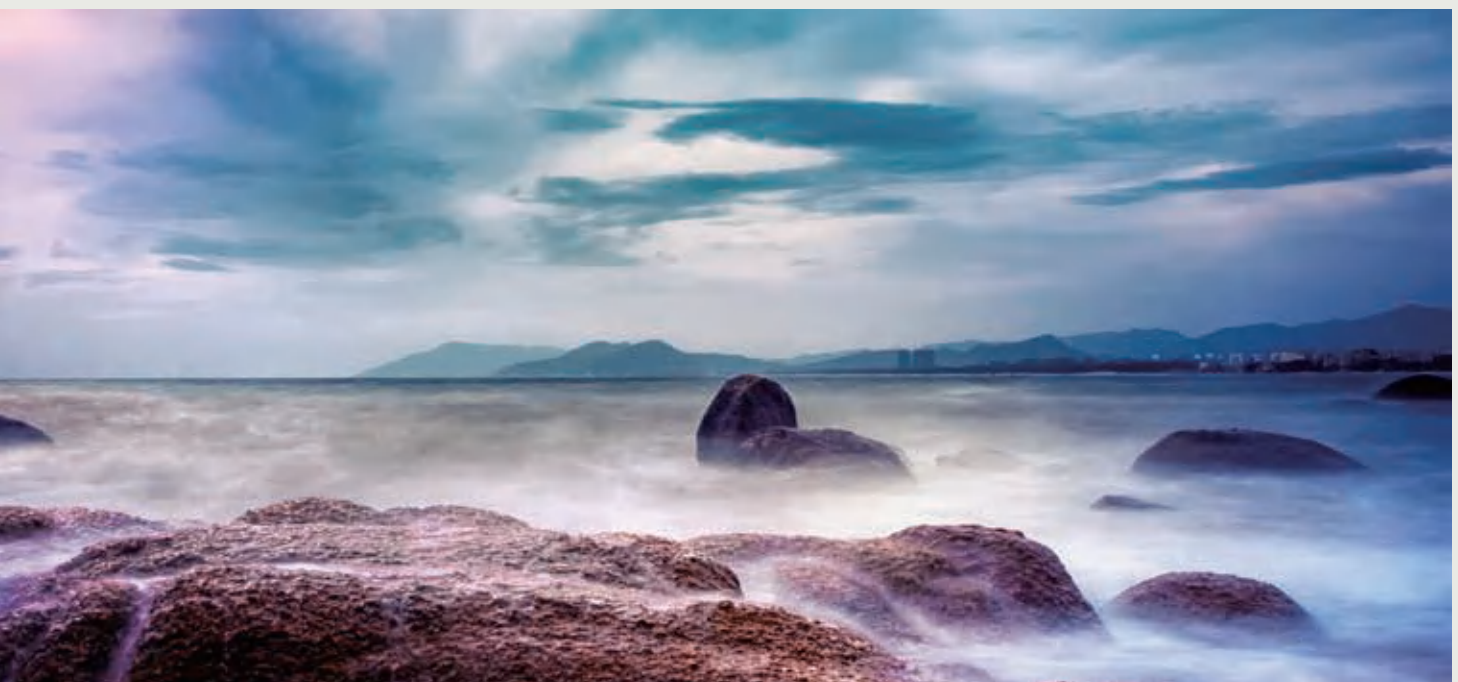
Water Conservation

Shanghai Electric attaches great importance to the management of water resources in the process of production and operation, and the Economic Operation Department is responsible for the management of the Group's water conservation and overall arrangement and deployment of the Group's water conservation. The Group's major industrial sectors and key enterprises have dedicated personnel responsible for their water conservation management. We attach importance to water-saving management, continuously strengthen water consumption statistics, analysis and assessment, and promote the application of new water-saving technologies and new processes. The major enterprises of the group all set up corresponding water-saving statistical report systems. At the same time, we actively participated in the training organized by Shanghai, and organized water-saving publicity activities on specific period such as "Water Publicity Week" to promote water-saving common sense through multiple channels.

In 2021, the Shanghai Water Conservation Promotion Center conducted the 2021 annual assessment of Shanghai's water conservation management departments and individuals, and after comprehensive evaluation, an individual from Shanghai Electric Machinery Co., Ltd. was awarded the 2021 Shanghai Water Conservation Outstanding Worker.

The water consumption of Shanghai Electric in 2021 is shown in the following table:

WATER CONSUMPTION AND DENSITY	2020	2021	UNIT
Water use	7,044,773	7,095,780	tons
Water consumption per unit of production value	0.5131	0.5401	tons/RMB'0000 of operating revenue



Green office

Shanghai Electric not only pays attention to environmental protection in the manufacturing process, but also advocates the green and low-carbon office style, guides and drives all employees to form good habits of energy saving and consumption reduction, promotes sustainable office style, builds a green office environment and an environment-friendly enterprise. In order to improve the overall environmental protection level and awareness of employees, Shanghai Electric has carried out various publicity and training activities to ensure that each step of manufacturing meets our standardized environmental management requirements.

Shanghai Electric actively responds to the national sustainable development initiative, creates a green office atmosphere, implements energy-saving and consumption-reducing office equipment, promotes low-carbon office methods, and guides all employees to form a consciousness of energy-saving and environmentally friendly office life. Shanghai Electric encourages employees to:

- ◆ drive less, take public transportation and bicycles as much as possible;
- ◆ give priority to purchasing and using of green environmentally friendly products to reduce sources of emission pollution and energy usage;
- ◆ adopt energy devices such as automatic induction lighting systems and rainwater recycling system equipment within the Company's internal public areas;
- ◆ reasonably transform and update and regularly maintain the office equipment, so as to extend the use life of equipment;
- ◆ adopt double-layer windows and energy saving curtains, control the temperature of water supply and of the central air conditioner, maintain a lower indoor temperature in winter and a higher indoor temperature in summer as appropriate to reduce energy consumption within the Company's public areas;
- ◆ promote the use of paperless office, create an automated management system for the entire life cycle of meetings, including meeting notices, reception plans, receipt of feedback, sign-in, meeting minutes, reviews, etc., and use electronic lunch coupons simultaneously.





Saving the use of packaging materials

We continue to strengthen the management of packaging materials, and especially attach importance to the effective use of packaging materials to reduce material loss. We established close cooperative relations with packaging material suppliers, and through regular feedback and communication, we strived to adopt packaging materials that can not only ensure product quality but also reduce environmental impact. The main packaging materials consumed by Shanghai Electric in 2021 are shown in the following table, and the corresponding packaging material consumption density is 152.77 tons/ RMB'00000000 of revenue.

The CONSUMPTION OF PACKAGING MATERIALS of Shanghai Electric in 2021 are shown in the table below:

CONSUMPTION OF PACKAGING MATERIALS (TONS)	2020	2021
Timber	109,735.84	129,446.46
Iron support	10,200.17	31.7
Iron leather suitcase	8,529.66	26.8
Card-board box	68,474.44	67,148.32
Plastic	12,905.85	4,065.62

Pollution prevention and control to meet the emission standards

Emphasize and strengthen waste emission management to ensure that exhaust pollutants meet emission permits and achieve green emission reduction.

Shanghai Electric strictly abides by the laws, regulations and standards governing the discharge of industrial pollutants in the places where it operates, including but not limited to the Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution, the Law of the People's Republic of China on the Prevention and Control of Water Pollution, the Law of the People's Republic of China on the Prevention and Control of Environmental Pollution of Solid Wastes, and the Regulations on the Safety Administration of Radioactive Wastes. The Group has also formulated relevant management systems such as Clean Production and Clean Production Audit Implementation Rules and Solid Waste Management Implementation Rules, promotes the standardized treatment and discharge of the three wastes, reduce the pressure of corporate emissions and lower the negative impact of emissions on the environment.

During the reporting period, we aimed to eliminate the occurrence of major environmental pollution incidents, promoted the application for discharge permits and the registration of discharge information of our affiliated enterprises, urged the enterprises in the region to cooperate with government departments to implement clean production audit, continued to promote audit work, improved the long-term mechanism of clean production, and enhanced the ability of enterprises to achieve green development. At the same time, according to the risks and problems found in the environmental information research, we prepared the research report and put forward the rectification suggestions and management improvement direction, and required the industrial groups to implement the rectification scheme according to the rectification plan formulated by the enterprise, so as to ensure the stable discharge of pollutants to meet standards.



Exhaust emissions

- ◆ Exhaust gas is discharged at high altitude after being collected and treated
- ◆ Through technological transformation, some enterprises and workshops are transformed into organized emissions



Waste discharge

- ◆ Water pollution treatment project of sewage interceptor
- ◆ Wastewater is discharged after being treated to meet discharge standards
- ◆ Online monitoring of wastewater discharge



Waste management

- ◆ Entrust qualified environmental protection companies to handle hazardous wastes. Reusable general industrial wastes shall be reused by enterprises, and the rest shall be entrusted to third-party institutions for disposal.
- ◆ Actively promote the replacement of hazardous waste products, such as the use of special cleaning liquid instead of gasoline, acetone and other cleaning machine surface, to minimize the generation of hazardous waste.

Shanghai Electric's emission of pollutants and waste discharge in 2021 are shown in the following table:

POLLUTANT EMISSIONS	2020	2021	UNIT
Wastewater discharge	2,483,531.11	2,755,954	m ³
Exhaust emissions	500,488.77	507,067.36	'0000 m ³
Nitrogen oxides	75.72	70.56	tons
Sulfur oxides	2.81	1.77	tons
Particulate matter	23.86	18.20	tons
VOCs	93.86	100.61	tons
WASTE DISCHARGE AND INTENSITY			
Hazardous waste	3,430.86	3,292.41	tons
Non-hazardous waste	59,801.71	70,045.90	tons
Hazardous waste intensity	2.5	2.5	tons/RMB'00000000 revenue
Non-hazardous waste intensity	43.56	53.31	tons/RMB'00000000 revenue



04

Promoting linkage and win-win situation in an open and synergistic way

Shanghai Electric has established multi-level, multi-domain and multiform exchanges and cooperation with all parties, which will empower each other with comprehensive advantageous resources and bring into play the multiplier effect of strong alliance. Shanghai Electric is committed to creating the development pattern of “achieving win-win situation in an open and synergistic way” during the key period of transformation and development of the 14th Five-Year Plan, providing efficient support for the optimized appreciation of enterprises and promoting the sustainable development of the industry both at home and abroad. At the same time, Shanghai Electric will continue to set high-standard requirements for its suppliers in terms of quality, further improve the intelligent management of suppliers, promote the construction of a sustainable supply chain, and strive to create a harmonious and honest market environment with mutual benefit and sharing.



Maintaining long-term cooperation through ecological synergy

We will reach strategic cooperation with all parties to jointly seize the development opportunity, create the development pattern of “achieving win-win situation in an open and synergistic way”, and promote appreciation and sustainable development of enterprises.

Driven by the carbon peak and neutrality goals and led by the “14th Five-Year Plan” strategy, Shanghai Electric focuses on the transformation of its industrial chain to the “green and low-carbon” model, and concentrates its cooperation on energy transformation and technology development and exploration, initiates a number of overseas and domestic projects with strategic partners, deeply taps the resources of all parties and integrates the advantages of all parties, so as to share high-end technology and high-quality talents and further realize the overall low-carbon and high-quality development of the industry.

Government-enterprise cooperation

As a benchmark of state-owned enterprises, Shanghai Electric has been maintaining good cooperation with the government. In 2021, in terms of undertaking national strategies, serving to build a new development pattern and activating new momentum for high-quality development, the Group will further find the right combination and effort points, continuously open up new space for cooperation and development, promote more projects to be implemented, and give full play to its advantages in smart energy and other aspects, so as to enhance the quality in the green and low-carbon industry in the region and contribute more value to the regional development.



Government and enterprises join hands to contribute to the aerospace industry

Leng Weiqing, Secretary of the Party Committee and Chairman of Shanghai Electric, led a team to inspect Wuxi Turbine Blade Company Limited, and conducted an in-depth exchange with the government of Huishan District, Wuxi, to reach a consensus on strengthening the cooperation between government and enterprises and jointly turning the company into a leading professional manufacturing base of two machine parts both at home and abroad. By seizing the development opportunities and adopting positive measures, they join hands to contribute more to China's aerospace industry and achieve high-quality development.

Cooperation between government and enterprises to accelerate digital transformation

On the afternoon of August 31, 2021, Shanghai Electric and Shanghai Putuo District People's Government signed a strategic cooperation agreement to jointly promote the digital transformation of the city, so as to accelerate the digital transformation. The cooperation is based on Shanghai Electric's comprehensive advantages in artificial intelligence, cloud computing, Internet of Things, etc., to accelerate the construction of new smart city in Putuo district, create the “artificial intelligence + 5G” demonstration area in the district, and promote the high starting point and high quality development of industrial Internet in Putuo district. In addition, the two sides will continue to explore system solutions in areas such as medium-capacity intelligent public transportation and Internet+smart travel, and deeply integrate new technologies with urban construction, government governance and livelihood services, so as to promote the integrated development of the real economy and digital economy.



Shanghai Electric helps Baise achieve high quality development of low-carbon industry

On September 26, 2021, Shanghai Electric Wind Power Group signed a strategic cooperation framework agreement on new energy full-industry chain projects with the People's Government of Baise. The two sides reached cooperation intentions in wind-solar energy storage projects, "zero-carbon" industrial park demonstration and industrial collaboration, etc.. Shanghai Electric Wind Power Group will help Baise grow its clean energy industry and optimize its energy structure with the whole industry chain synergy, strive for the early implementation of the project, and accelerate the high-quality development of green and low-carbon industries in Baise and even Guangxi Zhuang Autonomous Region and make contributions thereto.

