



International CSRC
Investment Holdings
Company Limited



2019 CORPORATE SUSTAINABILITY REPORT

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Report Profile ▶

Report Principles

International CSRC Investment Holdings Co., Ltd. (hereinafter referred to as "CSRC Group") has compiled the 2019 Corporate Sustainability Report in accordance with the GRI Sustainability Reporting Standards (GRI Standards) released by the Global Reporting Initiative (GRI). The disclosure standard is based on the Core Option of GRI Standards with the principles of openness, transparency, and integrity to disclose CSRC Group's strategy, engagement, and performance in the aspects of corporate social responsibility to stakeholders.

The financial performance and other relevant information disclosed in this report are based on International Financial Reporting Standards (IFRS) and the unit of calculation is the New Taiwan Dollar.

Report Boundary

In terms of boundary selection, the main body of the report includes individuals from CSRC Group in Taiwan, Linyuan Advanced Materials Technology Co., Ltd. (a 100%-owned subsidiary, hereinafter referred to as the "Linyuan Plant"), and CSRC China Corporation (a 100%-owned subsidiary, hereinafter referred to as the "Maanshan Plant") newly added from this year.

The data and information disclosed in this report are collected and provided by each responsible department, representing the Company's performance in respect to economic, environmental, and social topics in accordance with the requirements of the GRI guidelines. Collection, measurement, and calculation methods for each item of disclosed data and information are based mainly on compliance with local regulations or international regulations.

Report Cycle and Coverage Period

The information disclosure period of this report is the year of 2019 (January 1, 2019 to December 31, 2019). To fully present the achievements of corporate social responsibility in all respects and their changing trends over the years, the content and information of some topics will be traced back to previous years.

Certification of Report Information

To ensure the accuracy and transparency of the information disclosed by CSRC Group, data and information in this report all are managed internally with reference to regulations and standards by each responsible department. Some specific information has further obtained external certification (see table below). They are then provided to the CSR report compiling team for confirmation, sent to the head to each department, and finally reviewed and approved by the Chairman. In addition, PwC Taiwan carries out independent and effective external assurance, auditing in accordance with the standards of Assurance of Nonhistorical Financial Information Auditing/Review and Guidelines published by the Accounting Research and Development Foundation. This report is prepared in accordance with the specifications of the Core Option of the GRI Standards. For the scope and conclusions of the accountant issued assurance opinion, please refer to the appendix of the assurance report.



Company Website



Youtube



LinkedIn

External Certification

Certification orientation	Compliance standards	Certification agency
Specific assurance indicators	Republic of China Statement of Assurance Engagements Standards No. 1, "Assurance of Nonhistorical Financial Information Auditing/Review and Guidelines" (formulated with reference to international assurance standard ISAE3000)	PwC Taiwan
Environment	ISO 14001 Environmental Management System	SGS Taiwan Ltd. (SGS Taiwan)
	ISO 14064-1 Greenhouse Gas Emissions	
Occupational safety	OHSAS18001 Occupational Safety and Health Management system	SGS Taiwan Ltd. (SGS Taiwan)
	CNS 15506 Taiwan Occupational Safety and Health Management System (TOSHMS)	
Product quality	IATF 16949 Quality Management System for the Automotive Industry (Linyuan Plant)	American Systems Registrar
	ISO 9001 Quality Management System (Linyuan Plant)	Universal Certification Service Co., Ltd.
	IATF 16949 Quality Management System for the Automotive Industry (Maanshan Plant)	SGS-CSTC Standards Technical Services Co., Ltd. (SGS China)
	ISO 9001 Quality Management System (Maanshan Plant)	

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Message from Chairman/
Director of Corporate Sustainability Committee

Corporate Sustainability is the Belief that We Will Never Compromise On

Global supply chains have been impacted by political and economic turbulence as well as the outbreak of the COVID-19 pandemic.

However, when it comes to corporate sustainability, our belief has been unwavering. CSRC is bracing for the global climate change, and taking action to implement our corporate stewardship.

Using Our Core Competence To Expand Sustainable Influence

As the world's 6th largest carbon black manufacturer and the only one maker in Taiwan, CSRC Group continues to bring changes to human civilization. As early as China's Spring and Autumn Period, people began writing with ink made from carbon black. Today, the influence of carbon black can be seen in a variety of products including tires, rubber products, plastics, printing ink, and conductive materials. Through the various application of carbon black, we use our core competence to expand our sustainable influence. We work with customers to promote green products across generations and actively brace and adjust to the risks of climate change.

In the face of severe climate change and natural disasters worldwide, cherishing the earth's resources is a top priority for all mankind. CSRC Group is committed to integrating environmental and social considerations into product design and extending their life cycles. Accordingly, CSRC's R&D team developed carbon black for low rolling resistance tires in 2019 to improve tire wear resistance and to extend tire life; and this product was awarded with the "Innovative Design of the Year" by the fifteenth annual Golden Torch Awards. The SATIN BLACK series of product can also be used in rubber products to increase tensile strength and extend product life. For carbon black packaging materials, we are also switching from paper bags to PE bags. Customers can put PE bags into the mixing process to improve production efficiency and reduce waste disposal costs. CSRC Group has reduced about 22 tons of paper waste in 2019 compared to 2018, making efforts to build a zero waste city. In addition, we are also committed to developing toxic-free carbon black products, which reduces the content of polycyclic aromatic hydrocarbon and complies with the German Safety issued by AfPS. The proportion of this series of products has increased for two consecutive years, and the revenue in 2019 grew nearly four times compared to 2017 as we are making every effort to create a green and safe environment for consumers.

We use our technology to serve all humankind and continue to bring changes to human civilization through innovation. We will continue to assess the impact to the environment and society through each stage of product life, including product design, product use and waste recycling, and provide customers with sustainable products. Furthermore, we will continue to advance globalization as we expand our influence

and step into the European market in addition to Asia and the Americas. We will thus do our best to maintain a favorable society for you, for us, and for future generations.

Integrity and Uprightness are the Highest Principles of Corporate Sustainability

CSRC Group attaches great importance to compliance, strictly abiding by local government laws and regulations in order to achieve sustainable operation and taking responsibility for employees, shareholders, and the supply chain. The Company's operations are based on the concepts of integrity, fairness and transparency and with zero violations as the management goal. In 2019, CSRC Group did not experience any dishonest behaviors or security loopholes. The Maanshan Plant also achieved the goal of zero violations. For sustainable supply chain management, we have incorporated Integrity Clauses and Corporate Social Responsibility Commitments into supplier contracts and 100% of counterparties are expected to sign by 2021. For investors, we also uphold the principles of transparency and integrity. We maintain good communication by actively organizing large-scale investors' conference and interim investor meetings. All of investor calls and correspondence are answered in real time.

Not Only A Model of Circular Economy But Also An Action-Taker of Green Manufacturing

We are making full use of the circular economy, departing from the traditional linear production model and using by-products from the petrochemical/steel industry as raw materials. This produces carbon black and steam, and in turn transforms the steam into electricity for internal use, thereby reducing electricity purchases. Moreover, the condensate produced by our steam partner's manufacturing process is also returned to our Linyuan Plant for continued use. These practices implement zero waste and expand the scope of circulation. In 2019, the total power generated by Linyuan and Maanshan Plant is equivalent to annual power consumption of 22,000 households. The amount of carbon reduction was equivalent to the carbon absorption of 105 Daan Forest Parks. In addition, the R&D team has adjusted the oil formula and process parameters, committed to reducing the amount

of oil used for producing carbon black and improving the efficiency of oil use. In 2019, the Linyuan and Maanshan Plant altogether saved a total of 4,275 tons of oil. With our core R&D capabilities, we can reduce the quantity and energy consumption from product sources and truly practice low-carbon production. Over the past three years, our investment in environmental protection equipment across eight global factories has exceeded NT\$4.4 billion and emission standards are all staying ahead of local environmental regulations. While enhancing market competitiveness, we are thus paving a sustainable path and building a sustainable society.

Shared Well-Being and Common Good

We believe that only employees who are happy and respected can grow together with the company. Therefore, in 2019, we implemented Employee Share Ownership Trust Program so that we can share the fruits of our mutual efforts with colleagues. CSRC Group believes in and supports the Sustainable Development Goals (SDGs) of the United Nations and encourages colleagues to take sustainable actions in their daily operations, pushing onward to continually take care of the stakeholders of the enterprise. 2019 is the inaugural year of CSRC's "Green Gold Action", as we printed and donated 10,000 copies of environment-themed comic books and held a carbon black workshop using carbon black developed by CSRC. We took children of Shanwei Elementary School to experience how to make ink sticks. This allows the children to get to know the circular economy model and how extensive the carbon black applications can be, broadening youngsters' horizon and cultivating environmental protection concepts. In the future, we will continue to promote "Green Gold Action" in combination with our core technology and expand its scope of action. I believe that as long as each of us exerts a small portion of his/her strength and strive to do the right thing, a positive cycle of goodness will be induced and the power of doing good will continue to flow.

Chairman and Director of Corporate Sustainability Committee

2019 ESG Sustainability Highlights ▶

Economic

Create Various Values

- 100% of domestic procurement for Linyuan Plant
- Revenue of green products increased by 373% compared to 2017
- 112 hours of corporate governance and ethical management courses
- 0 cases of dishonesty and of security breaches occurred
- Silver rating from EcoVadis Supplier CSR Assessment

Environmental

Safeguard the Earth

- Power generation from tail gas was 76,644,073 kWh, equivalent to annual power consumption of 22,000 households and carbon absorption of 105 Daan Forest Parks
- Air pollution emissions decreased by 90% compared to 2018 for Maanshan Plant
- Paper packaging bags were replaced with PE bags, reducing paper waste by 22,310 kg
- Oil consumption per unit decreased, saving 4,275 tons of oil compared to 2018

Social

Promote Social Well-Being

- NT\$8.68 million invested in public welfare with 1,254 beneficiaries
- Implementation of Employee Share Ownership Trust Program
- Training expense NT\$ 4.39 million, increasing by 155% compared to 2018
- Training courses 8,841 hrs
- Satisfaction rating for training courses 9.14 points.

2019 Achievements ▶




Taiwan Corporate Sustainability Awards
Corporate Sustainability Report Gold Award



Taiwan Corporate Sustainability
Comprehensive Performance
Excellence Award



CSR evaluation authority EcoVadis
Silver rating



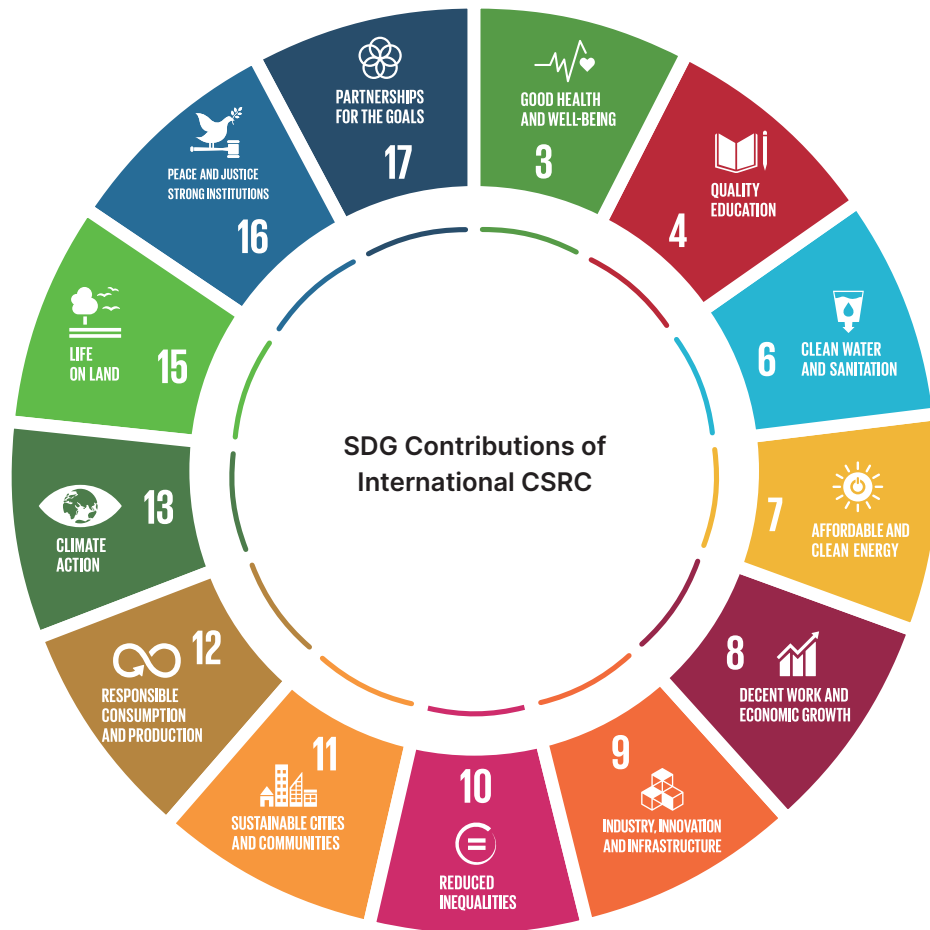
Taiwan Chemical Industry Association
Circular Economy Achievement Award


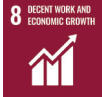











Outstanding Enterprise Manager
Association
Golden Torch Award - Annual
Innovation Design Award





Response to United Nations Sustainable Development Goals (SDGs) ▶





In line with global sustainability trend, CSRC actively responds to the United Nations Sustainable Development Goals to take up its corporate social responsibility, working together for environmental protection and social progress.