Shanghai Electric participates in the construction of affordable housing for lease

On December 15, 2021, two affordable housing projects for lease (081b-03 Plot Projects of Lingshi Community in Jing'an District and 117b-01 Plot Projects of Daning Community in Jing'an District), in which Shanghai Electric and Shibeit Hi-Tech Group (市北高新集團) cooperated to participate, were announced to be launched. Under the background of industrial structure optimization and adjustment, Shanghai Electric seized the policy advantage of land resource transformation, focused on the improvement demand of talents serving the Group in housing difficulties, and jointly builds a platform of "attracting investment" with Shibeit Hi-Tech Group (市北高新集團) to revitalize its existing resources. After the completion of project, approximate 2,100 affordable housing for lease will be added to further meet the diversified housing needs of the Group's talents.



Shanghai Electric Wind Power Group deepens strategic cooperation with Yunnan government agencies



On May 31, 2021, Shanghai Electric Wind Power Group signed a framework agreement to deepen strategic cooperation with Yunnan Energy Bureau and Yuxi and created a "green energy brand" in Yunnan Province and Yuxi by turning themselves into a carbon peak and carbon neutrality demonstration province and demonstration county and city, as well as zero-carbon industrial park. Such cooperation marks the opportunity for Shanghai Electric Wind Power Group to deepen its strategic cooperation with the People's Government of Yunnan Province and Yuxi. Shanghai Electric will continue to increase its investment in the new energy equipment industry during the 14th Five-Year Plan period, taking into account the significant historical opportunity arising from our natal goals of carbon peak and carbon neutrality, and make practical efforts to make new contributions for Yuxi to be at the forefront of carbon emission reduction demonstration work across the province.

Cooperation between schools and enterprises

Shanghai Electric attaches importance to the integration of industry, academia and research, and will continue to promote practical cooperation with universities in 2021 to jointly cultivate industry-leading talents. By building a cooperation platform and strengthening the cooperation mechanism, the Group will strengthen exchanges with colleges and universities, promote "talent interaction and resource sharing" between schools and enterprises, offer two-way services, and cultivate new strength for future industry development. In addition, the two sides jointly use their industry experience and R&D strength to jointly explore the core and cutting-edge technologies of the industry and strive for greater achievements in related fields.

Shanghai Electric synergistically creates a new model of university-enterprise cooperation with Shanghai Polytechnic University

On December 8, 2021, Shanghai Electric signed a framework agreement on university-enterprise cooperation, and also signed a cooperation agreement on "Workshops for Model Workers", with Shanghai Polytechnic University. The two sides will focus on Shanghai and national strategic needs based on their own advantages, integrate high-quality resources, strengthen in-depth cooperation in talent training, scientific research, student employment, model worker spirit lecture held in the campus, etc., explore a broader space for school-enterprise cooperation, and jointly create a new benchmark and model for school-enterprise cooperation.



Shanghai Electric joins hands with universities to strengthen talent training in specialized fields

At the opening ceremony of 2021 Shanghai Electric Science and Technology Month, Shanghai Electric signed a series of cooperation framework agreements with University of Shanghai for Science and Technology and Shanghai Jiao Tong University, which focused on the high-end talent market in strategic emerging fields and working together with universities to strengthen the targeted training of talents in professional fields. By jointly building a collaborative innovation platform, establishing an industry-university-research integration base, and conducting joint research, we strengthen talent training cooperation and scientific research exchanges, and accelerate the transformation of scientific and technological achievements into productivity.

Joint innovation of technology

In an age of parity when market competition is more intense and technology is in a more central position, Shanghai Electric takes the lead in the development of advanced technology in the industry by leveraging on the east wind from the construction of new national arenas that meet carbon peak and neutrality goals, and holding on to R&D breakthroughs and collaborative innovation in technology.

Shanghai Electric and Shenergy join forces to create a “Shanghai Solution”

In November 2021, Premier Li Keqiang inspected the clean and efficient use of coal in Shanghai Waigaoqiao No.3 Power Generation Co., Ltd. Premier Li proposed to promote mature and advanced technologies to improve energy efficiency, promote clean and efficient use of coal, and promote green and low-carbon development.

On January 27, 2022, Shanghai Shendian Green Power Technology Development Co., Ltd., jointly funded by Shanghai Electric, Shenergy Group, was inaugurated. The newly-established company was responsible for coordinating the resources of Shanghai Electric and Shenergy Group in professional technology, financial services and equipment support, and integrating their expertise in design, manufacturing, construction and finance, so as to create a “Shanghai Solution”. Through the promotion of high-temperature subcritical technology, it is dedicated to the clean and efficient use of coal-fired power, actively advances the business cooperation and continuously amplify the spillover effect of “Shanghai Solutions”, thus to serve the technological upgrading and green transformation of coal-fired power enterprises in China.



With energy “chip”, Shanghai Electric Guoxuan reached strategic cooperation with Baidu

On November 25, 2021, Shanghai Electric Guoxuan was awarded the "Baidu Pinghu DC Lithium Battery System Strategic Partner" from Baidu, and it was announced that the two parties formally reached a strategic cooperation. This strategic cooperation is a typical case of mutual benefit and win-win situation achieved by both parties in empowering the development of the industry with advanced technology. Both parties will take such release as an opportunity to further strengthen the research and development and promotion of the application of DC Lithium Battery in data centers. In the new situation of achieving carbon peak and neutrality goals, we will continue to explore the cooperation and development in the field of data center energy storage and green data center.



Industry cooperation

Shanghai Electric has strong alliances with various leading enterprises in the industry in high-end equipment, digital transformation and collaborative innovation development to plant new advantages in high-quality development. It also firmly grasps the development opportunity arising from domestic new energy industry, strengthens exchange and cooperation with various parties in the field of comprehensive new energy, coordinates and promotes green development, accelerates industrial transformation and upgrading, and effectively promotes the layout of energy industry. The Group will reach comprehensive strategic cooperation agreements with various parties in 2021, and jointly make greater contributions to the national goal of carbon peak and neutrality.

Shanghai Electric Strategic Cooperation Project



Shanghai Electric Wind Power Group joins hands with Danfoss to create a "zero-carbon" demonstration area

On November 6, 2021, Shanghai Electric Wind Power Group and Danfoss (Shanghai) Investment Co., Ltd. successfully signed a strategic cooperation framework agreement at the 4th China International Import Expo. The two sides will carry out in-depth cooperation in the fields of zero-carbon technology, green development and comprehensive intelligent energy industry, and work together to build a "zero-carbon" demonstration industrial park in Haiyan County, Zhejiang Province. The two sides will join hands to build a comprehensive energy system integrating decentralized wind power, distributed photovoltaic and new energy storage system, and carry out comprehensive energy service cooperation such as contract energy management and carbon asset management to form an integrated system solution that can be promoted and replicated.



Two groups of Shanghai Electric reached cooperation intention with Siemens Energy

On November 8, 2021, Shanghai Electric Power Transmission & Distribution Group and Shanghai Electric Wind Power Group under Shanghai Electric, signed a letter of intent for cooperation with Siemens Energy, pursuant to which these three parties will carry out extensive cooperation in the fields of renewable energy and the new generation of environmentally friendly power equipment. Their cooperation is a positive response to the country's goals of carbon peaking and carbon neutrality, energy transformation and sustainable development, as well as an important practice of creating a new development paradigm of "openness, win-win cooperation and mutual benefit".



Focusing on carbon peak and neutrality goals to create a model of cooperation between central enterprises and local enterprises, Huaneng Group and Shanghai Electric collaborate to promote high-quality development

On November 5, 2021, under the strategic objectives and development plans of the 14th Five-Year Plan, Shanghai Electric and Huaneng Group increased their cooperation, focusing on building a new model of power system with new energy as the mainstay, creating a model of cooperation between central enterprises and local enterprises, and jointly contributing to the early realization of carbon peak and neutrality goals.

Shanghai Electric and Lingang Group sign a "1+4" package of cooperation agreements

On September 22, 2021, Shanghai Electric signed a headquarter-to-headquarter strategic cooperation agreement with Lingang Group, pursuant to which both parties will establish comprehensive strategic cooperation in the development and construction of Lingang New District, as well as the construction cooperation of Lingang Group's industrial parks and the supply chain development. Shanghai Electric's high-end industrial equipment, automation systems, digital empowerment solutions, smart energy systems, and solutions for green environmental protection and green buildings will serve as supporting services for Lingang New District, and Lingang Group's smart industrial park and buildings, etc.



Shanghai Electric and State Grid Shanghai Municipal Electric Power Company deepen industry cooperation

On October 26, 2021, the Secretary of the Party Committee and the Deputy Secretary of the Party Committee of the Shanghai Electric led a team to visit Shanghai Municipal Electric Power Company where they had an in-depth exchange on further cooperation between the two sides. With new energy power connected to the grid, the power system will undergo fundamental changes. Under the guidance of carbon peak and neutrality goals, the two sides will continue to collaborate on scientific and technological innovation, strategic promotion and market expansion in the future. Insisting on open collaboration and win-win cooperation, the two sides will jointly exert their wisdom and strength, and join hands to accelerate the construction of new power system and the development of energy internet market, so as to better serve the economic and social development.



Shanghai Electric participated in the first session of Ecological Conservation and Utilization Summit

In March 2021, as a special guest representative and member of the alliance, Shanghai Electric Environmental Protection Group participated in the first session of Ecological Conservation and Utilization Summit and the Inaugural Meeting of the Planning and Design Industry Alliance. At the meeting, Shanghai Electric Environmental Protection Group highlighted the core technologies, advanced equipment and effective applications of Shanghai Electric in the fields of water treatment, solid waste treatment, new energy and building industrialization, and signed alliance agreements with 11 units including Wuhan Ecological Environment Design and Research Institute Co., Ltd. and China Municipal Zhongnan Design and Research Institute Co., Ltd.. It proactively integrate into Wuhan's holistic and systematic ecological environmental protection, and contribute wisdom and strength to jointly build an ecologically-oriented Wuhan.



Overseas expansion

Shanghai Electric cooperated with various enterprises based in China to promote overseas business expansion. In 2021, while creating a new overseas strategy, the Group further deepened its existing overseas project partnerships, utilized the rich resources in overseas markets to continuously improve the quality of development, expand the Group's influence and build a Chinese brand. The construction of several overseas projects not only helps the own development of the industry, but also allows green development to benefit overseas people, assist local communities to strengthen sustainable development and profoundly practice the "One Belt, One Road" Initiative.



Shanghai Electric Environmental Protection Group and Beijing Energy International Holding Co., Ltd. join hands to enter overseas new energy market

On June 17, 2021, Shanghai Electric Environmental Protection Group signed a strategic cooperation framework agreement with Beijing Energy International Holding Co., Ltd. for overseas new energy projects. The two sides intend to take specific projects as the starting point for cooperation, explore a series of solar operating assets, construction phase and development phase project cooperation, and carry out substantive work on transaction matters for more mature projects. Shanghai Electric Environmental Protection Group will take this opportunity to deepen the strategic partnership with Beijing Energy International Holding Co., Ltd., form an efficient and synergistic cooperation and development mechanism, and join hands to enter the overseas new energy market.

Maintaining supply management to achieve ongoing progress

Strengthen the examination and supervision of suppliers, optimize and improve the enterprise supply chain system, and improve the efficient development for enterprise.

Shanghai Electric strictly abided by the national laws and regulations including Contract Law of the People's Republic of China, Law of the People's Republic of China on Tenders and Bids, Law of the People's Republic of China on Product Quality, Pricing Law of the People's Republic of China, Guarantee Law of the People's Republic of China, Audit Law of the People's Republic of China and Anti-unfair Competition Law of the People's Republic of China, and continued to implement the existing management system and regulation including Shanghai Electric's Purchase Management, Shanghai Electric's Centralized Purchase Management, the International Procurement and Supplier Management Plan and Purchase Pricing Management.

Supplier management

We maintain strict control over our suppliers and require them to comply with the Supplier Code of Conduct. Based on system certification and product certification, we adopted self-registration system and third-party risk system that automatically connect with risk radar, to obtain the risk information in the first time and respond in advance. The approval standards on supplies shall be unified, allowing the Group to unify and coordinate all information of suppliers, strengthen the management and supervision on all suppliers, so as to achieve the precognition, high efficiency and consistency of the risk management. Enterprises with negative records, such as breach of trust, legal disputes and environmental penalties, are excluded from cooperation.

A process performance feedback mechanism is adopted whereby unqualified suppliers will trigger a notification, a warning, or a suspension or cancellation of cooperation; meanwhile, an annual performance appraisal is conducted, and the unqualified suppliers will be eliminated. Enterprises conduct the unannounced inspections and review on the quality on supplies, projects and service of suppliers, evaluate the resupply qualifications of qualified suppliers; the Group will select some suppliers for joint review with factories.



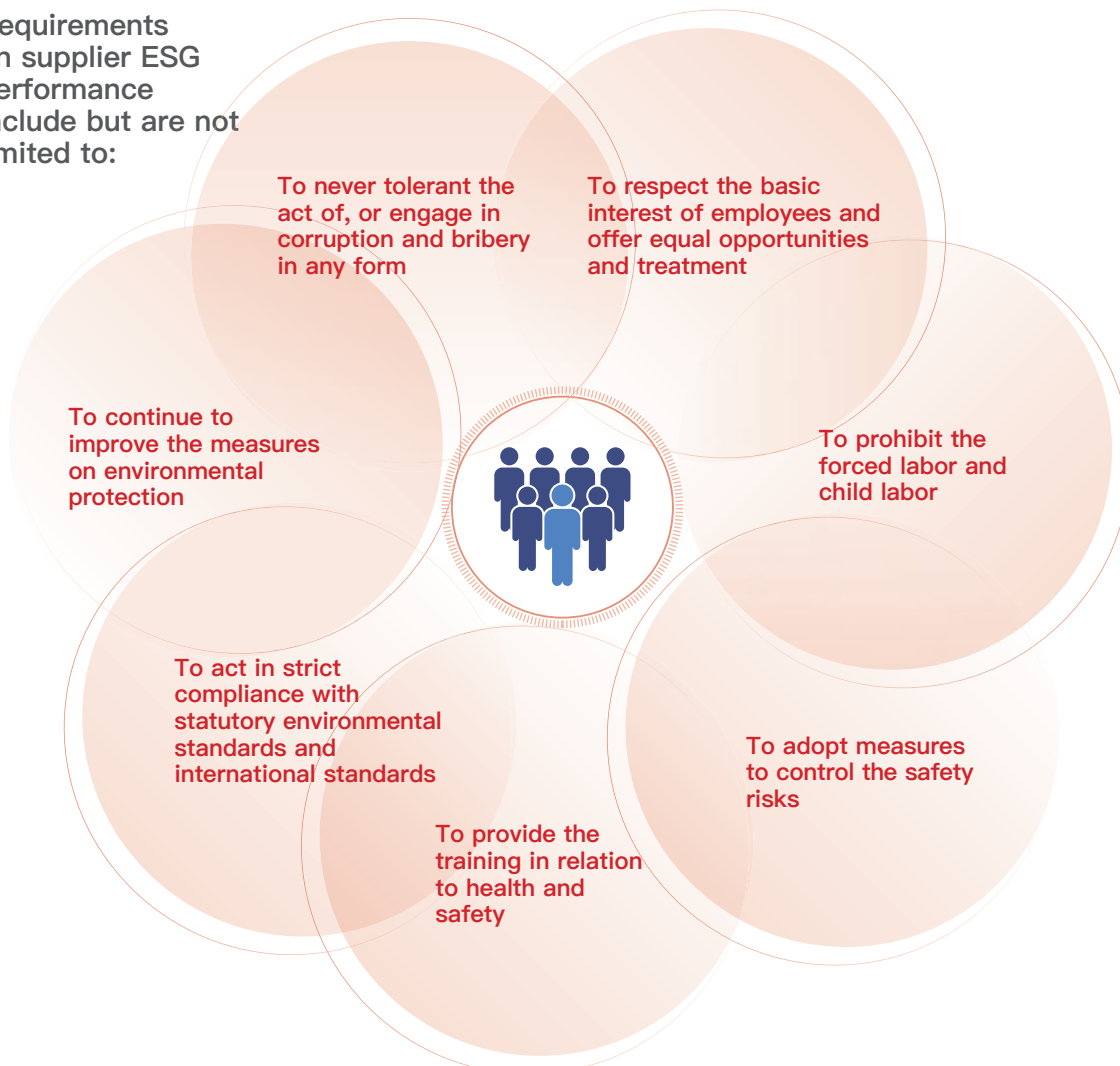
Supplier sustainability requirements

In order to create a sustainable supply chain and convey and practice the concept of sustainable development, Shanghai Electric has set out clear requirements for corporate ESG performance in its Supplier Code of Conduct.

Shanghai Electric encouraged all suppliers to enter into the Agreement on Workplace Safety and Environmental Protection, and conducted a comprehensive safety and environmental review of its suppliers. By taking the special activity of Safe Production Month as an opportunity, we conducted comprehensive review and certification of suppliers' qualifications, safety and environmental performance in the past three years, the degree of workplace safety standardization (suppliers involved in production, construction and hazardous chemicals were required to provide a certificate of workplace safety standardization at level 2 or above), safety and environmental laws and rules violations and accidents, and other related matters involving regulations on workplace safety.

In order to strengthen efforts to improve Party conduct and uphold integrity in the field of procurement, and prevent all kinds of violations of discipline and the law involving the seeking of improper benefits in procurement activities, Shanghai Electric implemented the Procurement Contract–Integrity Agreement "double contract" signing mechanism, requiring that all suppliers who provide products or services to Shanghai Electric must sign the Integrity Agreement when they sign a contract with us. . At the same time, Shanghai Electric further implemented the "blacklist" system and dealt with suppliers on the "blacklist" sternly.

Requirements on supplier ESG performance include but are not limited to:



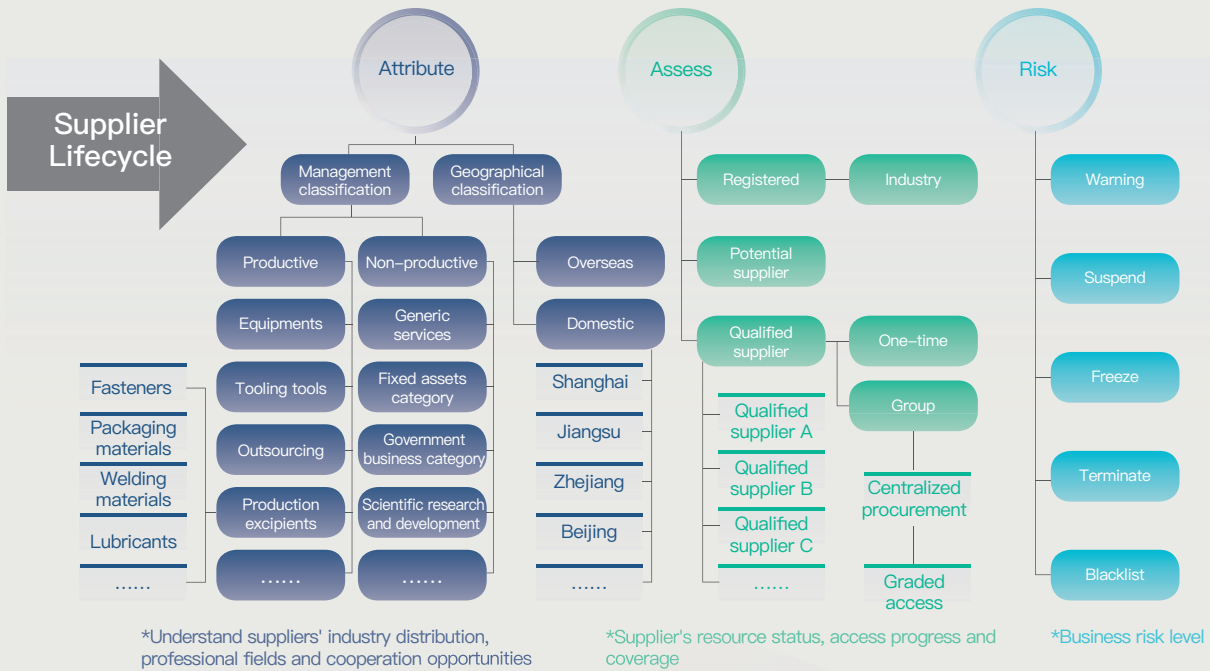
Supplier relationship maintenance

In response to the trend of digital change in enterprise efficiency and management, Shanghai Electric continues to optimize its information-based supplier relationship management (SRM) platform, promotes advanced management ideas and standardized procurement processes, and upgrades procurement and supplier management mechanisms. Shanghai Electric's SRM platform includes a supplier lifecycle module, a bidding and sourcing module, an order coordination module and an e-marketplace module, which connects with the upstream and downstream of the supply chain, enabling each department to manage the supply chain in a real-time and dynamic manner, so as to improve management efficiency.

In 2021, Shanghai Electric will continue to improve its smart supply chain platform, adding new functions such as supplier management tags (status, industry and business), mutual recognition standards for suppliers, fast access for industry enterprises, supply chain digital signage, and steel plate price model to promote supply chain resource sharing, summarize industry support, and provide price guidance. Meanwhile, for the first time, Shanghai Electric integrated the smart supply chain platform into the Dianqitong (电气通) APP to realize real-time supply chain data sharing and procurement business development. During the reporting period, we implemented the application of the smart supply chain platform in major industrial groups and enterprises under the Group, and achieved a series of results:

- ◆ 105 online supplier lifecycle management modules, with more than 20,000 registered suppliers on the platform.
- ◆ 46 online enterprises on the competitive pricing platform of the bidding and sourcing module, with the transaction amount of the online bidding platform exceeded RMB20 billion;
- ◆ 135 enterprises covered by procurement e-commerce with the transaction amount of procurement mall exceeded RMB40 million;
- ◆ Approximately 80% of the procurement amount from 14 industrial groups covered by the platform, with the average cost of procurement categories reducing by approximately 6% through the centralized management of business by the platform.





Shanghai Electric always promotes supply chain construction as the key to the sustainable development of enterprises under the Group. In view of the type and demand of different suppliers, various groups carried out a variety of communication activities aimed at improving the supplier operation system, so as to create a harmonious, shared and win-win cooperation environment.

Measures for the maintenance of supplier relationships

- ✓ Organize a supplier conference ↔ At the supplier conference, talk to suppliers face to face about the strengths and weaknesses in their performance, and at the same time publicize the technical development plan and procurement management requirements.
- ✓ Hold seminars on common issues ↔ Hold supplier seminars on common issues, such as developing emerging markets, expanding service markets, etc.
- ✓ Coaching and training ↔ Help suppliers improve their quality management capabilities through special quality coaching and training.
- ✓ Carry out exchanges on centralized procurement ↔ Carry out exchanges on centralized procurement in an area where suppliers are concentrated.
- ✓ Customer feedback ↔ Make regular quality visits to customers, and communicate customers' requirements for products to suppliers to help suppliers improve product quality and refine the direction.

Discussing the safety of energy storage projects in Tai Po with suppliers

In June 2021, Shanghai Electric Power Transmission & Distribution Group held a safety assessment meeting for Tai Po energy storage project. The meeting exchanged and discussed issues such as fire safety of energy storage and put forward corresponding solution ideas. Each supplier reported the safety assessment report and design plan of their respective supply products to effectively eliminate safety hazards and ensure the safe advancement of the project.



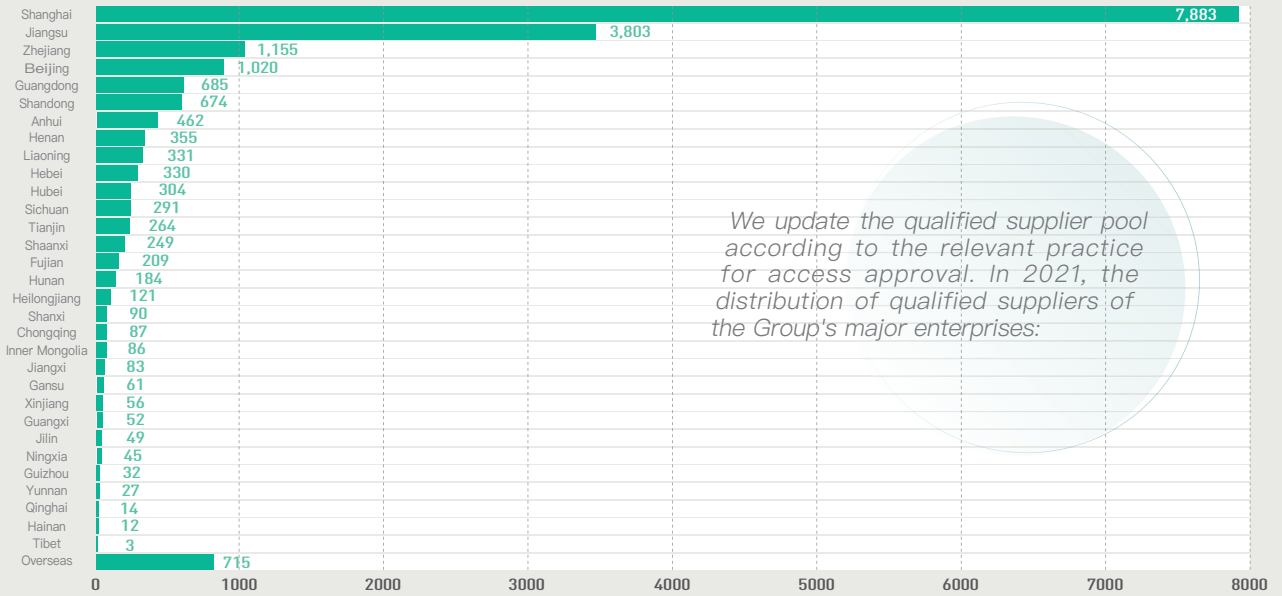
Consolidating cooperation with Danfoss's global supply chain

Through China International Import Expo, Shanghai Electric has further developed multi-angle cooperation with foreign investors in the past four years, creating new cooperation opportunities in new energy, intelligent medical care, advanced manufacturing and other fields. During the fourth session of China International Import Expo, Shanghai Electric and Danfoss further consolidated their cooperation achievements and realized technology interaction and complementary products combined with Shanghai Electric's global positioning and Danfoss Group's complete global supply chain and strong R&D capability in engineering applications to enhance the brand value and overall competitiveness of both sides.