Sustainability Aspects	SDGs	Conformity with Sustainable Development Goals (SDGs)	CSRC Response Actions
 Governance	 8 DECENT WORK AND ECONOMIC GROWTH	Target 8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation	<ul style="list-style-type: none"> Three worldwide R&D centers continue to recruit talents, strengthening the Company's product development capabilities. There are currently 76 R&D personnel. Continuously improve carbon black production technology, improving product quality.
	 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	Target 9.5 Encourage innovation and increase the number of R&D personnel	<ul style="list-style-type: none"> Integrate the technology and academic resources of each factory, formulating product improvement goals and implementing accordingly.
	 12 RESPONSIBLE CONSUMPTION AND PRODUCTION	Target 12.6 Encourage companies to adopt sustainable practices and to integrate sustainability information into their reporting cycles.	<ul style="list-style-type: none"> Continue to follow GRI guidelines to consolidate sustainable operation results and to compile and publish the corporate social responsibility report. Devote to circular economy models involving carbon black, water recycling, waste heat recovery, waste recycling and so on to achieve sustainable development of the enterprise.
	 13 CLIMATE ACTION	Target 13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning	<ul style="list-style-type: none"> Identify climate risks and opportunities and put forward countermeasures to reduce risks.
	 16 PEACE, JUSTICE AND STRONG INSTITUTIONS	Target 16.5 Substantially reduce corruption and bribery in all their forms	<ul style="list-style-type: none"> Establish a supplier evaluation system, implement supply chain management and improve supply capacity and quality. A-tier suppliers accounted for 96% in 2019. Integrity clauses are incorporated into supplier contracts and 100% of suppliers are expected to sign by 2021.
	 16 PEACE, JUSTICE AND STRONG INSTITUTIONS	Target 16.6 Develop effective, accountable and transparent institutions	<ul style="list-style-type: none"> Strengthen integrity education and training. 112 hours of corporate governance and ethical management courses were attended in 2019. Formulate group accounting policies and systems to strengthen financial controls.
	 17 PARTNERSHIPS FOR THE GOALS	Target 17.16 With the help of multilateral cooperation, improve global knowledge sharing as well as professional, technological and financial support to achieve the goal of sustainable development cooperation	<ul style="list-style-type: none"> Proper wastewater treatment. All wastewater treated in 2019 met environmental standards for discharge.

Sustainability Aspects	SDGs	Conformity with Sustainable Development Goals (SDGs)	CSRC Response Actions
 Environment		Target 6.3 Improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse rates	<ul style="list-style-type: none"> Proper wastewater treatment. All wastewater treated in 2019 met environmental standards for discharge.
		Target 7.2 Increase substantially the share of renewable energy in the global energy mix	<ul style="list-style-type: none"> By adding an " Production Line Residual Heat Boiler " to the production line, it can reduce the temperature of the flue gas before it enters the filter bag to filter the flue gas, reduce the water needed in order to lower the temperature, and reduce the water consumption. At the same time, waste heat is used to produce steam.
		Target 7.3 Double the global rate of improvement in energy efficiency	<ul style="list-style-type: none"> Carry out process analysis, review the energy consumption and energy utilization rate of each reaction zone, formulate improvement targets and execute according to plan. Through energy saving and carbon reduction actions in 2019, the annual savings of the Linyuan and Maanshan Plant were about 4 million kWh.

Sustainability Aspects	SDGs	Conformity with Sustainable Development Goals (SDGs)	CSRC Response Actions
 Environment		Target 11.6 Reduce the adverse environmental impact of cities, including by paying special attention to air quality and municipal and other waste management	<ul style="list-style-type: none"> A selective catalytic reduction (SCR) system has been installed, and it is the most widely adopted system. Moreover, it stands as the control technology with the highest denitration efficiency, with efficiency levels reaching over 90%. In 2019, paper bags were successively replaced with PE bags, reducing paper waste by approximately 22,310 kg.
		Target 12.5 Substantially reduce waste generation through prevention, reduction, recycling and reuse	<ul style="list-style-type: none"> Regularly declare the amount of waste to be handled by a qualified clearing agent, while strengthening waste recycling capacity. The waste recycling rate of Linyuan Plant was 29% in 2019, and the waste recycling rate of Maanshan Plant was 16%. Successfully developed LH series in 2019, giving tires higher energy efficiency and extending tire life, thereby reducing waste generation.
		Target 12.2 Achieve the sustainable management and efficient use of natural resources	<ul style="list-style-type: none"> Continuously improve in the wastewater recycling and expand the scope of water circulation by cooperating with neighboring factories to reuse their condensate. Continuously improve raw material consumption efficiency, reducing fuel and resources consumption.
		Target 15.4 Implement conservation of ecosystems, including biodiversity, to improve their ability to provide sustainable development	<ul style="list-style-type: none"> Through the Foundation of Dr. Cecilia Koo Botanic Conservation Center and Environmental Protection Development, we are committed to conserving tropical and subtropical plants across the world to sustain the most abundant biodiversity on earth.
	Target 15.6 Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources		

Sustainability Aspects	SDGs	Conformity with Sustainable Development Goals (SDGs)	CSRC Response Actions
 Society		Target 3.9 Substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination	<ul style="list-style-type: none"> Invest in the development of toxic-free carbon black series products, striving to reduce the content of polycyclic aromatic hydrocarbons. Revenue of this series of products in 2019 increased by 373% compared with 2017. Formulate optimal management procedures for chemicals in the factory in accordance with government regulations, and strengthen applicable knowledge of the relevant units to avoid accidents caused by leakage or misuse.
		Target 12.4 Achieve the environmentally sound management of chemicals and all wastes to minimize their adverse impacts on human health and the environment	<ul style="list-style-type: none"> Mark chemical use items of products in accordance with government regulations. Invest in equipment to reduce air pollution. In the past three years, we have more than NT\$4.4 billion in Taiwan, USA, Mainland China, and India. This has significantly reduced air pollution emissions and surpassed the requirements of local regulations.
		Target 4.1 Ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes	<ul style="list-style-type: none"> Provide financial aid to students from economically disadvantaged households. Furthermore, we commit to nurturing children's development, promoting diverse perspectives, and enhancing the willingness of students to learn. A total of NT\$8.68 million was invested in public welfare resources in 2019 with 1,254 beneficiaries.
		Target 4.5 Eliminate disparities in education and ensure equal access to all levels of education and vocational training for the vulnerables.	<ul style="list-style-type: none"> Formulate human resources policies and improve the organizational structure of the Human Resources Department.

Sustainability Aspects	SDGs	Conformity with Sustainable Development Goals (SDGs)	CSRC Response Actions
 Society		Target 8.8 Protect labour rights and promote safe and secure working environments for all workers.	<ul style="list-style-type: none"> Continue to provide occupational safety education for colleagues and suppliers/contractors and move towards zero accidents and implement safety management. 0 case of work-related injuries occurred in 2019. In 2019, an external fire brigade led internal factory group drills for fire self-defense.
		Target 10.4 Adopt appropriate policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality	<ul style="list-style-type: none"> Refer to industry salary standards and individual expertise in performance evaluation through regular external salary market surveys every year, and calculate competitive salaries in the market to ensure that colleagues' salaries have a certain degree of advantage over external markets.
		Target 11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage	<ul style="list-style-type: none"> Continuously engage in five aspects of cultural promotion through the C.F. Koo Foundation, namely: program production, theater management, cultural tourism, communication promotion, and talent education. In 2019, CSRC Group provided NT\$4 million in funding cultural promotions through practical activities.

Promotion of Sustainable Management ▶

Our vision | Eco-friendly civilization

Our mission | Renewable energy and resources

Corporate Social Responsibility Policy:

In addition to seeking the greatest achievements with core competence, CSRC Group also actively maintains favorable interactions with its various stakeholders and fulfills corporate citizen duties with practical action with the aim of building a sustainable society.

Our implementation policy:

E Green Manufacturing
 Upholding the principle that “environmental protection is a responsibility, not a cost,” we hold fast to the idea of caring for the environment in respect to raw materials, processes, and products. We cherish resources as we implement circular economy concepts that balance the economy and the environment.

S Common Good of Society
 We value employee welfare, maintenance of community relations, and caring for the education of children in neighboring rural areas. Furthermore, we are expanding “Green Gold Action” to promote the concept of a circular economy while maintaining our commitment to cultural and ecological conservation.

G Ethics and Uprightness
 We attach importance to compliance with laws and regulations, and the Company operates with the concept of ethics, fairness, and transparency. Furthermore, we promote a sustainable supply chain from the inside out to achieve a prosperous future.

CSRC Four Core Concepts



Commitment

- Integrity** - Keep promises to customers
- Respect** - Keep good relationship with customers.
- Quality** - Pursue excellent product quality
- Take charge** - Manage to improve even trivial flaws
- Flexibility** - Serve customers and pay attention to customer needs



Synergy

- Meet customer needs and grow with customers
- Provide value-added technologies and services other than products
- Cross-functions cooperation with enhanced specialty and efficiency
- Integrate global resources and optimize local services



Rebirth

- Tackle with civilization pollutions
- Improve efficacy of circular economy
- Continuous improvement over waste solutions
- Caring for the community and the environment



Creativity

- Technological innovation
- Process efficiency improvement
- Diversified product application development
- Code compliance and workflow improvements

CSRC's Circular Economy Creates Sustainable Values

	Raw Materials	Manufacturing	Sales	End of product life
Resources	Feedstock Oil	Reactor and Boiler	Carbon Black, Steam	Carbon Black Packaging, Condensate
Potential Risks	Feedstock oil left untreated will lead to environmental impact.	Air pollution (SOx, NOx, PM, TSP, VOC), greenhouse gases, precipitator ash, oil consumption	Less diversification of carbon black products, and a waste of resources caused by surplus steam	The disposal cost of paper bags and the waste of water resources from not recycling condensate
Value Creation	<ul style="list-style-type: none"> Waste recycling ► creates a new industry chain 	<ul style="list-style-type: none"> Reduced air pollution ► enhances market competitiveness Declining oil consumption ► improves resource utilization efficiency Recycling of precipitator ash as building materials ► creates a new industry chain High temperature combustion and dioxin removal ► improves health and environmental quality 	<ul style="list-style-type: none"> Development of green products ► improves health and environmental quality Investment in R&D of high-end and diversified carbon black ► enhances market competitiveness products Surplus steam ► Power generation from steam 	<ul style="list-style-type: none"> Switching to environmentally-friendly PE bags ► enhances customer production efficiency and reduces waste Partnering to recycle condensate ► creates a new industry chain