Distribution of major enterprise suppliers of Shanghai Electric

■ Number of distribution



We update the qualified supplier pool according to the relevant practice for access approval. In 2021, the distribution of qualified suppliers of the Group's major enterprises:



05

Put our rights and interests as the foundation to cultivate outstanding talents

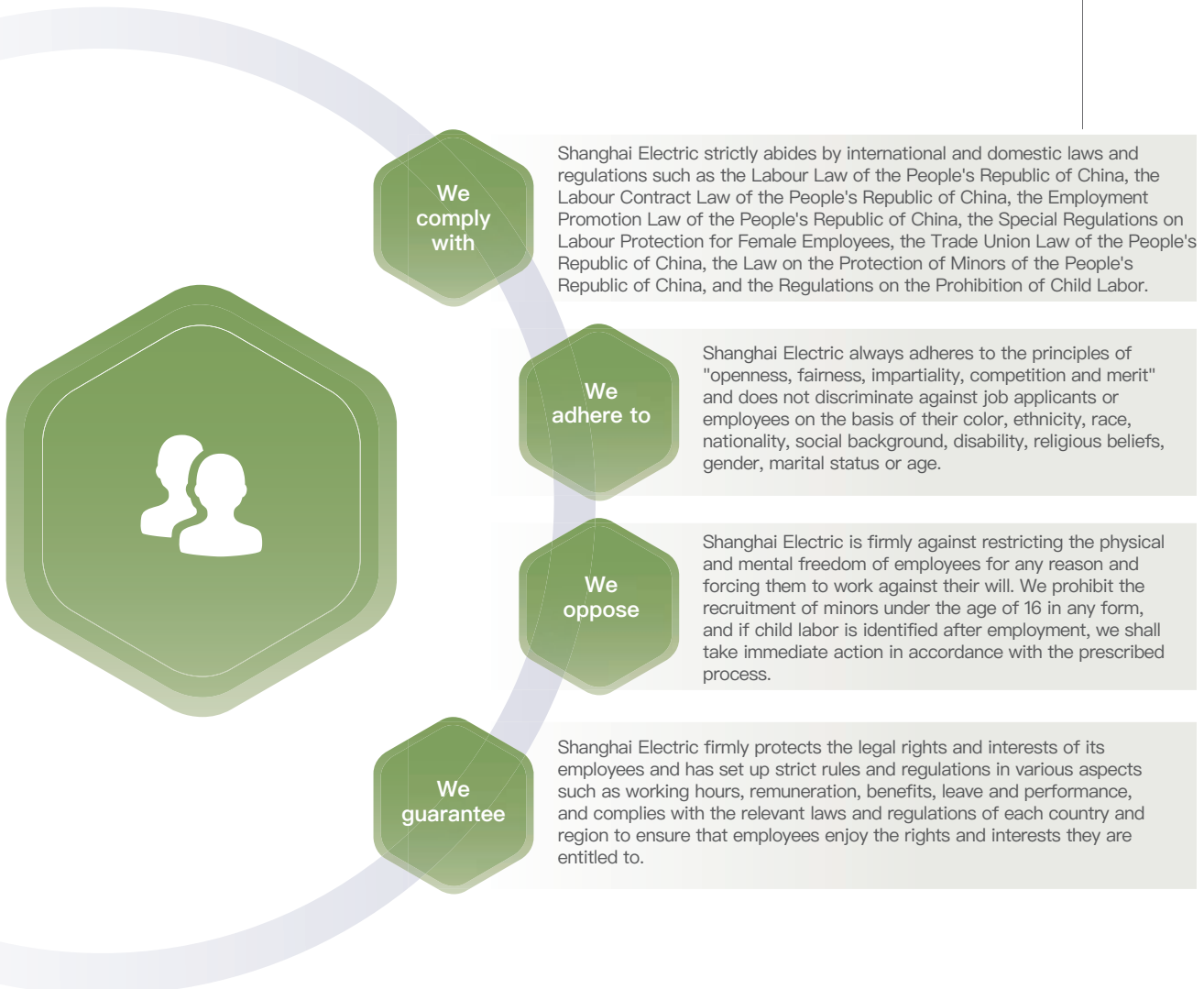
Shanghai Electric understands that talent is the cornerstone of high-quality development of the enterprise, therefore, it adheres to the talent concept of "regarding talent as the primary resource, taking the discovery and achievement of people as the first pursuit, and enable the strivers to have a stage to perform, so as to build a high-quality talent reserve pool. The Group fully protects the rights and interests of employees, ensures equal and fair treatment of employees, establishes a comprehensive training and promotion mechanism, creates a safe working environment, establishes a harmonious working atmosphere, and makes every effort to protect the physical and mental health of employees while reasonably planning their development and growth.

Defending rights and interests, equality and diversity

We firmly protect the legitimate rights and interests of our employees, create an equal and diversified working environment, and maintain harmonious and stable labor relations. At the same time, we enrich the life of employees, help them to solve their problems and enhance their happiness and sense of belonging.

Employment management

Shanghai Electric has formulated a series of employment policies and its related rules and regulations, including "Recruitment Management Rules", "Recruitment Implementation Rules" and "Staff Handbook", aiming to standardize and integrate the recruitment process and employment matters. Shanghai Electric understands that a firm principle of fairness and impartiality, an inclusive and enlightened management philosophy, the protection of employees' legal rights and interests, and the creation of a rich and diversified employment environment are important factors in attracting talents from different backgrounds, fields and experiences.



Shanghai Electric was named to the Best Global Employer on Forbes 2021

Shanghai Electric was named to the Best Global Employer on Forbes 2021, ranking 15th place among Chinese companies on the list. The list anonymously surveyed 150,000 full-time and part-time employees working for multinational companies and organizations from 58 countries, rated them on image, economic footprint, talent development, gender equality and social responsibility. The ability of Shanghai Electric to receive such honor represents the recognition from the outside world and our employees, and we will continue to work hard to create the best employment environment for our employees.



In 2021, Shanghai Electric continued to adopt the "contactless recruitment" solution, set up a recruitment section on its official website and official accounts, and launched the 2022 campus recruitment campaign of "creating the future with creators ". At the same time, we opened multiple channels including social recruitment, internal recruitment and internal recommendation to attract internal and external talents to join us. In addition, Shanghai Electric has set up "Electric Cloud Tour (電氣雲參觀)" in the official accounts to help candidates understand the information of the Group and its subsidiaries, familiarize with the recruitment process, and fully visit the Group and its subsidiaries online through a panoramic map.

In order to strengthen the openness and transparency of the compensation structure of leaders in each group subordinate enterprise, encourage the leadership management to play a leading role, promote the implementation of "capable cadres, increasing or decreasing income and free entrance and exist of employees", and also further establish the mechanism of compensation management for corporate leaders, which is consistent with responsibilities and interests, ability and value, risk and reward, and performance and income, Shanghai Electric formulated the "Compensation Management for Leaders of Group Subordinate Enterprises" in 2021. The rules clearly stipulate the remuneration structure, cashing rules, code of conduct and accountability for non-compliance of leaders of the Group's subordinate enterprises, in order to regulate the remuneration management of leaders of the Group's subordinate enterprises and promote the sustainable, stable and healthy development of the subordinate enterprises.



Shanghai Electric actively helps women in employment and protects the rights and interests of female workers

The Group is always concerned about women and is committed to building a career stage for more women. Shanghai Electric has joined the "Seagull Plan (海鷗計劃)" launched by the Shanghai Women's Federation and the Municipal Education Commission with the aim of "helping young women get good jobs and careers" and was awarded the "Seagull Plan Career Development and Employment Guidance Base for Female Students (海鷗計劃女大學生職場發展與就業指導基地)". In addition, Shanghai Electric and Shanghai Electrical and Mechanical Trade Union signed a special collective contract for the protection of female workers' rights and interests upon their consensus, encouraging female workers of the Group and its affiliated enterprises to actively participate in the production and operation activities of the enterprises and make new contributions to the development of enterprises through continuous innovation. Shanghai Electric will be their strong support, providing them with a safe, healthy, comfortable and equal working environment, and firmly protecting their legal rights and interests, and showing care to them.



Shanghai Electric offers a series of activities for employees to understand their legal rights and interest

In order to help employees understand their legal rights and interests and provide them with relevant consultation channels, the Group, together with the Shanghai Electrical and Mechanical Trade Union, held lectures on "The Civil Code and Our Life" and legal service salons.



Infinite possibilities, being "Female Power"

On May 22, 2021, Shanghai Science and Technology Festival, with the theme of "Looking back at the century and advocating science and self-reliance", kicked off at Shanghai Science and Technology Museum. Yang Hong, vice president of Shanghai Electric, was invited to attend the "Female Power" forum of Shanghai Science and Technology Festival. Yang Hong said that in the development process of Shanghai industry, female scientists and technicians also have the strength of perseverance and can "use softness to overcome hardness" when dealing with machines and steel. Shanghai Electric also has such a group of female science and technology workers, such as Cheng Yan and Liu Shuang in the digital talent team, who have led the team to take up the important task of leading the digital transformation of the Group. In the past two years, they have achieved breakthroughs in the fields of information-based management, intelligent supply chain and digital factory, making outstanding contributions to the digital, computerized and intelligent transformation of the manufacturing industry. Shanghai Electric will spare no effort to support them and always show care and love to them.



Put our rights and interests as the foundation to cultivate outstanding talents

In 2021, the Group continued to expand its scientific and technological talents. Adhering to the talent attraction concept of “Aiming for global and leading by elite quality”, the Company launched a series of activities of “talent recruitment” by focusing on the introduction of nearly 40 mid-and high-end talents in the fields of digitalization and new energy throughout the year.

CATEGORY	CONTENT	2020	2021
Total	Total number of people	39,312	39,015
Gender	Male	30,939	30,862
	Female	8,373	8,153
Age segment	<20 years old	12	0
	20–29 years old	10,396	10,327
	30–39 years old	11,376	11,306
	40–49 years old	10,429	10,338
	50 years old and above	7,099	7,044
Function	Management	3,638	3,641
	Production	17,111	16,911
	Sales	2,861	2,877
	Technical research	12,478	12,596
	Financial audit	1,245	1,188
	Administration & Logistics	1,979	1,802
Education background	Doctor's degree	189	206
	Master's degree	3,658	3,915
	Bachelor college	14,924	16,281
	College degree	8,124	8,124
	Below College degree	12,417	10,489
Rank	Senior managers	210	216
	Middle managers and engineers	9,802	9,765
	General technical staff	10,060	10,307

Employee turnover (as a percentage of the total workforce)

YEAR	GENDER		AGE				REGION	
	Male	Female	Below 30	30–39	40–49	50 and above	Shanghai	Non-Shanghai
2020	1.9%	0.3%	0.9%	1.0%	0.2%	0	2.2%	0
2021	3.1%	0.8%	1.3%	2.0%	0.5%	0.1%	3.5%	0.4%

Democratic management

Shanghai Electric has always respected employees' willingness to join trade unions, and hopes that through trade unions, we can guarantee employees' rights to information, participation and supervision, promote communication and exchange between employees and us, and help establish stable and harmonious labor relations. Since the establishment of our labor union (Shanghai Electrical and Mechanical Trade Union), we have prepared and issued important documents such as "Opinions on Strengthening Collective Wage Negotiation", "Implementation Measures of Shanghai Electric Group's Employee Representative Meeting" and "Operating Guidelines for Grassroots Enterprises' Employees (Representative) Meeting", and signed collective contracts, special collective contracts for protection of women workers' rights and interests and special collective contracts for wages with enterprises as representatives. As of December 31, 2021, all incumbent employees of Shanghai Electric are members of labor unions.

In order to mobilize the enthusiasm of the employees of the Group and its subordinate enterprises, improve the ideological, political, cultural and technical quality of the employees, and cultivate the sense of ownership of the employees, Shanghai Electric cooperated with the labor union to carry out a series of special activities. We hope that all employees will vigorously carry forward the spirit of model workers, be diligent in creation, unite and help each other, and strive to better play the role of the main force through diligence, grow together with Shanghai Electric, and create happiness with efforts.

▼ Li Bin Cup (李斌杯) Staff Skills Competition



▲ "First by Me" Performance

▼ Model Worker Report Session



▼ Poetry Recitation Contest Themed "Sunny Born and My Efforts"



Put our rights and interests as the foundation to cultivate outstanding talents

Shanghai Electric hopes to create a warm atmosphere of a big family for employees, advocating a perfect balance between work and life, and striving to enable our employees to receive meticulous care. We actively carry out various forms of cultural and sports activities to encourage active participation for our employees, cultivate spare time hobbies and show their versatility. In addition, Shanghai Electric cares about the life of each employee, and is committed to creating a warm and humane Shanghai Electric family, so that employees can work with peace contentedly and live happily. With this goal, Shanghai Electric has been repeatedly awarded the honor of "Shanghai Harmonious Labor Relations Enterprise".

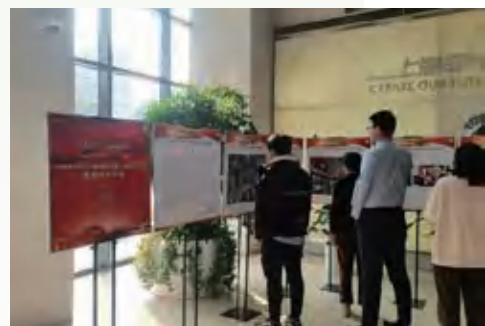
Cultural and sports activities



- ▲ "Universal Pleasure" Staff Seminar
- ◀ The Fifth Session of Staff Table Tennis Tournament for Shanghai Electric



▲ Shanghai Hiking Carnival



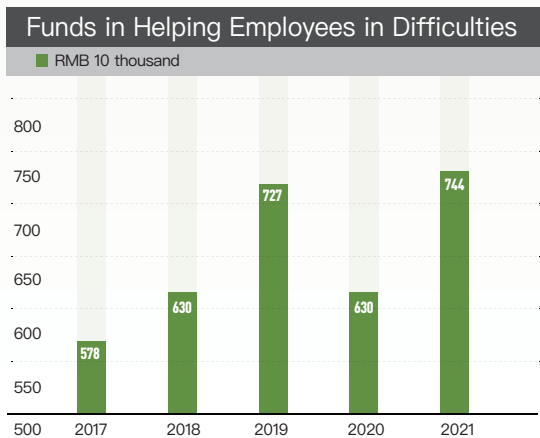
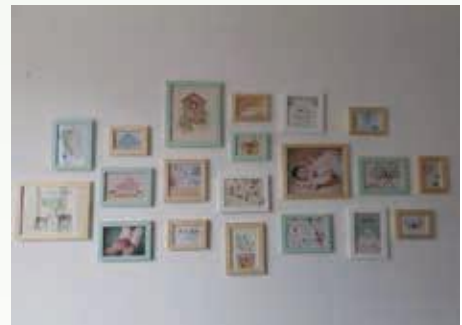
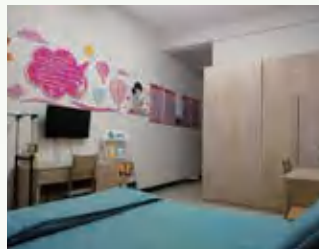
▲ "Chinese Dream and Beauty of Labor" Staff Photography Competition

Living care

We have set up "Staff Homes" for our employees who have worked overseas, and provided them with a variety of cultural exchange, learning and entertainment activities to help them solve their living difficulties, integrate into local activities and build a platform for communication.



We have set up the "Love Mommy Hut" for female employees to have a private, hygienic and safe place to rest during pregnancy and breastfeeding period. We continue to improve the hardware and software facilities of the hut so that mothers-to-be and new mothers can have a relaxed and happy mood while having a well-equipped exclusive place.



In 2021, Shanghai Electric donated a total of RMB7.44 million to help employees in need to tide over their difficulties.

Democratic communication

Shanghai Electric believes that establishing a comprehensive communication system is conducive to listening to employees' voices, understanding their ideas and promoting effective communication between the company and employees in a timely manner, so as to help employees solve problems in their work and life. Shanghai Electric has long insisted on holding the meeting of "face to face with executives" to increase the communication between executives and employees of the Group;

earnestly built the column of "Youth Listening (青聽)" to narrow the distance between the youth and the enterprise; and focused on building the "Voice Platform (心聲平台)", to stimulate the sense of "ownership" for staff. In addition, the labor union has implemented a petition reception mechanism and established a proposal review committee to provide employees with a path to solve problems and encourage them to give feedback on the operation and development of Shanghai Electric.



Shanghai Electric Party Committee held a forum for model workers

On August 3, 2021, the Secretary of the Party Committee, the Deputy Secretary of the Party Committee and the Chairman of the Labor Union of the Group communicated with 9 advanced representatives of model workers from different enterprises and different positions of the Group and its subsidiaries, and went to the production site of the enterprises to console the front-line employees before the meeting. During the seminar, the representatives of the model workers made their speeches one by one, combining their own growth experience and struggle stories to express their perceptions of the spirit of model workers and craftsmen, as well as their bright visions for the future of Shanghai Electric. The leaders of the Group listened carefully to their speeches, emphasized the positive role played by the model workers in promoting the development of Shanghai Electric, and put forward relevant requirements on how to firmly establish the enterprise by fully relying on the working class.

Shanghai Electric held the exchange seminar for young cadres

On October 29, 2021, the Party Committee of the Group held a forum for young cadres born in 80s with the theme of "focusing on the main business and concentrating on development". Leng Weiqing, Secretary of the Party Committee and Chairman of the Board of Directors of Shanghai Electric, and Liu Ping, Deputy Secretary of the Party Committee and President of Shanghai Electric, had a face-to-face communication with eight young cadres from different departments and different enterprises of the Group. The young cadres expressed their views on the theme of the meeting and the high-quality development. After listening to the speeches of the young cadres, the leaders of the Group emphasized their importance to the development of the Group and put forward hopes and requirements for them.





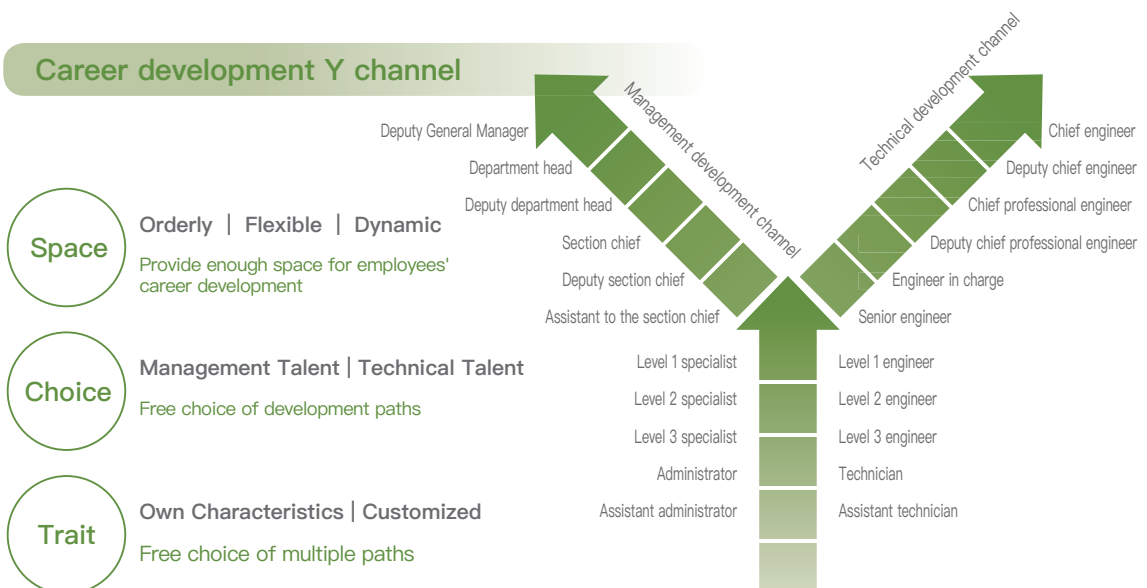
Shanghai Electric held Youth Qiaka Meeting (青年恰咖會)

On November 29, 2021, as a series of activities of Shanghai Electric's Science and Technology Month, the Electric Youth Qiaka Meeting (電氣青年恰咖會) was held at central research institute and broadcasted online through the "Electric Pie (電氣派)" video output. Leng Weiqing, Secretary of the Party Committee and Chairman of the Board of Directors of Shanghai Electric, Liu Ping, Deputy Secretary of the Party Committee and President of Shanghai Electric, Zhu Zhaokai, Deputy Secretary of the Party Committee and Chairman of the Municipal Mechanical and Electrical Trade Union, and Yang Hong, Vice President, attended the meeting and had face-to-face communication with technical youth representatives. Ten technical youth representatives from different industries and fields of the Group put forward their thoughts and valuable suggestions on the Science and Technology Month with the theme of "smart manufacturing and upgrade, as well as innovation and empowerment". The leaders of the Group encouraged the young technical representatives and emphasized the Group's love and treasure for talents.

Talent cultivation for mutual achievement

Provide training and promotion opportunities for employees to promote common development and mutual achievement between employees and the enterprise.

Shanghai Electric understands the importance of talents in the development of the enterprise. The vigorous efforts to cultivate high-quality talents is an important factor to build a high-quality team and promote the progress of the enterprise. In order to improve the enthusiasm of employees, give full play to their own talents and expand their possibilities, we have built a "Y-shaped" career development channel, aiming to encourage employees to choose a development channel suitable for them according to their own characteristics. We uphold the management-oriented and technology-oriented employment concept, and provide enough space for the development of different types of talents. At the same time, we have established the performance management principles of "strategic guidance, performance orientation, index diversity, interest relevance, fairness, justice and openness", and built a comprehensive performance appraisal system around these principles.



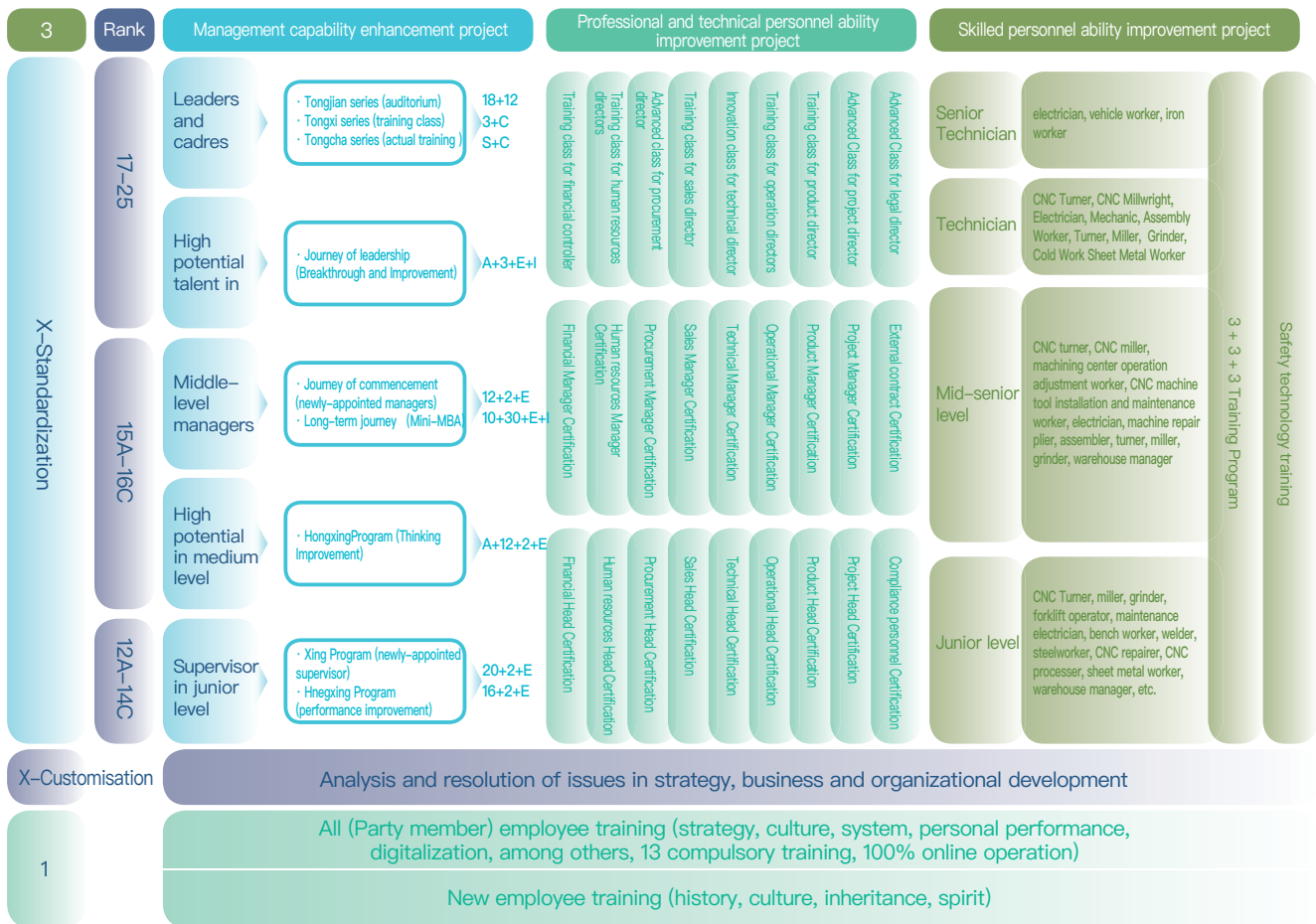
Shanghai Electric has developed a "3+1+X" training system according to the skill level of technicians and job type.

Based on "strategy orientation, problem orientation and demand orientation", and the job competency model, we have built a hierarchical "3+1+X" training system for management of talents, professional talents and skilled talents. We offer targeted training courses and integrate diversified training methods to meet the learning needs of different types of talents as much as possible.

Based on the principle of stratification, the Group has established standardized and customized training contents for management, professional and technical personnel and skilled personnel, including new employee training and compulsory training according to the needs of all employees, various competency enhancement training programs according to the ranks of management personnel, technical certification and advanced training according to the fields of professional and technical personnel, as well as safety technical training and "3+3+3" training program according to the ranks and types of skilled personnel.