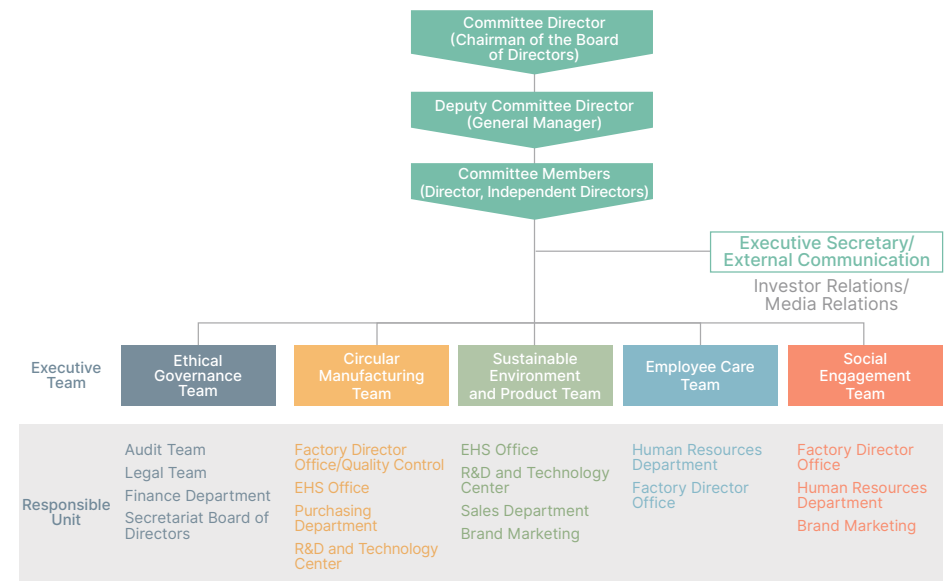
implementation of the company's corporate social responsibility initiatives. The Committee meets at least once a year. Furthermore, CSRC strengthens the connection between corporate social responsibility and the Company's business philosophy by appointing its Chairman as the Committee's Director and the General Manager as Deputy Director. Three to four members of the Board of Directors (directors and independent directors) serve as Committee members, and the highest-level supervisor of each unit of authority will serve as a team member. In addition to routine attendance by members and team leaders, the Committee Chief may invite members of the group to participate according to the content of the proposal. Each team should have a second officer appointed by the team leader who is responsible for the team's communication and coordination of relevant matters, and collecting information and other matters relevant to the team's responsibilities.

The Committee's teams include an Ethical Governance Team, a Circular Manufacturing Team, a Sustainable Environment and Product Team, an Employee Care Team, and a Social Engagement Team. Furthermore, it has separately formulated specifications including a Corporate Social Responsibility Code of Practice, a Corporate Governance Code of Practice, and Ethical Corporate Management Best Practice Principles to ensure that the Company's daily operations are integrated into corporate social responsibility concepts.

Corporate Sustainability Committee

To ensure the implementation of corporate social responsibility, CSRC Group has set up a Corporate Sustainability Committee in adherence to Corporate Social Responsibility Policy. Reporting to the Board of Directors, it is responsible for reviewing corporate social responsibility reports, approving ESG annual goals, tracking and reviewing the effectiveness of various aspects of ESG implementation, and ensuring the

- Matters for consideration or for reference by the Committee**
- Screening of annual goals for each category of corporate social responsibility
 - Reference or screening of the implementation plan of each category of corporate social responsibility
 - Implementation tracking and implementation effectiveness review for corporate social responsibility
 - Screening of corporate social responsibility report production standards
 - Reference or screening of other matters related to corporate social responsibility



Sustainable Development Milestones

The Sustainable Development Milestones of CSRC Group over the years are as follows:

- 2014**
 - First Chinese-language CSR report released
- 2018**
 - First English-language CSR report released
 - Established Corporate Sustainability Committee
- 2019**
 - Formulated a human rights policy
 - Established Cement School Scholarships
 - Carried out circular economy charity activities under "Green Gold Action"
 - Corporate Sustainability Report Gold Award and Taiwan Corporate Sustainability Comprehensive Performance Excellence Award from Taiwan Corporate Sustainability Awards (TCSA)
 - Silver Medal from EcoVadis Supplier Corporate Social Responsibility (CSR) Assessment



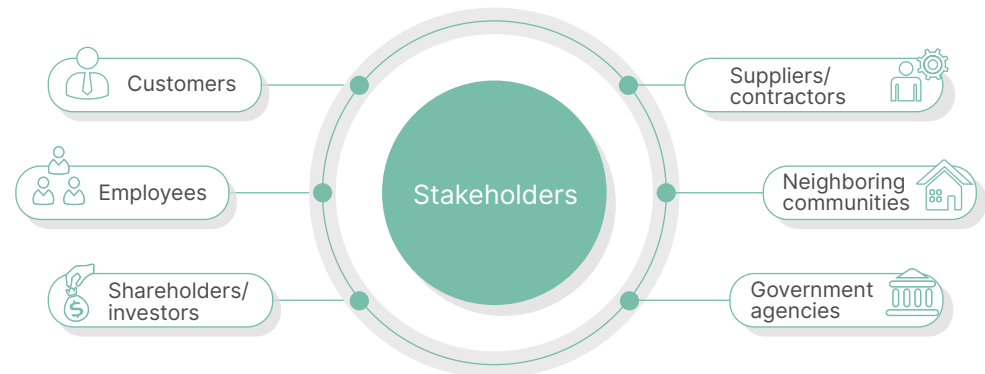
Stakeholder Discussion and Analysis of Major Topics ▶

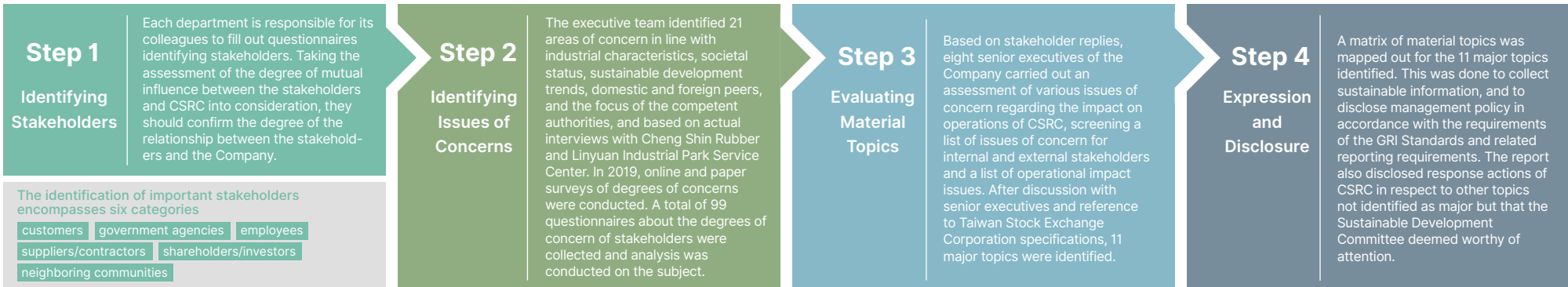
CSRC is attentive to the expectations of all stakeholders of the Company, humbly accepting customer feedback for its products and services, and making every effort to improve. Furthermore, we strive to reach consensus with suppliers and cooperating units through consultative meetings. In addition, we report operation results and major issues to investors through the shareholders' meeting and institutional meetings. At the same time, the Company collects and incorporates valuable opinions from investors/shareholders on issues such as those concerning its future operations. This forms important reference information for sustainable business decisions and is used to adjust our efforts in corporate social responsibility. We believe that establishing smooth and effective communication channels with stakeholders will help the Company keep up to date with the market, economy, society, and environment. This in turn will maintain the Company's upward momentum and create greater value.

CSRC involves employees connected to operation of its internal processes when taking the Company's internal operations as a main identifying category. When taking factors outside the Company as a

main identifying category, it considers external individuals who are recurrent and important in their daily work with the Company and where the two parties have a relationship of rights and obligations with each other through contracts, decrees and other agreement procedures. After internal discussion and consideration of the principle of materiality, key stakeholders have been determined to include customers, government agencies, employees, suppliers/contractors, shareholders/investors, and neighboring communities.

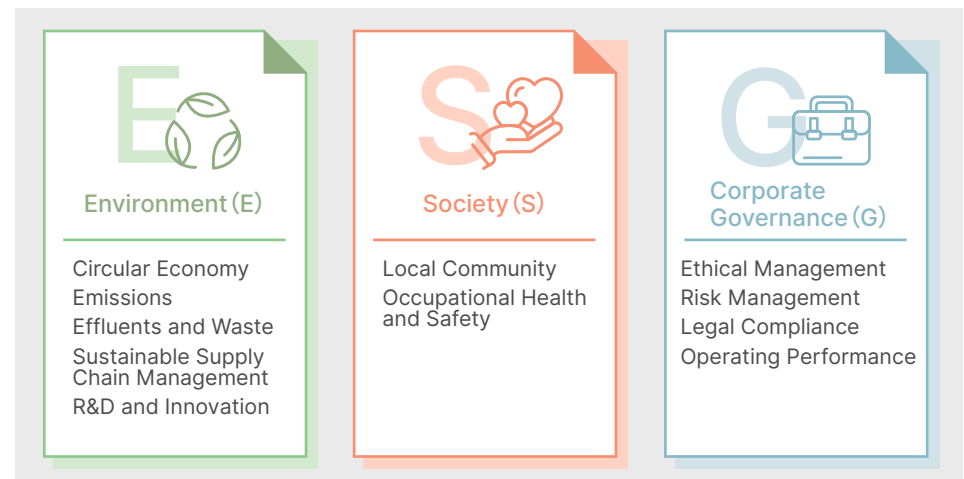
CSRC discloses information in an open and transparent manner and various communication channels. Through communication and mutual interaction with stakeholders, the Company can receive information and give feedback, ensuring that both parties can communicate effectively and nicely. In order to accumulate and continue to make progress in communication and interaction, we have designed a communication and evaluation mechanism for stakeholders and have focused on issue management procedures. By evaluating the goals and results of communication with stakeholders, the opinions from different stakeholders are all properly recorded and managed to achieve the expected communication results.











CSRC uses communication and negotiation with stakeholders as an important basis for the assessment of its material topics. In 2019, a questionnaire on sustainable issues was designed with reference to the GRI Standards as well as domestic and foreign peer concerns, with opinions to be collected directly from stakeholders. A total of 99 valid questionnaires was collected, and actual interviews were conducted with Cheng Shin Rubber and Linyuan Industrial Park Service Center. Through in-person discussion with stakeholders, more issues of stakeholder concern could be discovered. Eight senior executives of the company then conducted an assessment of the degree of impact on the sustainability of CSRC, screening a list of issues of concern to internal and external stakeholders and a list of issues of operational impact. This was consolidated into a matrix of sustainable issues that identified major areas of concern. The matrix of material topics in 2019 is as follows:

In addition, "occupational safety and health" and "local community," were required to disclose by Taiwan Stock Exchange Corporation for chemical sector. Therefore, the major topics were adjusted to include the following 11 items: ethical management, risk management, legal compliance, operating performance, circular economy, emissions, effluents and waste, sustainable supply chain management, R&D and innovation, local community, and occupational health and safety. Furthermore, this report gives priority responses for major topics so as to meet the expectations of stakeholders. The list of major topics in 2019 is as follows:



Stakeholders	Importance to CSRC	Focused issues	Communication methods and frequency	2019 Communication performance	Reflection and response methods
 Customers	The most influential stakeholders in product development and manufacturing. At the same time, they also pay attention to International CSRC's promotion of economic, environmental, and social issues.	<ul style="list-style-type: none"> Non-Discrimination Human Rights Assessment Circular Economy Customer Health and Safety R&D and Innovation Effluents and Waste 	<ul style="list-style-type: none"> Customer service email (anytime) Phone contact (weekly) Visits by sales person (monthly) Customer satisfaction surveys (annually) 	<ul style="list-style-type: none"> Pay regular monthly visits to customers and conduct a customer satisfaction survey once a year. The survey reflects a total satisfaction rating of 9.52 points (out of 10 points). 	<ul style="list-style-type: none"> Excellent service and good communication enable us to continue providing products with reliable quality. Compliance with local government business regulations, environmental protection regulations, and customer needs foster favorable conditions for long-term cooperation with customers.
 Employees	Our colleagues stand as the Company's most important asset, and we provide them with comprehensive welfare and care as well as settings and opportunities for living up to their self-worth. This is an important key to continued growth for International CSRC.	<ul style="list-style-type: none"> Circular Economy Employee-employer Relations Labor-management Relations Diversity and Equal Opportunity Training and Education Occupational Safety and Health 	<ul style="list-style-type: none"> Convene Pension Supervision Committee (quarterly) Convene Employee Welfare Committee (quarterly) Convene Labor-Management Conference (quarterly) Conduct education and training (monthly) Employee feedback mailbox (anytime) Sexual harassment complaint hotline and mailbox (anytime) 	<ul style="list-style-type: none"> Total education and training was 8,841 hours The sexual harassment complaint hotline and mailbox saw 0 instances of complaints. A total of 403 individuals completed performance appraisals Regularly convene the Pension Supervision Committee, the Employee Welfare Committee, and the Labor-Management Conference 	<ul style="list-style-type: none"> Review the effectiveness of education and training in the hope that employees and the Company will grow together. At the same time, regularly review the salary and benefits system to substantially incentivize employee competitiveness.
 Investors/ Shareholders	Opinions and suggestions of investors/shareholders also constitute an important reference index for the management team to make operational decisions.	<ul style="list-style-type: none"> Operating Performance Circular Economy Ethical Management Legal Compliance Risk Management 	<ul style="list-style-type: none"> Hold shareholders meeting (annually) Issue annual report (annually) Hold investor conferences (biannually) Hold meetings with institutional investors (not regularly scheduled) Issue financial statements (quarterly) Market Observation Post System (not regularly scheduled) Investor mailbox (not regularly scheduled) Company's official website (not regularly scheduled) 	<ul style="list-style-type: none"> Hold one shareholders meeting, six Board of Directors meetings, and two major investor conferences. During these meetings, investors are informed about market conditions, future trends, growth strategies, and profitability. CSRC also has an Investor Relations Department responsible for investor communication and investor calls and e-mails in 2019 were also replied to in full. 	<ul style="list-style-type: none"> It takes the initiative to provide investors with an operating results via large investor conferences and small-scale briefings. At the same time, the dedicated department handles investor problems and opinions, enhancing the exchange of views and interaction between the two sides. In the future, CSRC will increase the frequency of communication with investors, improving information transparency and disclosing important Company information.
 Suppliers/ contractors	Good suppliers/contractors can provide reliable supplies and services. This in turn allows CSRC to have a stable production operations, creating the most favorable business performance.	<ul style="list-style-type: none"> Occupational Safety and Health Circular Economy Ethical Management Legal Compliance Risk Management 	<ul style="list-style-type: none"> Supplier management system (not regularly scheduled) Supplier bid invitation meetings (not regularly scheduled) Supplier field evaluations (not regularly scheduled) Pre-construction work safety meetings (not regularly scheduled) Supplier strategic alliances (not regularly scheduled) 	<ul style="list-style-type: none"> Completed 110 supplier evaluations. Held a total of three safety seminars and related education and training courses for manufacturers and contractors. 	<ul style="list-style-type: none"> In-depth cooperation with capable suppliers/contractors that are experts in their fields, jointly developing materials and establishing strategic partnerships.

Stakeholders	Importance to CSRC	Focused issues	Communication methods and frequency	2019 Communication performance	Reflection and response methods
 <p>Neighboring communities</p>	<p>The living environments of neighboring communities may be affected by the operational activities of our plants. Therefore, we pay considerable attention to implementation results from environmental protection measures in the area around the plant.</p>	<ul style="list-style-type: none"> ■ Emission ■ Effluents and Waste ■ Materials ■ Occupational Safety and Health ■ Local Communities 	<ul style="list-style-type: none"> ■ Sponsor community charity activities (monthly) ■ Resident complaint channel (not regularly scheduled) ■ Undertake visits or phone contact (not regularly scheduled) 	<ul style="list-style-type: none"> ■ A total of NT\$8.68 million was invested in public welfare ■ Participated in after-school tutoring activities of Shanwei Elementary School in 2019. After-school tutoring was held 3 times a week and a total of 96 after-school tutoring courses were conducted, benefiting 40 students altogether. ■ Participated in 137 after-school tutoring courses at Maanshan's Fengqiao Elementary School in 2019, benefiting 44 students. ■ Summer camp was held in 2019 with a total of 30 schoolchildren participating. ■ A total of 20 students benefited from the 2019 Cement School Scholarship Program. ■ A carbon black workshop was held in 2019 with a total of 120 teachers and students participating. ■ In 2019, the Indian factory presented stationery gift boxes with a total of 700 students benefiting. ■ In 2019, the Indian factory sponsored World Yoga Day, benefiting a total of 300 community residents ■ Adopted Shihua 4th Road; adopted 18,000 square meters of the Third South Green Belt. ■ Carried out resident emergency relief in 2019; a total of 93 people benefited. 	<ul style="list-style-type: none"> ■ Through diverse bilateral communication and exchanges, we can foster closer relationships between CSRC and neighboring communities. These efforts also let communities understand our operational efforts as well as our dedication to environmental protection.
 <p>Government agencies</p>	<p>Promotion of various policies or formulation/modification of regulations may affect the operations of International CSRC.</p>	<ul style="list-style-type: none"> ■ Occupational Safety and Health ■ Emission ■ Effluents and Waste ■ Energy ■ Materials ■ Legal Compliance ■ Effluents and Waste 	<ul style="list-style-type: none"> ■ Hold shareholders meeting (annually) ■ Hold investor conferences (biannually) ■ Cooperate with relevant review and audit operations (quarterly) ■ Market Observation Post System (not regularly scheduled) ■ Participate in publicity meetings and seminars (quarterly) ■ Declare various types of tax information (monthly) ■ Pollution prevention conference (every February) 	<ul style="list-style-type: none"> ■ Two major investor conferences were held in 2019 ■ One shareholders' meeting was held in 2019 ■ Participated in six labor-related seminars or briefings convened by the government in 2019 ■ Participated in 3 finance and accounting-related seminars or briefings convened by the government in 2019 ■ Participated in 56 environmental protection-related seminars or briefings convened by the government in 2019 	<ul style="list-style-type: none"> ■ Keep up to date with the latest information on relevant laws and regulations, actively cooperate with the policy promotions of the competent authorities, and follow the requirements of various specifications and operations in accordance with current regulations and the requirements of the competent authorities. Actively participate in various meetings, understand the causes of external problems, learn from experience, and put preventative measures in place.

Attentively Listening to the Stakeholders

Communication and cooperation to create a beautiful community

Director Chien Shou-Fang, Linyuan Industrial Park Service Center, Industrial Development Bureau, Ministry of Economic Affairs

In recent years, CSRC has closely cooperated with Kaohsiung's Linyuan Industrial Park and has established good relationship and interactions with the community. Especially after the fire incident in 2018, CSRC has indeed demonstrated considerable sincerity and hard work in its active cooperation with the Linyuan Industrial Park Service Center and in its adjustment of frequent communication with local residents. Therefore, after this incident, good communication has instead been promoted between CSRC and residents of the Linyuan area and this has fostered a foundation of mutual trust. Recently, the both sides have cooperated more and worked together to solve local community issues.

In addition, CSRC strictly abided by government environmental regulations in 2019. For example, the waste gas emissions align with the municipal government's overall control measures to fulfill environmental protection responsibilities. Local residents used to call the service center directly to complain about odor problems, but this has also substantially improved recently. Therefore, no major environmental violations have occurred in the past two years. In addition, CSRC actively participates in adoption of roads and isolated greenbelts. It is one of the top three adopters in the Linyuan Industrial Park. For this, we are grateful and affirm the contributions of CSRC. At the same time, although safety incidents occurred, we can see that CSRC has always dealt with the incidents quickly and responsibly and with a high degree of conscientiousness. This enabled it to complete improvements in the shortest possible time and demonstrated the Company's responsible attitude.

In the future, we have two earnest expectations for CSRC: 1. Given that the Linyuan Industrial Park is a community of life that needs to be jointly maintained by various manufacturers, residents, and the Service Center, we hope that CSRC can continue to maintain good neighborhood relations and build an even cleaner factory. 2. We expect that work safety incidents will be further reduced, building a favorable image among residents and strictly fulfilling the Company's corporate social responsibility. Overall, CSRC's performance is getting better and better, and this is what we are happy to see and hope to continue!



CSRC's CSR Team and the EHS colleagues visited Director Chien of the Linyuan Industrial Park Service Center

Ethical Management, Innovation and R&D, Talent Cultivation

Lin Hung-Yu, Vice President, Cheng Shin Rubber Ind. Co., Ltd.

Cheng Shin Rubber takes the beliefs of its founder, Mr. Luo Jye, as the Company's most fundamental and important ideas; namely, the concepts of Honesty and Integrity. These has remained the same as our highest guiding principles as the Company pursues sustainable development. In addition, we are now even more focused on the Maxxis Family; based on the idea of safety first, it is implemented in regard to the three major aspects of sustainable economic, environmental, and social development of enterprises. In 2018, Cheng Shin was selected for inclusion in the FTSE4Good TIP Taiwan ESG Index jointly released by Taiwan Index Plus Corporation and FTSE Russell under the auspices of the Taiwan Stock Exchange. This demonstrates that Cheng Shin's sustainable development has progressively gained recognition from external professional organizations. We also regard implementing supply chain management and maintaining good partnerships with suppliers as a very important aspect.

We maintain long-term cooperation with CSRC and have a profound sense that CSRC maintains favorable interactions and relationships with its partners in keeping with the promise of its business philosophy. CSRC attaches great importance to its corporate culture of ethical management and to its responsible business attitude. This has made the deepest impression on us and confidently allows us to continue our business cooperation.

We look forward to working with CSRC to research new technologies and develop new products. Through further technical discussions and exchanges, we can find the most suitable cooperation mode with each other and discover more possibilities for product innovation. We believe that the key to innovation and R&D is the cultivation of talent. Only by investing in talent and improving the capabilities of employees can we have the potential for development, while enhancing the Company's overall motivation to promote sustainable business operations. CSRC has a wealth of excellent multinational talents. Through greater interaction, technical exchanges, and mutual sharing, it is hoped that they will inspire different ideas of innovation. With diverse perspectives and viewpoints, they may integrate and enhance both sides' R&D and technological innovation capabilities while working together to grow and create value.



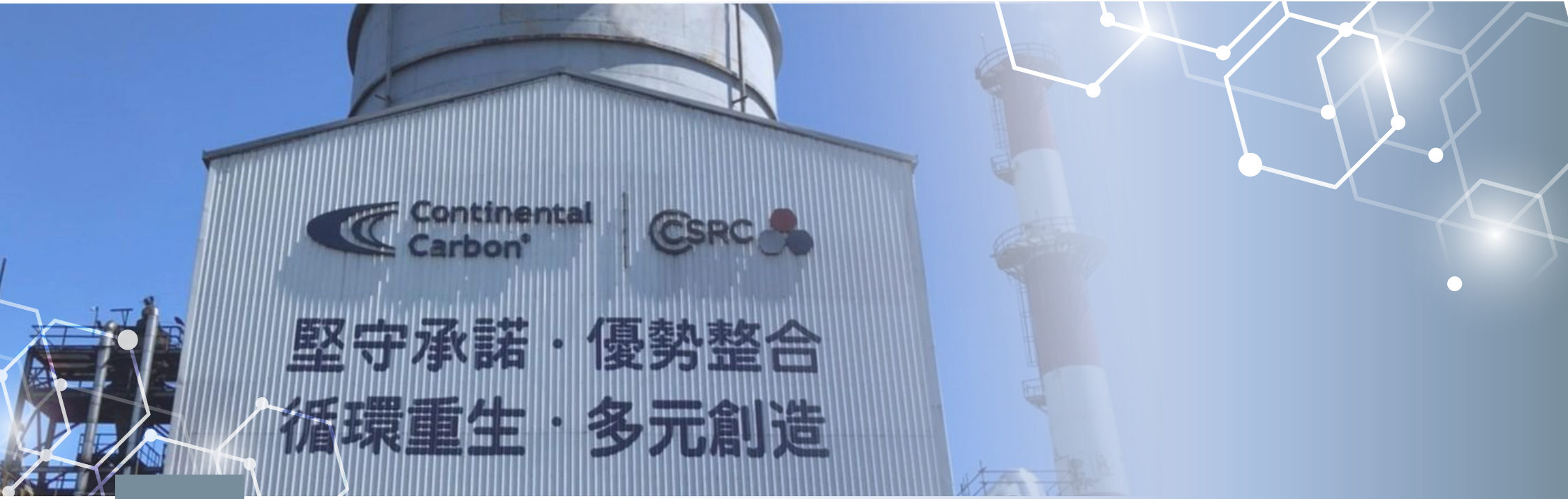
Report Boundary

For all major topics, International CSRC assesses its impact and disclosure boundaries:

Major topic	Materiality	Within the organization			Outside the organization				
		CSRC	Linyuan Advanced	Maanshan	Government agencies	Customers	Suppliers Contractors	Investors Shareholders	Neighboring communities
Ethical Management	“Integrity and uprightness” stand as the core corporate values of CSRC. We attach great importance to compliance, strictly abiding by local government laws and regulations in order to achieve sustainable operation and taking responsibility for employees, shareholders, and the overall supply chain. The Company's operations are based on the concepts of integrity, fairness and transparency, and with zero violations as the management goal.	●	●	●	●	●	●	●	○
Risk management	The carbon black industry is changing rapidly. Under current operational conditions of globalization, all kinds of operating factors may generate risks; and these in turn affect the sustainable operations of CSRC.	●	●	●	●	●	●	●	○
Legal compliance	“Integrity and uprightness” stand as the core corporate values of CSRC. We attach great importance to compliance, strictly abiding by local government laws and regulations in order to achieve sustainable operation and taking responsibility for employees, shareholders, and the overall supply chain. The Company's operations are based on the concepts of integrity, fairness and transparency, and with zero violations as the management goal.	●	●	●	●	●	●	●	○
Operating performance	The Company takes a circular economy as its core concept and sustainable operations as its goal. Operations primarily hinge on stable production and financial stability, and flexibly allocate production and sales according to market conditions and global production bases. Furthermore, we continue to invest in research and development to keep creating economic value.	●	●	●	●	●	●	●	○
Circular Economy	Fully practicing circular economy can enhance the efficiency of resource consumption, in response to climate change and improve resilience	●	●	●	○	●	●	●	●

Major topic	Materiality	Within the organization			Outside the organization				
		CSRC	Linyuan Advanced	Maanshan	Government agencies	Customers	Suppliers Contractors	Investors Shareholders	Neighboring communities
Emissions	As we continue to invest in environmental protection equipment, commitment to reducing process emissions will enhance market competitiveness and fulfill corporate citizen duties.	●	●	●	○	○	●	○	●
Effluents and Waste	The petrochemical industry is highly dependent on energy and fossil fuels, and is closely related to many basic industries for people's livelihoods. Therefore, it meets the requirements of various environmental protection laws and regulations to avoid harm to the environment caused by wastewater, waste materials, or air discharges so as to effectively reduce environmental impact.	●	●	●	●	○	○	○	○
Sustainable supply chain management	CSRC attaches great importance to supplier partnerships, and we look forward to coexisting with suppliers to create long-term stable, mutually beneficial, and cooperative relationships.	●	●	●	○	●	●	●	○
R&D and innovation	The sustainable development of an enterprise requires constant innovation and surpassing oneself. In order to maintain market competitiveness, we must continue to invest in research and development. Product innovation also forms the core competitiveness of growing together with customers.	●	●	●	○	●	●	●	○
Local communities	Our production bases are adjacent to local communities and may easily affect the lives of local residents. Therefore, the maintenance of community relations is an important issue.	●	●	●	●	●	●	●	●
Occupational safety and health	The safety of employees in the workplace is the most important link for International CSRC. Only when employees work at ease can their work efficiency be demonstrated.	●	●	●	●	○	○	○	○

Note: ● Direct ○ Indirect



01

Ethical Management

1-1 About CSRC

1-4 Corporate Governance

SDGs 16.16

1-2 Brand Value

1-5 Regulatory Compliance

1-3 Operating Performance

SDGs 17.16

1-6 Risk Management

SDGs 13.3

SDGs 16.16

SDGs 17.16



Performance Highlights 1

Consolidated revenue of NT\$22.271 billion in 2019



Performance Highlights 2

Announced the construction of a new carbon black manufacturing plant in Turkey in 2019



Performance Highlights 3

A total of 112 hours of corporate governance and ethical management courses were attended in 2019



Performance Highlights 4

In 2019, 0 cases of dishonesty and of security breaches occurred throughout the year



Performance Highlights 5

In 2019, 0 violations of social, economic or environmental regulations occurred at Maanshan Plant

Material Topic	Operating Performance	Disclosure Items GRI 103-1~3、GRI 201-1	Ethical Management	Legal Compliance	Disclosure Items GRI 103-1~3、GRI 307-1、GRI 419-1								
Materiality	<p>The Company takes a circular economy as its core belief and sustainable operations as its goal. Operations primarily hinge on stable production and financial stability, and flexibly allocate production and sales according to market conditions and global production bases. Furthermore, we continue to invest in research and development to keep creating economic value.</p>		<p>“Integrity and uprightness” stand as the core corporate values of CSRC. We attach great importance to compliance, strictly abiding by local government laws and regulations in order to achieve sustainable operation and taking responsibility for employees, shareholders, and the overall supply chain. The Company’s operations are based on the concepts of integrity, fairness and transparency, and with zero violations as the management goal.</p>										
Policies and Commitments	<p>We will focus on the industry, continue to invest in research and development, and enhance product diversity. We will continue to monitor changes in the global market and stabilize the domestic market. At the same time, we will expand foreign marketing and increase global customers. Furthermore, the primary goal our industrial safety and environmental protection efforts is to ensure the stable operation of our processes and the safety of employees, and to ensure they are superior to local regulations. In respect to finance, we will implement cost controls and continue to invest in research and development, increasing market share. We will also implement and improve corporate governance and risk controls and take responsibility for employees and shareholders.</p>		<p>CSRC sets the highest standards of professional ethics for itself, and has formulated its Guidelines for Integrity-Oriented Management, Code of Ethics, Practical Guidelines for Corporate Governance among others. It abides by discipline, zero tolerance for corruption, and prohibitions against bribery, fraud, the act of misusing company assets, or of sacrificing Company interests in exchange for personal interests. In the future, we will continue to evaluate revisions to regulations such as governance, product liability, and environmental protection in order to carry out the corresponding adjustment work in advance and in line with regulatory requirements.</p>										
Targets	<table border="0" style="width:100%"> <tr> <td style="text-align:center">Short-Term Targets (1-3 Years):</td> <td style="text-align:center">Mid-Long Term Targets (3-5 Years)</td> </tr> <tr> <td style="vertical-align:top"> <ul style="list-style-type: none"> ■ Optimize production efficiency and production capacity, and utilize strategic procurement, to schedule the global production and sales system according to market conditions in various regions. Create local manufacturing, remote backup, quickly adapt to the needs of local customers, improve service efficiency, and reduce tariff barriers arising from trade disputes. ■ Actively carry out global layout, build carbon black factories in India and Turkey, increase market share, and maintain industry leadership. Develop high-end carbon black for use in low rolling resistance tires, truck tires, rubber and plastic products, and so on, that can extend product life, reduce waste, improve product appearance and texture, and increase the added value of carbon black. </td> <td style="vertical-align:top"> <ul style="list-style-type: none"> ■ Continue to evaluate the expansion of production capacity through mergers and acquisitions or building factories, enhance international visibility, maintain industry leadership, and achieve layout of high-end special carbon black used for ink coatings, conductive and other applications. </td> </tr> </table>		Short-Term Targets (1-3 Years):	Mid-Long Term Targets (3-5 Years)	<ul style="list-style-type: none"> ■ Optimize production efficiency and production capacity, and utilize strategic procurement, to schedule the global production and sales system according to market conditions in various regions. Create local manufacturing, remote backup, quickly adapt to the needs of local customers, improve service efficiency, and reduce tariff barriers arising from trade disputes. ■ Actively carry out global layout, build carbon black factories in India and Turkey, increase market share, and maintain industry leadership. Develop high-end carbon black for use in low rolling resistance tires, truck tires, rubber and plastic products, and so on, that can extend product life, reduce waste, improve product appearance and texture, and increase the added value of carbon black. 	<ul style="list-style-type: none"> ■ Continue to evaluate the expansion of production capacity through mergers and acquisitions or building factories, enhance international visibility, maintain industry leadership, and achieve layout of high-end special carbon black used for ink coatings, conductive and other applications. 	<table border="0" style="width:100%"> <tr> <td style="text-align:center">Short-Term Targets (1-3 Years)</td> <td style="text-align:center">Mid-Long Term Targets (3-5 Years)</td> </tr> <tr> <td style="vertical-align:top"> <ul style="list-style-type: none"> ■ Completion of improvement measures for violations and rectification measures for each plant, and continue to improve corporate governance management mechanisms to achieve ethical management to fulfill corporate responsibility. </td> <td style="vertical-align:top"> <ul style="list-style-type: none"> ■ Establish a corporate culture in compliance with the law, continue to maintain company assets and protect the rights and interests of various stakeholders, and hold zero violations as the management goal. </td> </tr> </table>			Short-Term Targets (1-3 Years)	Mid-Long Term Targets (3-5 Years)	<ul style="list-style-type: none"> ■ Completion of improvement measures for violations and rectification measures for each plant, and continue to improve corporate governance management mechanisms to achieve ethical management to fulfill corporate responsibility. 	<ul style="list-style-type: none"> ■ Establish a corporate culture in compliance with the law, continue to maintain company assets and protect the rights and interests of various stakeholders, and hold zero violations as the management goal.
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Responsibility (Responsible Units)	Corporate Sustainability Committee		Corporate Sustainability Committee										
Resources	<p>R&D and technology centers were established to continuously develop niche products, and coordinate with strategic procurement to adjust the proportion of raw oil to achieve the best quality of carbon black while meeting customer needs.</p>		<p>Organize regular education and training for directors, managers, employees, and substantive controllers</p>										
Grievance Mechanism	<p>The company's website has a stakeholder communication mailbox for complaints: E-mail: csr@csrgroup.com</p>		<p>In order to protect the Company’s reputation and property safety, and to prevent damage to the rights of shareholders, employees and partners from corruption, theft, invasion, seeking private gain or other unethical and immoral behaviors, CSRC has specified the following reporting channels for internal and external parties to raise suspected matters of illegality for better corporate governance and to protect whistleblowers:</p> <ul style="list-style-type: none"> ■ E-mail: mp.buster@csrc.com. ■ Written reports: International CSRC Investment Holdings Co., Ltd. 8F., No. 113, Sec. 2, Zhongshan N. Rd., Zhongshan District, Taipei City. ■ On-site: Audit Office of CSRC Group 										
Action Plan	<ul style="list-style-type: none"> ■ The R&D and Technology Center of the Taiwan Linyuan Plant was officially opened in December 2019. In addition to improving product quality, professional processing and application evaluation equipment will allow us to continue working with customers to develop high-end carbon black products. 		<ul style="list-style-type: none"> ■ Regularly identify laws and regulations, collect internal and external issues, report and implement improvement measures for operational risks. ■ Regular monthly meetings shall advance ethical management policies and arrange for relevant personnel to receive internal training or external training courses according to need. 										
Validity Assessment	<ul style="list-style-type: none"> ■ Every quarter we shall aggregate customer needs and advance discussions at departmental meetings. Meeting results will be reflected in communication initiatives with customers. ■ We shall undertake a year-end annual operating performance review where a plan will be proposed for the following three years, so as to decide the coming year’s operating targets and key performance indicators (KPIs). 		<ul style="list-style-type: none"> ■ The Audit Office regularly (at least once every year) reports to the Audit Committee and to the Board of Directors on ethical management policies and on plans to prevent dishonesty and supervise implementation; moreover, no violations of integrity or ethics occurred in 2019. 										