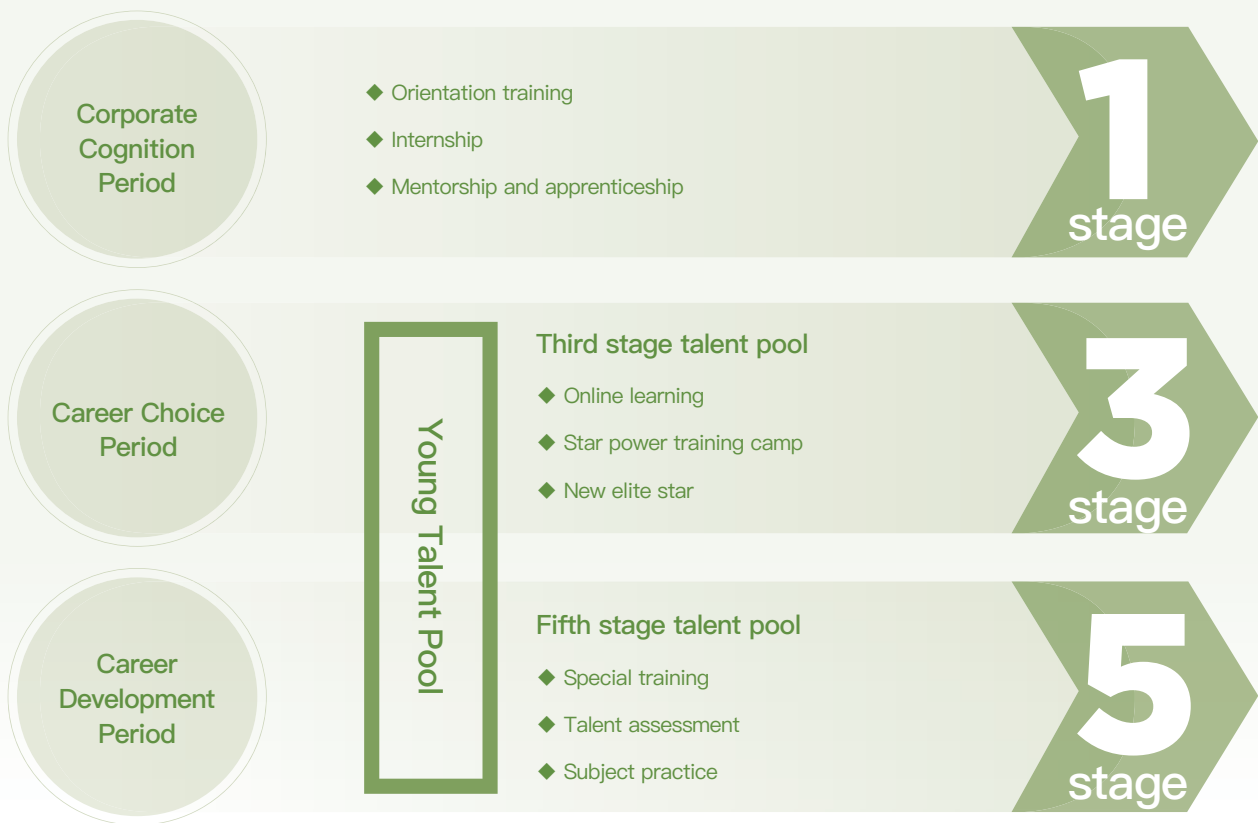
Soft Power Supporting Core Competitiveness – System Design

The responsibilities of three centers build a 3 + 1 = X training project system framework by adopting the principle of hierarchical classification, and covered a standardized + customized training project system



Shanghai Electric set up "1+3+5" training system for young talents

In accordance with the general requirements of "one goal, three principles and five links", i.e. the goal of cultivating college students' talents, the principles of "guidance by the group and implementation by the enterprise", "compliance with the law and phased training", "dynamic management and emphasis on quality", Shanghai Electric promotes the systematic cultivation of college students in recruitment, internship, training, assessment and selection in a planned, systematic and focused manner. We help young college students to complete the role transformation as soon as possible after joining us, and gradually grow into business backbone, and develop themselves into key reserve talents of the Group on this basis.



In 2021, in order to meet the new trend of national development and industrial upgrading, implement the strategy of developing the country through science and education and strengthening the country through talents, respond to the demand of digital transformation talents and accelerate the construction of highly skilled talents, Shanghai Electric has enriched the training curriculum based on the original training system, by focusing on digital transformation talents training and creating a new model of school-enterprise cooperation.

In addition to enriching the offline centralized training mode, Shanghai Electric vigorously developed the online learning platform "E Academy". Based on the requirements of each position and task, we have established a multi-dimensional and hierarchical course system in terms of quality, knowledge, and skills, and timely delivered the latest training notices, developments and updated information through official account of "SEC Xiaopei", so as to improve the effectiveness and convenience of learning for all employees and meet the learning needs of employees in a wide range of areas. In 2021, E Academy has covered 276 enterprises.

Put our rights and interests as the foundation to cultivate outstanding talents

Advanced seminar for digital transformation talents

In 2021, the Group will continue to focus on deepening the concept of digitalization, and specifically set up advanced seminar for digital transformation talents based on the common problem-solving needs and capability needs of digital transformation talents, by focusing on cultivating leaders to support the digital transformation strategy of Shanghai Electric. The seminar is designed for leaders and key personnel in charge of important lines of work in all enterprises of the Group, starting from two major aspects of conceptual transformation and capability transformation, setting up rich training courses and diversified training methods to enhance the cognition of trainees on themselves, organizations and industrial ecology from the perspective of enterprise digital transformation, carrying out interdisciplinary learning and benchmarking learning, internalizing what they have seen and learned, and deepening their thinking on digital transformation.



MEM postgraduate exam counseling training from Shanghai Jiao Tong University

In order to cultivate a group of engineering and technology talents in the direction of digital research, the Group has reached cooperation with School of Electronic Information and Electrical Engineering of Shanghai Jiao Tong University, pursuant to which the industrial group and enterprises recommend outstanding young people to organize participation in the Master of Engineering Management (MEM) training program offered by Shanghai Jiao Tong University. In order to provide good preparation conditions for the students, Shanghai Electric has specially set up postgraduate exam counseling course to help them continue their further studies and become excellent talents to help the digital development of the industry.

Seminar for model worker and craftsmen

On December 8, 2021, Shanghai Electric Science and Technology Activity Month re-appeared with new achievements. The Group signed a school-enterprise cooperation framework agreement with Shanghai Polytechnic University, and also signed a cooperation agreement on "seminar for model workers and craftsmen". The two sides will jointly hold workshops for front-line skilled employees of Shanghai Electric, and work together to cultivate model workers, national craftsmen and technical expert, which are urgently needed for the future construction of the country, and to reserve technically skilled talents in the field of intelligent manufacturing and high-end equipment.



GENDER	FEMALE			MALE		
	Senior management	Middle management	General staff	Senior management	Middle management	General staff
Percentage of training	100%	97.4%	96.7%	100%	97.6%	96.6%
Average number of training days	4.5	2.7	2.4	4.5	2.7	2.4

Safe production to care for health

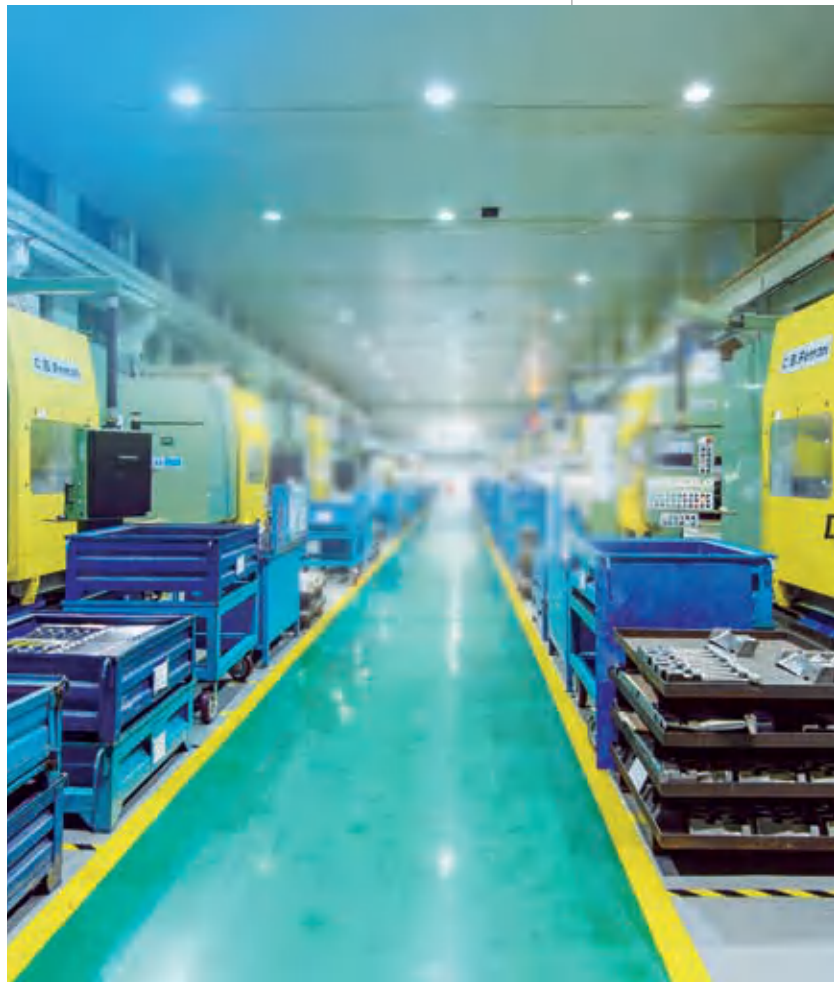
Put safety production first by continuously enhancing safety production management and the safety awareness of employees at work.

Employees' health and safety has always been a top priority for Shanghai Electric as well as a key to its productivity and future development. Thus, we keep improving and implementing our occupational health and safety management system to ensure a healthy and safe working environment for our employees.

Safety mechanism

Under such laws and regulations as the Law of the People's Republic of China on Workplace Safety, the Law of the People's Republic of China on the Prevention and Control of Occupational Diseases, the Measures for the Administration of Emergency Plans for Workplace Accidents, and guidelines like the ISO 45001: 2018 Occupational Health and Safety Management Systems — Requirements with Guidance for Use, the GB/T 33000-2016 Guideline of China Occupational Safety and Health Management System, we strive to establish a sound health and safety management system to minimize workplace accidents.

In 2021, Shanghai Electric raised safety production surrounding "enterprise risk, leadership accountability and bottom line of workplace safety", in which the EHS system plays a leading role. It requires that such system be fully implemented at group, business divisions and enterprise levels. Particularly, at the group level, we constantly improve workplace safety management under "SEC-LOVE" system in the new era, with "human life is above all, enjoy safety, green manufacturing and co-create the future" as its core; at the business divisions level, we focus on strengthening regulation of main tasks and work by signing letters of responsibility and commitment for safety production and conducting annual supervision, assessment and continuous improvement as required; at the enterprise level, we arrange for main leaders and division leaders to attend special studies to ensure the system of accountability for safety production is implemented.



Risk prevention

To establish an all-round health and safety management system, Shanghai Electric formulated the Emergency Plans for Workplace Accidents of Shanghai Electric, the Statistics Management on the Reporting and Handling of Workplace Accidents and Environmental Pollution Incidents, and specifically, the Implementation Plan for the Three-Year Action on Special Rectification of Workplace Safety of Shanghai Electric.

During the reporting period, Shanghai Electric contrived to strengthen its risk management capability in three aspects:



Further deepen hierarchical management and control of workplace safety risks

- Supervise and guide enterprises in establishing a thorough list of safety risk management and control and completely implementing their original safety risk control measures with reference to the Implementation Guidance of Shanghai on Classified Management and Control of Enterprise Safety Risk and the Guidance Manual of Shanghai Electric Group on Classified Management and Control of Safety Risk.

Further push forward the three-year action on special rectification of workplace safety

- Prepare and publish the Supplementary Three-Year Action Plan on Occupational Health Work of the Group and the key task book, based on the Implementation Plan for the Three-Year Action on Special Rectification of Workplace Safety of Shanghai Electric;
- Formulate supervision work plans, implement hierarchical management and control as well as accountability system based on the characteristics and level of risks confronted by enterprises;
- For the existing problems arising from fire safety management in enterprises, Shanghai Electric offers to implement the system of accountability, perfect management system, upgrad equipment and technology, and strengthen emergency response capability.

Further strengthen investigation into and handling of hidden dangers

- Institute the mechanism and network for hidden danger investigation featuring vertical supervision and process regulation. Follow up and urge rectification of problems and accidents by key enterprises;
- Develop intelligent tracking management of hidden dangers by electronizing discovery and confirmation to rectification and review to form a new model of hidden danger investigation and management.



- ◆ In 2021, Shanghai Electric carried out special rectification of the use of hazardous chemicals, explosive dust, limited space, etc, involving a total of 119 enterprises;
- ◆ In reviewing the standardization of safety production, two enterprises regained second level, two gained first level, six gained second level, in addition, Shanghai Electric carried out the production standardization operation performance evaluation of 40 subordinate secondary safety production standardization enterprises..
- ◆ Organized a total of 274 emergency plan study and simulation drills, including electric shock, lifting injury, fire, flood control and typhoon prevention, etc., with 10,106 10,106 participants.

Shanghai Electric holds the safety bottom line. In 2021, there were 1 fatal accident, 2 accidents that caused serious injuries, resulting in the loss of a total of 6,265 working days, and no fire accidents that had a serious negative impact on society. For the fatal accident, the enterprise involved immediately launched investigation into the cause of and the person held accountable for the event and reported such to the relevant institutions and departments. To prevent a recurrence and improve safety production, the enterprise then carried out serious and thorough self-examination and self-correction, investigation into and management of hidden dangers as well as education and training.

Shanghai Mitsubishi Elevator and Shanghai Electric Turbine Plant are honored in the newly released list of national 2021 safety production standardization first-class enterprise.

Health management

Pursuant to the Implementation Plan for the Three-Year Action on Occupational Health Work of Shanghai Electric, Shanghai Electric, during this reporting period, organized compliance assessment of occupational health management for 20 key enterprises with the help of professional teams from third-party. The result showed that each enterprise had succeeded in establishing a basic occupational health-related management and accountability system, and carrying out prevention and control of occupational diseases according to national occupational health-related laws and regulations, such as regular inspection, evaluation, physical examination, etc. Regarding the problems in the daily management of occupational health, the Group required relevant enterprises implement rectification.