Material Topic

Risk management

Disclosure Items | GRI 103-1~3

Materiality	The carbon black industry is changing rapidly. Under current operational conditions of globalization, all kinds of operating factors may generate risks; and these in turn affect the sustainable operations of CSRC.	
Policies and Commitments	By identifying and managing internal and external risks and by measuring and analyzing the short-, medium- and long-term impacts of various risk factors on CSRC, we may improve the effectiveness of decision-making and enhance corporate value to formulate corresponding implementation plans and strategies.	
Targets	Short-Term Targets (1-3 Years)	Mid-Long Term Targets (3-5 Years)
	<ul style="list-style-type: none"> In order to continuously improve risk management mechanisms and incorporate existing financial and operational aspects, we shall place greater emphasis on risk management of disasters and work safety incidents while formulating corresponding implementation plans and strategies. 	<ul style="list-style-type: none"> Set up a risk management organization to discuss the Company's risk management priorities, risk assessment and response measures, and report to the Board of Directors about the operational risk environment and management strategy.
Responsibility (Responsible Units)	Corporate Sustainability Committee	
Resources	Each functions under Corporate Sustainability Committee performs risk identification and management in daily operations, and Audit Office performs backend risk management.	

Grievance Mechanism	<p>In order to protect the Company's reputation and property safety, and to prevent damage to the rights of shareholders, employees and partners from corruption, theft, invasion, seeking private gain or other unethical and immoral behaviors, CSRC has specified the following reporting channels for internal and external parties to raise suspected matters of illegality for better corporate governance and to protect whistleblowers:</p> <ul style="list-style-type: none"> E-mail: mp.buster@csrc.com. Written reports: International CSRC Investment Holdings Co., Ltd. 8F., No. 113, Sec. 2, Zhongshan N. Rd., Zhongshan District, Taipei City. On-site: Audit Office of CSRC Group
Action Plan	When each functions under Sustainable Development Committee identified risks, it immediately performs related management. Audit Office also formulates annual audit plan after risk assessment.
Validity Assessment	<ul style="list-style-type: none"> The audit supervisor regularly participates in Board of Directors meetings, explaining key points of risk management for evaluation and planned response measures. The audit supervisor then reports to the Board of Directors on operational risks and management strategies. <ul style="list-style-type: none"> Number of times scheduled to attend: 5 times Number of times actually attending: 5 times The Company experienced no significant risk events in 2019

1-1 About CSRC ▶

CSRC was established on June 15, 1973 by eighteen individuals including Mr. Lin Bo-Shou and Mr. Koo Chen-Fu and signed a "Patent and Technology Use Right Contract" with Continental Carbon Company of the US to prepare for construction of carbon black production facilities. It was listed on the Taiwan Stock Exchange on July 15, 1986. The headquarters of CSRC is located at 8F, No. 113, Sec. 2, Zhongshan N. Rd., Taipei City. There are three major business units; Carbon Black business is a global industry leader with the brand name of "Continental Carbon." It is the only carbon black manufacturer in Taiwan and the sixth largest in the world. It has four operation centers, three R&D centers, and eight facilities, as well as one technology licensing production facility globally in order to be close to serve global customers. Battery business continues to develop high-performance cylindrical cells, driving green energy sustainability. Biotech business continues to invest in professional pharmaceutical research and development, and provide diversified products and cross-industry services with joint efforts to promote the improvement of quality for human civilization. We are constantly investing in technology research and development. Through technical excellence, we have joined our customers to demonstrate an outstanding performance internationally. We are actively deploying to better serve our global customers and with an awareness of our role as an important partner in the industry value chain, thereby becoming a world-class manufacturer and leader in integrated services.



國際中橡投資控股股份有限公司
International CSRC Investment Holdings Co., Ltd.

Headquarters location	8F, No. 113, Sec. 2, Zhongshan N. Rd., Zhongshan District, Taipei City
Industry	Rubber industry
Stock Code	2104
Number of Employees	442 employees
Capital Stock	NT\$9.85 billion
Establishment Date	June 15, 1973
Listing Date	July 15, 1986



We continue to pursue innovation and breakthroughs in the carbon black field with the attitude of global leading brand

Main Business

- (1) Manufacturing of synthetic rubber
- (2) Manufacturing of other rubber products
- (3) Manufacturing of industrial rubber products
- (4) Non-public electric power generation
- (5) Thermal energy supply

Location

- Linyuan Advanced Materials Technology Co., Ltd.
- Mainland China plants (Anshan, Maanshan, Chongqing)
- USA plants: CCC USA Corp.
- India plant: CCIL



In addition to our long-term customers, we will further pursue more diverse applications in the lithium-ion battery industry for future innovation and deployment.

Main Business

- (1) Battery manufacturing and assembly (Research, development, production, and sales of rechargeable lithium-ion batteries and battery products or related technologies)
- (2) International trade business, concurrently engaged in international trade business related to battery products

Location

- E-ONE MOLI



We continue to maintain steady growth and further cooperate with hospitals and other research institutions to develop new medicine.

Main Business

Biological technology services

Location

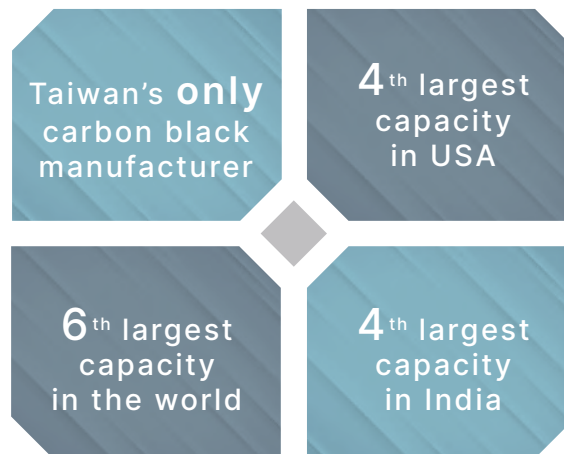
- Circular Commitment Company
- Synpac (North Carolina), Inc.

Carbon Black Business takes "globalization" as its operating strategy. It continuously improves production technology through various forms of resource integration, ensuring that output scale and product quality are at a leading level globally. Furthermore, a focus on the needs of "customers" and "users" serves as its driving force for continuous quality breakthroughs and product innovation. In addition to carbon black's most widely used tire and rubber applications, our diversified product series encompasses special applications such as pigments, plastics, chemical fiber products, conductive materials, and so on. This scope of use covers all aspects of food, clothing, and transportation in our daily lives. Among these applications, material for rubber products is more special and not easily replaced; and in recent years, the demand for electric vehicle tires has gradually increased. This in turn has boosted demand for new types of carbon black for tires and rubber products, thus maintaining stable development in this category. Faced with the development of international trends, CSRC

is also committed to developing diversified product lines and professional customization capabilities, continually striving to improve human civilization.

As a specialized leader in the field of carbon black, CSRC believes that the foundation of the Company's development is to establish close collaborative relationships with its customers while creating maximum value for them. This has been consistently confirmed by past long-term cooperation with other global leading firms such as Bridgestone, Michelin, Maxxis, and other leading enterprises.

In addition, environmental protection has always been our priority. In addition to requiring all production processes to comply with international environmental standards, we continue to invest in energy recycling and environmental protection equipment. In the past three years, our environmental protection investments in Taiwan, the United States, China, and India have exceeded NT\$4.4 billion. CSRC regards environmental protection and customer value creation as important strategies to achieve corporate development. In the future, CSRC vows to improve the quality of human life and to do better.



Source: Notch report

Public association credentials

CSRC actively participates in public association conferences and abides by conference norms in the hope that might contribute its own strengths to jointly address social responsibilities alongside its peers. The following table shows CSRC's participation in public associations in 2019:

Public association name	Organization membership
Petrochemical Industry Association of Taiwan	✓
Taiwan Rubber & Elastomer Industries Association	✓
Chinese National Association of Industry and Commerce, Taiwan (Note)	✓
Taiwan Responsible Care Association	✓
Kaohsiung Personnel Representative Association	✓
Third Wednesday Club (San San Fe)	✓
Kaohsiung Chamber of Industry	✓
Chinese Society for Quality	✓
Taiwan Plastics Industry Association	✓
Taiwan Chemical Industry Association	✓

Note: The Chairman serves as a director of the Chinese National Association of Industry and Commerce, Taiwan

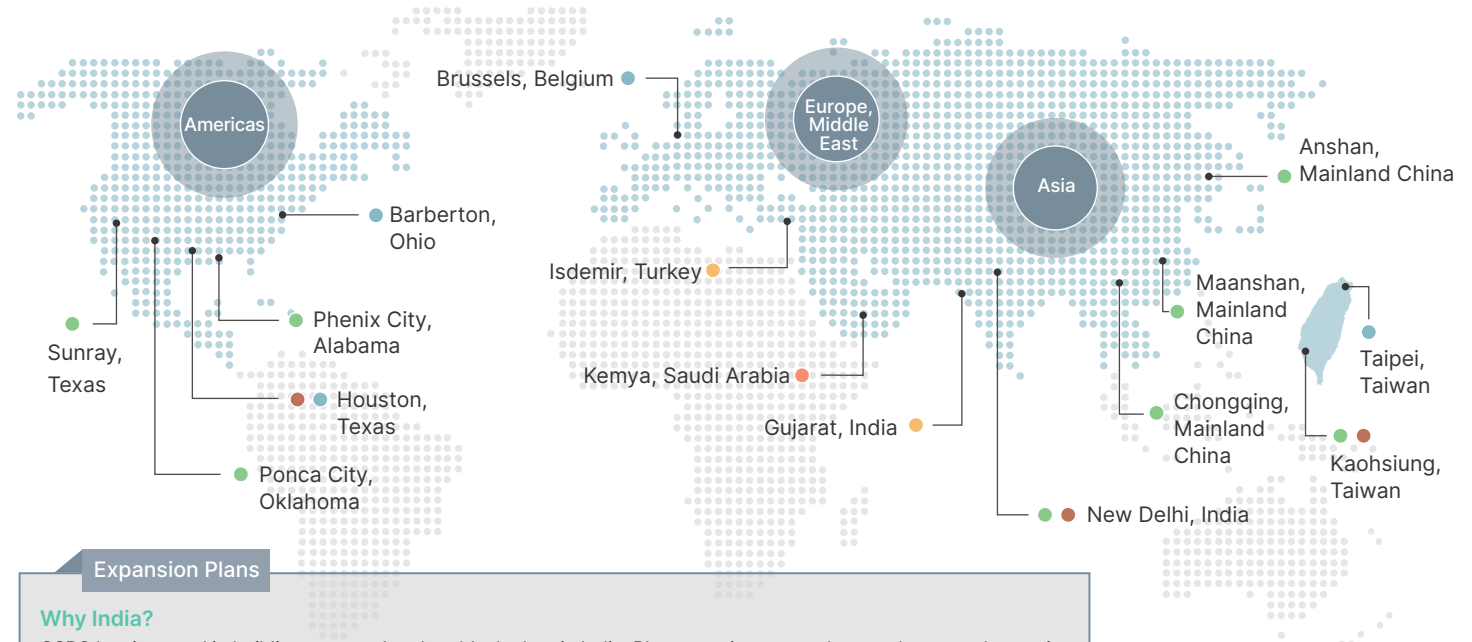
1-2 Brand Value ▶

1-2-1 Diversified cooperation and innovation

CSRC has long regarded customers as important partners. By providing integrated services and innovative products, we create common value with customers. Internally, we encourage the improvement and innovation of operating processes while at the same time breaking through existing product design in the development of multiple product applications. Meanwhile, we take environmental friendliness and high-quality green transformation as our design goals. All of the above initiatives are the focus of the Company's continuous investment in research and development. CSRC continues to use multiple approaches to ensure that we are keeping up to date with the market and with trends. These include the systematic collection, verification, and analysis of information, evaluating environmental trends, industry competition, potential competition, value supply chain, customer needs, and other aspects. We also maintain our market advantage by ensuring financial deployment, product development, production control, and sales services. We thus can strengthen CSRC's steadfast strategic deployment and achieve the goal of sustainable management through continuous observation and information collection and analysis, as well as research and drawing inferences.

1-2-2 Distribution of global operations

As of the end of 2019, Carbon Black Business mainly operates in North America, Mainland China (Anshan, Maanhan, Chongqing), and India (New Delhi). As a global brand, CSRC is confident that it can face the challenges of the new century and open the way for outstanding new milestones ahead. This is based on its many advantages including the international layout of its production capacity operation system, its specialized technology, its diverse human talent, and the trust of its customers. In order to improve the global production and marketing system layout, the construction of a new factory in India was started in 2018. In 2019, the Company announced its entry into Turkey. In this way, we are transforming into a true "multi-domestic" company, creating local production and remote backup mechanisms, and using individual production advantages of different countries in order to increase the Company's competitive niche and expand production capacity.



Expansion Plans

Why India?

CSRC has invested in building a second carbon black plant in India. Phase one is expected to reach an annual capacity of 150,000 tons, with completion slated by the end of 2021. According to statistics released by OICA, India is currently the fifth largest automotive market in the world. India is expected to become the third largest auto market in the world by 2026, and thus the demand for carbon black will continue to grow.

Why Turkey?

At the end of 2019, CSRC announced that it would establish a joint venture with OYAK Group to jointly build a carbon black factory in Turkey. Carbon black demand in this region is as high as 200,000 tons a year, and it is also an important auto exporting country. CSRC's carbon black production base will expand from Asia and Americas to Europe, becoming a truly multi-domestic global company.

- Manufacturing site
- Expansion site
- Technology center
- License manufacturing site
- Office



Phenix City Plant



Maanshan Plant



Anshan Plant



Chongqing Plant



Kaohsiung Plant



Taipei Office

1-3 Operating Performance ▶

Operational results

CSRC's three businesses are Carbon Black, Biotech, and Battery, and consolidated revenue in 2019 was NT\$22.271 billion. Out of this, Carbon Black's revenue reached NT\$15.773 billion (accounting for 70.8% of total revenue that year). The sales areas were mainly in the Americas and Asia, accounting for 50.3% and 49.5% in 2019, respectively.

Sales by BU

Unit: NT\$ million

	Carbon black	Biotech	Battery	Others
2019	15,773	2,760	3,235	503
2018	16,944	3,987	3,463	38
2017	14,082	3,881	2,125	26

Sales by region

Unit: NT\$ million

	Americas	Asia	Others
2019	11,205	11,012	54
2018	10,474	13,913	46
2017	8,164	11,903	47

CSRC is committed to keeping ahead of environmental protection regulations, strengthening its environmental protection and prevention equipment, and ensuring compliance with local regulations and standards. If tightened environmental regulations arise in various countries, CSRC will still be able to operate, maintain production, and create growth. Our operations are founded on the ideas of being "results oriented" and "refined, simple, and accurate." In the future, we will continue to promote various R&D projects, develop fuel-saving equipment and methods to save energy and reduce carbon, improve resource utilization rates, create positive growth momentum, and strive to create the highest interests for shareholders as our goal.

CSRC operates all over the world, so we put the highest priority on following local tax laws in order to support government measures to promote innovation, research and development, and economic growth for various enterprises, taking our full responsibility of corporate citizenship.

5 major commitments

Information transparency	Honest declarations	Mutual trust and communication	Prudent assessment	Enhance professionalism
Financial report information is transparent, and tax disclosures are handled in accordance with relevant local regulations.	Follow the tax laws and regulations of various countries to honestly declare and pay taxes. Do not conduct transactions solely for tax avoidance purposes. Fulfill taxpayer obligations, and fulfill social responsibilities.	Establish mutual respect with tax authorities, based on mutual trust and information transparency.	Important company decisions all take the impact of taxation into account, and carefully evaluate the operating environment while conducting tax risk management.	Strengthen tax professional quality and talent training. When faced with changes in relevant tax regulations, be able to quickly formulate counter-measures.

CSRC's direct economic value generated and distributed

Unit: NT\$ million

	Item	2019
Direct economic value generated	Revenue	22,271
	Operating cost	17,943
	Employee wages and benefits	2,400
Direct economic value distributed	Payments to providers of capital	489
	Payments to government by country	993
	Community investment	9
Economic value remained		437

The global trend of carbon black is "integration," such that only large companies are able to meet increasingly stringent global environmental standards. The strategy of CSRC's Carbon Black Business is to integrate and diversify risks. In terms of integration, this includes mergers and acquisitions of small-scale manufacturers who are unable to comply with environmental regulations. It also involves new production capacity in rapidly growing markets, such as our entry into the fast-growing Indian and Turkish markets. In terms of risk diversification, we diversify single market risk by developing large economies in Asia, the Americas, Europe, and so on. We also invest in environmental protection equipment to strengthen our own competitiveness. The Battery Business is to expand its production capacity, optimizing product mix by specializing in high capacity, high-power niche products. The Biotech Business continues to entrust research institutions to develop new medicine, hoping to bring more contributions to society.

1-4 Corporate Governance ▶

In establishing a corporate governance structure and related ethical standards and issues to improve corporate governance, CSRC takes the Corporate Governance Best Practice Principles for TWSE/TPEX Listed Companies and Codes of Ethical Conduct for TWSE/TPEX Listed Companies as reference examples for its guidelines. The management team draws essential points from the Corporate Governance Best Practice Principles for TWSE/TPEX Listed Companies in carrying out their duties to conduct business and prepare financial reports for the Board of Directors. All directors in turn pay constant attention to relevant regulatory information as well. In addition, they follow the information disclosure rules of relevant laws and regulations in publicly disclosing relevant financial, business and corporate governance information through the Company's website and the Market Observation Post System.

In CSRC's corporate governance organizational structure, the Board of Directors represents shareholders as the Company's business executives. It has established an Audit Committee to carry out supervision duties. It has also established a Remuneration Committee that is responsible for setting, reviewing and evaluating remuneration related policies for directors, managers, and so on. Meanwhile, the Audit Committee and the Compensation Committee have also formulated their respective organizational rules for compliance purposes. Separately, CSRC moved to thoroughly implement its corporate social responsibility initiatives by creating The Establishment Procedure of Enterprise Sustainable Development Committee in 2018. This was done to set up a Sustainable Development Committee to enhance corporate value and build a better society.

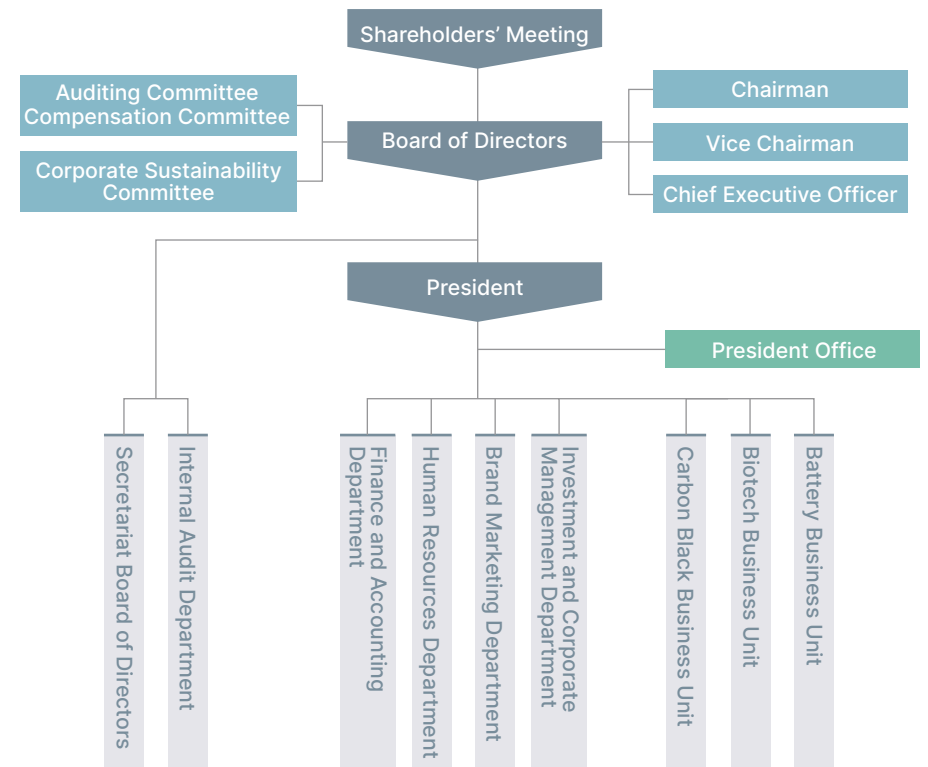
1-4-1 Board of Directors

Board structure

In accordance with the articles of association, CSRC shall set up seven directors, each with a three-year term. The election of directors adopts the system for nominating candidates, elected from the list of candidates for directors by the shareholders. If reelected, they can be reappointed. There were seven directors in 2019, all of whom were male. Three were independent directors, while four (57%) were over 50 years old and three (43%) were aged 31-50. CSRC's board members focus on elements of diversity, having different professional backgrounds of knowledge, skills, and industry required for their jobs. They listen to the management team reports regularly during the Board of Directors meetings, give guidance and recommendations, and maintain good communication with the management team to maximize benefits for shareholders.

In order to establish good corporate governance and independent director system, and to enable independent directors to perform their functions on the Board of Directors and in the Company's operations, the Company has established positions for three independent directors and created Rules Governing the Scope of Powers of Independent Directors for them to follow. The independent directors shall be elected in the shareholders' meeting from to the list of independent director candidates. In respect to the professional qualifications of independent directors, as well as their shareholdings, restrictions on concurrent positions, determination of independence, nomination and election methods, and other matters to be complied with, they shall be managed in accordance with the provisions specified in the "Securities and Exchange Act", the "Regulations Governing Appointment of Independent Directors and Compliance Matters for Public Companies", "Corporate Governance Best Practice Principles for TWSE/TPEX Listed Companies", and related regulations as issued by government agencies.

CSRC convened six Board of Directors meetings in 2019, conforming to regulatory requirements that the Board of Directors meets at least once per quarter. Furthermore, the in-person attendance rate of directors was 100%. Important proposals are disclosed in the Annual Report, with transparent and reliable disclosure of this information. The compensation of directors is determined according to their degree of participation in the Company's operations and the value of their contributions, as well as by an assessment of payment standards among domestic and international industry peers. The operation of the Board of Directors is based on the evaluation indicators specified in the "Corporate Governance Evaluation System" established by the Corporate Governance Center of the Taiwan Stock Exchange, and implemented in compliance with the corporate governance standards.



Mechanisms to avoid conflicts of interest

The powers of the Board of Directors include making decisions on business plans, earnings distributions, proposals for capital increases and decreases, ratification of important rules and contracts, appointment and dismissal of the General Manager, establishment and dissolution of subsidiaries, final account examination and approval of budgets, real estate transactions, examination and approval of investment in other businesses, and decisions for other important matters. The operation of the Board of Directors does comply with board of directors meeting rules and relevant laws and regulations. It supervises the Company's operations and all existing or potential risks of the Company, while maintaining positive interaction with the management level and fully utilizing the functions of the Board of Directors.

For directors who have conflicts of interest against themselves or the corporations they represent in regard to meeting matters, they shall explain the important details of their stakes at the Board of Directors meeting at that time. If these conflicts of interest may cause harm to the interests of the Company, the directors shall abstain during discussion and voting, and also cannot act for other directors in exercising their voting rights.

1-4-2 Investor Responsibilities

When stipulating the fulfillment of corporate social responsibility in Ethical Corporate Management Best Practice Principles, CSRC shall respect social ethics and pay attention to the rights and interests of other stakeholders, attach importance to the factors of environment, society, and corporate governance and incorporate them into the Company's management and operations, while pursuing sustainable management and profit at the same time. In terms of shareholders' rights and interests, the Company has appointed dedicated investor relations personnel. Its spokesperson takes shareholders' suggestions, doubts, and handle disputes, and then the related departments will take the suggestions and handle disputes according to the type of problem they fall under.