Response to COVID-19 pandemic

In 2021, Shanghai Electric insisted on the integration of pandemic prevention and production, while paid close attention to epidemic prevention and control measures under normal circumstances. Domestically, we made timely assessments and follow-up of the development of virus and warned employees of changes in medium and high-risk areas. At the same time, we, under the requirements and instructions of superiors on pandemic response, focused on normalized containment measures such as management of employees leaving and returning to Shanghai, management of premises, activities and personal protection. We remained highly alert to overseas pandemic development by providing precise guidance, focusing on weak links and strengthening mobile supervision of overseas employees according to pandemic prevention and control requirements of different countries and regions.

Throughout the year, the Group issued 13 guiding documents on pandemic prevention, more than 20 notices and tips, and held 17 overseas video conferences on pandemic prevention. No confirmed cases were found among the employees of the Group. Its production was carried out in an orderly manner, and the pandemic containment was under control as a whole.

Training and education

It is important for us to formulate health and safety training plans and conduct relevant training on a regular basis so that the concept of health and safety is deeply rooted in employees' minds. Shanghai Electric provides health and safety training to employees in a comprehensive, multi-disciplinary and targeted manner, covering risk management, safety production, environmental protection, management system, safety culture and emergency management.

During the reporting period, Shanghai Electric continued to optimize its training system for safety production and provide precise teaching, forming a systematic training life cycle of production safety and effectively enhancing the comprehensive capabilities of the production safety team in terms of culture, technology, risk control and emergency response. We continued to provide certification training for production safety officers and managers, carried out online and offline training and examinations in the face of the pandemic under related requirements. In total, we organized five offline training sessions and seven online training sessions, with 1,492 attendances. In addition, we focused on professional training and organized 11 thematic training on "Technical Methods for Hazard Identification and Risk Management", "Interpretation of the Guidance Manual on Safety Production Supervision" and "Fire Safety" as planned, with more than 2,300 attendances by key party and government leaders, leaders in charge of safety production and safety management staff of various business divisions and production units.

Publicizing and implementing occupational health and safety culture

To further promote the development of a safety culture with leadership in production safety as the core of the Group and its subsidiaries, Shanghai Electric launched the "Safe Production Month" campaign and organized the "Ankang Cup" competition in conjunction with trade unions.





Expert Guidance

- ◆ Leaders from the Enforcement Department of the Shanghai Emergency Management Bureau were invited to conduct training for the Group and its subsidiaries on the key aspects of safety production enforcement, with the main contents being "one position, two responsibilities", "due diligence", "laws and regulations" and "key points of enforcement".
- ◆ Through a combination of in-depth lectures by experts and scholars, interactive lectures by front line personnel and online web-based video training, risk education and safety and environmental protection talks about post responsibility and obligation, risk identification and control, and hidden danger investigation and management were conducted for the work groups. A total of 111 presentations were made by the leaders of each enterprise.



Policy presentation

- ◆ The Group organized staff to study and publicize the Guidance Opinions on Safe Production in 2021, the Opinions on Fire Fighting in 2021 and the Citizens' Code of Conduct on Ecological Environment (Trial) to further strengthen the awareness of enterprises in complying with the law and to enhance practitioners' consciousness of safe production. A total of 678 training sessions were conducted by the Group and its subsidiaries, with 32,101 attendances.
- ◆ To further clarify production safety responsibilities at all levels, the Group issued the Engineering Project Safety and Environmental Management Standard and the Engineering Project Risk Management and Control Implementation Manual, which were disseminated to leaders, project managers, safety officers and safety management employees from six business divisions, relevant engineering companies and project departments involved in engineering projects.



Media dissemination

- ◆ Through special columns in the forms of various media, we launched comprehensive, multi-faceted and three-dimensional publicity and risk warning education to enhance the awareness and ability of enterprise risk control functions and practitioners to prevent risks, and to promote learning and publicity in a deep and practical manner. The enterprises launched 81 thematic columns, 78 thematic videos, 579 warning education sessions, with 39,554 attendances, and posted or hung 2,668 safety slogans, banners and wall charts.
- ◆ By means of new media platforms such as websites, microblogs and weibo, we organized 45 online live broadcasts or publicity activities such as "open classes", "micro classes" and "public lectures", involving a total of 10,125 participants.

With the theme of "Strengthening Awareness, Investigating Hidden Dangers, Promoting Development and Ensuring Safety and Health", Shanghai Electric joined hands with the Mechanical and Electrical Trade Union to arrange for 86 enterprises to participate in the "Ankang Cup" competition, involving 2,011 teams and over 28,000 employees.

1

Strengthen awareness:
The Group has been vigorously promoting and popularizing labour safety and health protection knowledge through platforms such as Bimonthly Shanghai Electric News, Mechanical and Electrical Work (《機電工運》), enterprise WeChat and websites, etc. to continuously improve the self-protection ability of employees and their ability to deal with safety production emergencies.

2

Investigate into hidden dangers:
The enterprises carried out in-depth risk investigation and evaluation of the current management, and carried out investigation, self-examination and rectification at the same time. Over 3,000 safety and environmental hazards were identified and all were rectified under closed-loop management as planned.

3

Promote development:
Collection and evaluate rectification suggestions on safety and environmental protection and innovative creative achievements, promote their implementation to improve the production operating environment. We also built consensus and wisdom among all employees to form a safety culture with enterprises characteristics and managed to become a safety culture demonstration unit in Shanghai and nationwide.

4

Ensuring safety and health:
We actively publicized the need for vaccination and mobilized all employees to respond to the government's call to "get vaccinated as soon as possible". As of October 2021, the vaccination rate of the Group's employees in Shanghai has reached over 94%. During the high temperature period, the Mechanical and Electrical Trade Union organized 80 special inspections to prevent heat stroke, and paid 32,500 visits for heat relief activities, issuing and giving away more than RMB1.6 million worth of heat stroke prevention supplies.

06

Contribute to Create a Warm Society

While exploring its own path of sustainable and quality development, Shanghai Electric never forgets to give back to the community and serve it. As a state-owned enterprise, the Group has been mindful of the mission entrusted to it by the country by emphasizing the people's livelihood and helping to revitalize the villages. The Group is also rooted in the grassroots, trying to help the public to solve their difficulties and spread warmth to the community.



Pairing up to help revitalize

To help the country win a comprehensive victory in the fight against poverty and to start a comprehensive rural revitalization

2021 marks the opening of the 14th Five-Year Plan, and the year when China will build a moderately prosperous society and implement a comprehensive rural revitalization after achieving full poverty eradication under the current standards. As a leading enterprise in China's advanced equipment manufacturing industry and a representative of state-owned enterprises located in Shanghai, Shanghai Electric is deeply aware of its great responsibility in consolidating and expanding the achievements of poverty eradication and rural revitalization, and is committed to contributing to the strengthening of east-west collaboration and the overall promotion of rural revitalization.

Shanghai Electric launched "Double One Hundred" village and enterprise pairing to strengthen east-west collaboration

In 2021, Shanghai Electric Power Generation Group, Shanghai Mitsubishi Elevator and Shanghai Electric Wind Power Group under the Group each provided one-to-one support to three villages in Fuyuan County, Qujing City, Yunnan Province. During the year, the Group and the local communities took a practical approach to solving existing problems in their daily lives by donating RMB450,000 worth of support fund and purchasing RMB9,051,600 worth of goods or services. In addition, the Group's volunteers went into the mountains and participated in public welfare activities to promote low-carbon concepts, bringing green concepts and warmth to local schools and children.

Shanghai Electric donated to help revitalize villages

The Group paired with villages in promoting local development and revitalization of villages through targeted donations.

In April 2021, the Group made a one-off donation of RMB0.7 million to assist in the "blood building" project in Fengxian District, Shanghai. In respect of the marketing of agricultural products, the Group provided focused support to Fengxian Zhuangxing Township, promoting sales of RMB1,327,500 worth of agricultural products.

Shanghai Electric built rural sewage treatment project in Huaiyuan County

In January 2020, Shanghai Electric won the tender for the rural sewage treatment PPP project in Huaiyuan County, Bengbu City, with a construction period of two years. Utilizing "Internet+ technology", Shanghai Electric independently developed key technologies such as integrated intelligent sewage treatment equipment, modular construction, deep sewage treatment and river and lake desilting, combined with digital intelligence and ecological technology information technology, to form a comprehensive solution to water environment management system. The project exerts real-time monitoring and management of the operation of village sewage treatment stations and supporting pipeline networks, and provides timely and efficient response and disposal of problems that arise during operation. The rural sewage treatment project in Huaiyuan County may fundamentally solve the pollution and damage caused by rural sewage to the surrounding environment, significantly improve the hygiene level of residents and the living environment, and promote social development and economic benefits.



Charitable donation and justice promotion

In addition to developing ourselves, we plan for public welfare and promote positive energy.



Charity is a noble cause to improve people's livelihood and promote social harmony. Shanghai Electric has been passionate about charity, actively fulfilling its corporate social responsibility and making it an important and glorious task to help the charity cause in our country and beyond. Shanghai Electric understands that charitable donations are a prerequisite, a foundation and a source of charity. Therefore, we, based on our own characteristics, adopt diverse and diversified forms of donation, leveraging our advantages in the fields of capital, technology and talent to continuously provide assistance to poverty-stricken areas, disaster areas and other areas in urgent need of help. In recent years, Shanghai Electric has gradually transformed from mere temporary donation to strategic donation, aiming to make philanthropy a long-term development strategy for the enterprise and try its best to contribute to a harmonious society.

Care for the next generation



In 2021, Shanghai Electrical and Mechanical Trade Union donated over RMB770,000 to the "Spring Bud Project" under Shanghai Children's Foundation's .

The Party School of Shanghai Electric Education Centre actively responded to the "Aid for Tibet Project" by launching raising funds for the healthy growth of children, collecting more than 500 items of children's books, stationery, clothing, dolls and toys, bringing a ray of sunshine to children in the west.

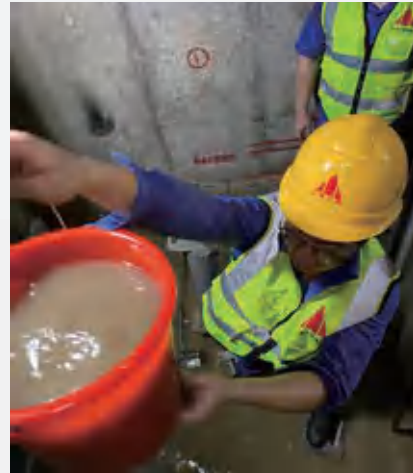
In 2021, the Group's enterprises joined in the charitable assistance activities in poor areas, and through their own means, launched public welfare activities to bring care to children. For example, the Youth Committee of Shanghai Electric Group Property Company Limited, in conjunction with the Party and Work Committee of Daning Road Street, organized a charity sale activity called "Bring Love Together". Through the public welfare cycle of "donate idle items – charity sale – donate", the charity sale raised funds for children in poor mountain areas, bringing them warmth and helping them grow up.



On April 13, 2021, China Sinogy Electric Engineering Co., Ltd. launched "dedicating to the centenary of the founding of the CPC". Its volunteers visited China Sinogy Sunshine Hope Primary School in Yuanyang County, Yunnan Province, where they had supported the construction of the school, bringing "a lesson, a song and a flag" to the children in the mountains, enabling them to feel, understand and remember the history of the Party, sowing a "seed" in the children's hearts and encouraging them to study hard, serve the country and feed the society.

Disaster relief

On July, heavy rainfall continued to fall in Henan and other areas, resulting in severe internal flooding in Zhengzhou and other cities and causing significant casualties and property damages. To fully follow the important instructions given by President Xi Jinping on flood prevention and relief work, as well as the initiative issued by the State Administration for Market Regulation to all lift manufacturing enterprises in China, Shanghai Mitsubishi Elevator, a subsidiary of Shanghai Electric, responded positively and took immediate action by deploying its elite forces to form a technical support team at the headquarters, and at the same time, in terms of spare parts and hidden problems, to carry out full protection, in order to restore the elevator operation of the affected areas as soon as possible and ensure the safety of the people.



Foreign aid

Local construction

On April 1, 2021, the Japan Ya Kai Solar Project under Shanghai Electric New Energy Company donated an agricultural irrigation well to the Ohata district of Fukushima and held a ceremony to mark the donation. The new irrigation well will provide a great convenience to the local residents for water irrigation.

Children's care

The Thar Power Station Project undertaken by Shanghai Electric in Pakistan paid tribute to two villages near the power station in the Carbon Festival, and donated gifts to over 200 children.

Talent cultivation

The Thar Power Station Project undertaken by Shanghai Electric has worked with NED University to establish a partnership in Mithi city, where the Thar Project is located, for cultivating talents in electrical engineering and civil engineering and contributing to the enrichment of Pakistan's talent structure. In addition, Thar Coalfield Block One Power Generation Co., Ltd. and the Confucius Institute of University of Karachi have jointly established the Thar Education Centre on Chinese Language to provide language training to project employees and surrounding students, helping them to understand the culture and spirit of the Shanghai Electric and promote traditional Chinese culture, while creating job opportunities and increasing employment rate for locals.



Helping to march together in wind and rain

Contribute to the victory over the fight against pandemic and set an example for state-owned enterprises.

In 2021, the prevention and control of the COVID-19 pandemic remains top priority and a prerequisite for the overall development of the economy. Shanghai Electric requires leaders at all levels not to leave anything to chance. They must keep a close eye on risky areas, scenarios, people and behaviors and formulate targeted control measures, to implement the accountability system of pandemic prevention and control at every level and strengthen the containment measures, making our own modest contribution to winning the hard-fought battle against the pandemic.

Helping in fighting against the pandemic

The pandemic has not been effectively controlled in Pakistan, yet the situation remains critical with schools closing at irregular intervals. Shanghai Electric's Thar Coalfield Block One Power Generation Co., Ltd. donated 3,000 medical disposable masks to the International Islamic University to help it fight the pandemic and resume classes as soon as possible, as well as new pandemic prevention materials and medicines for common diseases such as dysentery, snake bites and polio pills to the local community, actively promoting social responsibility and shaping a good corporate image.



Rooted in the masses to warm the community

Actively fulfill our social responsibilities and promote good social relations.

In order to better carry forward the "vision, mission and values" of Shanghai Electric, to continue to bring into play the enthusiasm of employees for public welfare, and to convey to the society the corporate image of Shanghai Electric where its social responsibility is fulfilled in an active manner, Shanghai Electric has organized and established a youth volunteer association to maintain a harmonious relationship with the community, convey positive energy, advocate green living, and offer assistance to build a warm, healthy, environmental-friendly and harmonious community. In 2021, Shanghai Electric invested a total of 3,000 volunteer hours and the volunteer association has a fixed size of 631 people.

Warm "Star" Action, Love is Not Alone



The Blue Ribbon Volunteer Team (藍絲帶志願者團隊) of Shanghai Electric Wind Power Group, a subsidiary of Shanghai Electric, has been established for more than 6 years since 2015, and has been committed to providing help and care for autistic children and their families, putting the goal of giving back to society into practice, promoting the development of public welfare and the construction of corporate spiritual culture. On November 20, 2021, which coincides with the World Children's Day, Shanghai Electric Wind Power Group, together with Blue Harbor Autism Youth Development Center, organized a public welfare activity with the theme of "Warm 'Star' Action, Love is Not Alone", to deliver happiness and warmth to families with autistic children.

Respecting and loving the elderly to carry forward virtue

Shanghai Mitsubishi Elevator's youth volunteer team is a regular volunteer team, and has visited gerocomium for 12 times, to send warmth for the elderly, and respect the elderly with love despite the effect of COVID-19. On March 2, 2021, such youth volunteer team revisited Jiang Chuan Geracomium to bring its carefully prepared food to the elderly.



Benefit the people to implement truly "Pro-people Projects"



Shanghai Mitsubishi Elevator actively undertakes social responsibility, takes the initiative to participate in the people's livelihood project of "equipping old community with elevator", on which it has constantly increased the technical reserves and research and development over these years. In 2021, the number of elevator for old community exceeded 1,000 units. Shanghai Mitsubishi Elevator takes everything for the people into account, fully considers the settlement problems of old building, and formulates standardized programs to minimize its impact on residents' lives. All of which has gained unanimous approval from ordinary people. Shanghai Mitsubishi Elevator will strive to achieve good performance in the business of retrofitting elevators to existing multi-storey houses, so that "residents can enjoy taking last 20 meters away from home from tough climbing".



Green life maintained by everyone



In order to better contribute to the improvement of the national ecological environment, convey the concept of environmental protection, promote the volunteer service spirit of "dedication, love, mutual assistance and progress", and call on young people to participate in environmental protection. In March, 2021, the Youth League Committee of Shanghai Electric Wind Power Group, together with Thvow Technology and the Youth League Committee of Shanghai Electric Environmental Protection Group, carried out a unique tree-planting day activity. Through vivid and interesting games, it allowed young people to cherish limited water resources, strengthen environmental awareness and practice green responsibility.



On March 3, 2021, young environmental protection volunteers from Shanghai Mitsubishi Elevator's management center went to Dongfeng Sancun community of Jiangchuan street, to jointly participate in the "1 + 1" environmental protection micro public welfare activities organized by the community. Volunteers prepared environmental protection publicity board and publicity materials, to promote "garbage classification" civilized environmental knowledge to community residents, carefully prepare gadgets, and advocate the community residents to keep a pet in a civilized manner.

Appendix I. Environmental, Social and Governance Reporting Guide of HKEX Guide Index

Subject Areas, Aspects, General Disclosures and KPIs		Disclosed in
A. Environmental		
Aspect A1:Emissions		
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.	3.3 Pollution prevention and control to meet the emission standards
KPI A1.1	The types of emissions and respective emissions data.	3.3 Pollution prevention and control to meet the emission standards
KPI A1.2	Direct (Scope 1) and energy indirect (Scope 2) greenhouse gas emissions (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	3.2 Resource management to recycle economy
KPI A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	3.3 Pollution prevention and control to meet the emission standards
KPI A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	3.3 Pollution prevention and control to meet the emission standards
KPI A1.5	Description of emissions target(s) set and steps taken to achieve them.	3.3 Pollution prevention and control to meet the emission standards
KPI A1.6	Description of how hazardous and non-hazardous wastes are handled, and a description of reduction target(s) set and steps taken to achieve them.	3.3 Pollution prevention and control to meet the emission standards

Subject Areas, Aspects, General Disclosures and KPIs Disclosed in

Aspect A2:Use of Resources		
General Disclosure	Policies on the efficient use of resources, including energy, water and other raw materials. Resources may be used in production, in storage, transportation, in buildings, electronic equipment, etc.	3.2 Resource management to recycle economy
KPI A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility).	3.2 Resource management to recycle economy
KPI A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility).	3.2 Resource management to recycle economy
KPI A2.3	Description of energy use efficiency target(s) set and steps taken to achieve them.	3.2 Resource management to recycle economy
KPI A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency target(s) set and steps taken to achieve them.	3.2 Resource management to recycle economy
KPI A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced.	3.2 Resource management to recycle economy
Aspect A3:The Environment and Natural Resources		
General Disclosure	Policies on minimising the issuer's significant impact on the environment and natural resources.	3.1 Environmental protection to perform our responsibility
KPI A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	3.1 Environmental protection to perform our responsibility 3.2 Resource management to recycle economy 3.3 Pollution prevention and control to meet the emission standards
Aspect A4:Climate Change		
General Disclosure	Policies on identification and mitigation of significant climate-related issues which have impacted, and those which may impact, the issuer.	Special: Embracing a future with "carbon peaking and carbon neutrality" as the driver
KPI A4.1	Description of the significant climate-related issues which have impacted, and those which may impact, the issuer, and the actions taken to manage them.	Special: Embracing a future with "carbon peaking and carbon neutrality" as the driver

Appendix I. Environmental, Social and Governance Reporting Guide of HKEX Guide Index

Subject Areas, Aspects, General Disclosures and KPIs Disclosed in

B. Social

Aspect B1: Employment

General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare.	5.1 Defending rights and interests, equality and diversity
KPI B1.1	Total workforce by gender, employment type, age group and geographical region.	5.1 Defending rights and interests, equality and diversity
KPI B1.2	Employee turnover rate by gender, age group and geographical region.	5.1 Defending rights and interests, equality and diversity

Aspect B2: Health and Safety

General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards.	5.3 Safe production to care for health
KPI B2.1	Number and rate of work-related fatalities occurred in each of the past three years including the reporting year.	5.3 Safe production to care for health
KPI B2.2	Lost days due to work injury.	5.3 Safe production to care for health
KPI B2.3	Description of occupational health and safety measures adopted, and how they are implemented and monitored.	5.3 Safe production to care for health

Aspect B3: Development and Training

General Disclosure	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities. Training refers to vocational training. It may include internal and external courses paid for by the employer.	5.2 Talent cultivation for mutual achievement
KPI B3.1	The percentage of employees trained by gender and employee category (e.g. senior management, middle management).	5.2 Talent cultivation for mutual achievement
KPI B3.2	The average training hours completed per employee by gender and employee category.	5.2 Talent cultivation for mutual achievement

Aspect B4: Labour Standards

General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour.	5.1 Defending rights and interests, equality and diversity
KPI B4.1	Description of measures to review employment practices to avoid child and forced labour.	5.1 Defending rights and interests, equality and diversity
KPI B4.2	Description of steps taken to eliminate such practices when discovered.	5.1 Defending rights and interests, equality and diversity

Subject Areas, Aspects, General Disclosures and KPIs		Disclosed in
Aspect B5:Supply Chain Management		
General Disclosure	Policies on managing environmental and social risks of the supply chain.	4.2 Maintaining supply management to achieve ongoing progress
KPI B5.1	Number of suppliers by geographical region.	4.2 Maintaining supply management to achieve ongoing progress
KPI B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, and how they are implemented and monitored.	4.2 Maintaining supply management to achieve ongoing progress
KPI B5.3	Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored.	4.2 Maintaining strict control on the supply to achieve sustainable progress
KPI B5.4	Description of practices used to promote environmentally preferable products and services when selecting suppliers, and how they are implemented and monitored.	4.2 Maintaining supply management to achieve ongoing progress
Aspect B6:Product Responsibility		
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress.	2.2 Adhering to craftsmanship to ensure high quality
KPI B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons.	2.2 Adhering to craftsmanship to ensure high quality
KPI B6.2	Number of products and service related complaints received and how they are dealt with.	2.3 Optimizing services to ensure customer success
KPI B6.3	Description of practices relating to observing and protecting intellectual property rights.	2.1 Integrating digitalization and intelligence, and innovation-driven
KPI B6.4	Description of quality assurance process and recall procedures.	2.2 Integrating digitalization and intelligence, and innovation-driven
KPI B6.5	Description of consumer data protection and privacy policies, how they are implemented and monitored.	2.3 Optimizing services to ensure customer success

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Subject Areas, Aspects, General Disclosures and KPIs		Disclosed in
Aspect B7:Anti-corruption		
General Disclosure	Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.	1.1 Compliant operation, integrity, and self-discipline
KPI B7.1	Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases.	1.1 Compliant operation, integrity, and self-discipline
KPI B7.2	Description of preventive measures and whistle-blowing procedures, how they are implemented and monitored.	1.1 Compliant operation, integrity, and self-discipline
KPI B7.3	Description of anti-corruption training provided to directors and staff.	1.1 Compliant operation, integrity, and self-discipline
Aspect B8:Community Investment		
General Disclosure	Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.	6.1 Pairing up to help revitalize 6.2 Charitable donation and justice promotion 6.3 Helping to march together in wind and rain 6.4 Rooted in the masses to warm the community
KPI B8.1	Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport).	6.1 Pairing up to help revitalize 6.2 Charitable donation and justice promotion 6.3 Helping to march together in wind and rain 6.4 Rooted in the masses to warm the community
KPI B8.2	Resources contributed (e.g. money or time) to the focus area.	6.1 Pairing up to help revitalize 6.2 Charitable donation and justice promotion 6.3 Helping to march together in wind and rain 6.4 Rooted in the masses to warm the community

Appendix II. List of Major Subsidiaries Involved in Environmental Data

1	Shanghai Electric Power Generation Equipment Co., Ltd Turbine Works	21	Shanghai Huapu Cable., Ltd.
2	Shanghai Electric Power Generation Equipment Co., Ltd Auxiliary Equipment Works	22	Shanghai Mitsubishi Elevator Co., Ltd.
3	Shanghai Electric Power Generation Equipment Co., Ltd Turbine Generator Works	23	Goss Graphic Systems(China)Co., Ltd.
4	Shanghai Boiler Works, Ltd.	24	Shanghai Simike Welding Material Co., Ltd.
5	Shanghai Electric Group Shanghai Electric Machinery Co., Ltd	25	Shanghai Electrical Hydraulics and Pneumatics Co., Ltd
6	Shanghai Electric Heavy Machinery Milling Special Equipment Co., Ltd.	26	Shanghai United Bearing Co., Ltd.
7	Shanghai Electric Wind Power Equipment Dongtai Co., Ltd.	27	Shanghai Tian'an Bearing Co., Ltd.
8	Shanghai Electric Wind Power Equipment Heilongjiang Co., Ltd.	28	Shanghai Zhenhua Bearing Plant Co., Ltd.
9	Shanghai Electric Wind Power Equipment Gansu Co., Ltd.	29	Wuxi Turbine Blade Co., Ltd
10	Shanghai Electric Wind Power Equipment Yunnan Co., Ltd.	30	Shanghai Tool Works Co., Ltd.
11	Shanghai Electric Wind Power Equipment Hebei Co., Ltd.	31	Shanghai High Strength Bolts Plant Co., Ltd.
12	Shanghai Electric Appliances Ceramics Factory Co., Ltd.	32	Shanghai Centrifuge Institute Co., Ltd.
13	Shanghai Electric Power–Electronics Co., Ltd.	33	Shanghai Cyeco Environmental Technology Co., Ltd
14	Shanghai Nanqiao Transformer Co., Ltd.	34	Shanghai Denso Fuel Injection Co., Ltd.
15	Shanghai Najie Complete Sets Of Electric Co., Ltd.	35	Shanghai First Machine Tool Works Co., Ltd
16	Shanghai Feihang Electric Wire And Cable Co., Ltd.	36	Shanghai Electric Shanghai Heavy Machinery Forging Co., Ltd.
17	Shanghai Dahua Electrical Equipment Co., Ltd.	37	Shanghai Electric Nuclear Power Equipment Co. Ltd.
18	Shanghai Nanhua–Lanling Electrical Co., Ltd.	38	SEC–KSB Nuclear Pumps&Valves Co., Ltd.
19	Shanghai Jiejin Power New Materials Co., Ltd.	39	Shanghai Electric Machine Tool Works, Ltd.
20	Wujiang Transformer Co., Ltd.	40	Zhangjiagang Jiangnan Forging Co., Ltd.
		41	Wuxi Hongqi Shipyard Co., Ltd.
		42	Yumen Xinneng Photothermal No.1 Power Co., Ltd.
		43	ZCM (Suzhou) Heavy Equipment Co., Ltd.
		44	Renmin Electrical Apparatus Works of Shanghai Electric Group Co., Ltd