Creating the highest interests for shareholders is the concerned goal of CSRC along with all its employees. In order to maintain good communication channels with investors, information will be publicly disclosed to shareholders. In addition to holding annual shareholders' meetings and biannual investor conferences, as well as interim meetings with institutional investors, the Company's operations and financial status are reported to investors via the "Investors" area of its official website. This offers the fastest means of providing information for the reference of shareholders regarding financial information, corporate governance, shareholder services, and so on, such as financial statements, investor conference messages and information, internal audit, company regulations, annual dividend distribution, and major announcements.



1-4-3 Other Functional Committees

Compensation Committee

In order to improve corporate governance and offer reasonable remuneration, CSRC has established a Compensation Committee. On June 26, 2018, the Board of Directors reelected members of the 4th Committee by appointing three new independent directors to serve as committee members of the Remuneration Committee. The secretary of the Board of Directors evaluates the performance of the directors in accordance with the "Regulations Governing the Board of Directors Performance Evaluation." After the directors' compensation is submitted to the Compensation Committee for discussion, the discussion results of the Compensation Committee and the directors' self-evaluation are submitted to the Board of Directors for discussion, and the directors' compensation is linked to the evaluation results. The Committee convened two times in 2019 with members' in-person attendance rate attaining 100%.

Auditing Committee

CSRC developed the Charter of the Auditing Committee for compliance in accordance with Article 14-4 of the Securities and Exchange Act and Article 3 of the Regulations Governing the Exercise of Powers by Audit Committees of Public Companies. On June 26, 2018, the Annual Shareholders' General Meeting re-elected the 3rd term Committee members, and elected three new independent directors to serve as Committee members responsible for carrying out supervisory power in accordance with provisions of the Company Act, the Securities and Exchange Act, and other laws and regulations. The Auditing Committee convenes once every quarter and may hold meetings at any time when deemed necessary. The Audit Committee convened a total of six times in 2019, and the attendance rate of Committee members was 100%. Committee members shall abstain in the case of having a stake in meeting matters such that it that may cause harm to the interests of the Company. Auditing-related suggestions and feedback can be emailed to csrcwhistle@csrcgroup.com. The main purpose of the Audit Committee's operations is to supervise the following matters:

- Appropriate expression of the Company's financial statements
- Appointment (dismissal), independence, and performance of CPAs
- Effective implementation of the Company's internal controls
- Relevant laws and regulations followed by the Company
- Management and control of existing or potential risks faced by the Company

1-4-4 Code of Ethics

CSRC upholds the Company's business philosophy of "Modest and Harmonious, with Integrity and Honesty", and expresses the Company's ethical management attitude on the Company's official website. Guidelines for Integrity-Oriented Management and Codes of Ethics were established in order to establish a corporate culture of ethical corporate management and good business operations. The content is reviewed from time to time and modified according to internal and external situations and developments. CSRC organizes education, training, and publication regularly for directors, executive managers, employees, and personnel with substantial control to help them fully understand the Company's determination and its policies of ethical corporate management, as well as its prevention programs and consequences of behaviors in violation of ethical corporate management. Directors and employees of CSRC participated in a total of 112 hours of corporate governance and ethical management training in 2019. Course includes "Corporate M&A Regulations and Insider Transaction Prevention," "Corporate Governance and Director Responsibilities Under the New Company Act," and "The Start of the Global Trade War and the Impact of CRS and Anti-Tax Avoidance." With these external and internal training courses, we can strengthen colleagues' understanding and awareness of relevant regulations concerning corporate governance and ethical management.

The Internal Audit Department of CSRC is responsible for developing and supervising the implementation of Ethical Corporate Management policies and prevention programs, and reports to the Board of Directors on a regular basis. CSRC pays consistent attention to the development of relevant norms for ethical corporate management domestically and overseas, and encourages directors, executive managers, and employees to make recommendations, review, and improve the Company's Guidelines for Integrity-Oriented Management to enhance its effectiveness.

Guidelines for Integrity-Oriented Management

Directors, executive managers, employees, or personnel with substantial control are prohibited from engaging in the following activities:

- Unethical behaviors are prohibited
- Offering or receiving bribes is prohibited
- Illegal political contributions are prohibited
- Improper charitable donations or sponsorships are prohibited
- Unreasonable gifts, hospitality, or other improper benefits are prohibited
- Infringement of intellectual property rights are prohibited
- Unfair competition is prohibited
- Discrimination is prohibited
- Insider trading is prohibited

Code of Ethics

- Prevent conflicts of interest
- Must not seek personal interest
- Responsibility of maintaining confidentiality
- Implement fair trade
- Proper protection and use of Company assets

1-5 Regulatory Compliance ▶

1-4-5 Internal and External Supervision Mechanisms

Complaint Mechanism

CSRC has set up a specific reporting system. The Auditing Office acts as the responsible department for accepting whistleblower complaints and publicizes the complaint acceptance mailbox to be used by internal and external personnel. The reported offense will be reported to the independent directors when investigation reveals that a major violation has occurred or that the Company has suffered significant damages. For accepted cases, all records and preservation shall be kept confidential in regard to whistleblower identity, the investigation process, investigation results, and related documentation to prevent the reporting personnel from being treated improperly due to the report. The e-mail address for reporting is mp.buster@csrc.com, or mail the written report to: Attn: Audit Office, International CSRC Investment Holdings Co., Ltd. 8F., No. 113, Sec. 2, Zhongshan N. Rd., Zhongshan District, Taipei City.

Internal Audit

The CSRC internal audit department is an independent unit reporting directly to the Board of Directors. Beyond this, it also reports to the Chairman of the Board and the Auditing Committee on a quarterly basis or as necessary. The internal auditors are all full-time personnel, including one audit supervisor and one auditor. One of the team has been qualified as a Certified Internal Auditor. The audit team is responsible for the handling of the Company's internal control system self-assessment operations, reviewing the internal control system self-assessment reports of all units and subsidiaries of the Company, and assisting and supervising the implementation of the internal control system of each subsidiary.

After carrying out a risk assessment, the Audit Office determines the priority of inspected objects and audit items according to the level of risk and

formulates an annual audit plan. After being approved by the Board of Directors and the Auditing Committee, it shall be reported via the Internet information system to the Securities and Futures Bureau for future reference before the end of December of every year as stipulated by regulations issued by the Securities and Futures Bureau of the Financial Supervisory Commission.

The audit team shall implement internal audit operations according to the annual audit plan, compose internal audit proposals, and submit audit reports. After the audit report is approved by the Chairman, the units being audited will be notified to improve within a set period of time. Improvement of abnormal matters specified in the internal audit shall be tracked and an internal audit tracking report will be prepared according to the improvement measures developed by the units being audited. After its approval by the Chairman, an "Annual Internal Audit Abnormality Improvement Report" will be prepared and disclosed on the Market Observation Post System by the end of May every year and reported to the Securities and Futures Bureau for future reference.

The audit supervisor shall be present as a nonvoting attendee at all meetings of the Board of Directors and the Auditing Committee during each quarter. He or she shall conduct the audit report and explain the audit findings and subsequent improvements among inspected units. Independent directors may submit comments on the contents of the audit report during meetings of the Auditing Committee and the Board of Directors, and the audit supervisor shall provide explanations. In addition to communications during these meetings, mutual contact and communication may occur at any time as required between independent directors and the audit supervisor and accountants in order to maintain a good interactive relationship.

Based on the Guidelines for Integrity-Oriented Management and as a basic premise for its implementation of ethical corporate management, CSRC affirms that it shall abide by the Company Act, the Securities and Exchange Act, the Business Entity Accounting Act, the Political Donations Act, the Anti-Corruption Act, the Government Procurement Act, the Act on Recusal of Public Servants Due to Conflicts of Interest, regulations related to listing, and other laws related to business conduct. In addition, CSRC complies with international human rights conventions and other relevant laws and regulations covering areas such as gender equality, the right to work, and the prohibition of discrimination. Work rules are formulated based on the Labor Standards Act and relevant government regulations. When the directors, executive managers, employees, and the personnel with substantial control of CSRC are

performing business activities, all shall comply with the laws and regulations as well as prevention programs. At the same time, CSRC encourages the reporting of any illegal or unethical behaviors in violation of the Code of Ethics. When there is any suspicion or discovery of behaviors violating the laws and regulations or the Code of Ethics, the reporting personnel must report to an executive manager, internal audit supervisor, or other appropriate personnel and provide sufficient information to allow the Company to properly handle subsequent matters. In 2019, there were a total of 12 violations of social, economic, or environmental regulations and abnormality of effluent discharge with corresponding fines and violation usage fee coming to NT\$490,667. No violations occurred at Maanshan Plant.



Item	Number of Violation	Amount of Fines (NT\$)	Explanation of Major Violations	Subsequent Improvement Actions
Violations of Environmental Laws and Regulations	5	272,000	Discarded lighting sources (R-2405) not declared; "The output and storage conditions do not match the actual situation"	Monthly review of temporary output declaration records and control of lists
			In the waste storage yard, general waste produced by business activities (D-1801) is mixed with non-hazardous scrapped furnace dust or its mixtures (D-1099) or mixtures thereof. In addition, non-hazardous scrapped furnace dust or its mixtures (D-1099) and inorganic sludge (D-0902) are also mixed and stored; obviously not classified and stored according to the characteristics of the main components of business waste	Strengthen waste education in the factory to promote waste classification and storage. If such misplacement again occurs, security monitors will be consulted and punishment meted out according to the rules
			In the storage areas for discarded lighting sources (R-2405) and inorganic sludge (D-0902), the Chinese names of the waste materials was not marked in an obvious place	Fully update all types of waste notices
			Open storage of scrap iron (R-1301) and non-hazardous scrapped furnace dust or its mixtures (D-1099) in the storage area with no equipment or measures to prevent entry of rainwater	Strengthen employee training that materials must be covered with canvas on rainy days, and prohibition of open storage
			Concentration of odor pollutants in the discharge port was 3,090, exceeding the odor pollutants specified in "Stationary Pollution Source Air Pollutant Emissions Standards" emission standard value of 2,000 for "discharge pipelines" (height: 32 meters; pipeline height 18<h ≤ 50 meters)	Confirm the operation status of odor equipment, adjust spray parameters and arrange odor detection to confirm the removal effect of the equipment
Violations of Social or Economic Laws and Regulations			It was found that strength calculations were not confirmed beforehand when the manufacturer used a hoist to hang tubing in the carbon black area.	To undertake hoisting operations, the manufacturer is required to submit the calculation book and the hoisting machine qualification certificate in advance

Item	Number of Violation	Amount of Fines (NT\$)	Explanation of Major Violations	Subsequent Improvement Actions
Violations of Social or Economic Laws and Regulations	6	80,000	There was no protective cover for the rotating motor drive wheel beside the oil tank area	Inventory the rotating equipment in the factory, and restore and install the protective cover (protection) for the rotating shaft
			It was discovered that explosion-proof lighting was being used without explosion-proof junction box wiring, and no mobile exhaust fan was used with explosion-proof functionality	Check electrical installations in explosion-proof areas and update appliances that do not comply with explosion-proofing regulations
			Roofing metal was peeling off with a risk of falling	Immediately remove the peeling metal sheets and arrange for roof sheet metal replacement in the warehouse area
			A damaged electric outlet cover was found in a wet area	Immediately check the status of electrical outlets in the factory and update for damage, and require each area to maintain proper inspections
Discharge Abnormality	1	138,667	A spot check of steam and electricity operational personnel discovered simultaneous operation of a boiler and a Type 1 pressure vessel	Arrange for personnel to be dispatched for training to obtain licenses, and pay more attention to the status of license holders in each shift
			Wastewater discharge COD exceeds the capacity of sewage treatment plants, with an additional system usage fee	Improve the wastewater treatment facility procedures, regularly monitor the water quality automatically, and clarify and deal with abnormal phenomena immediately if there are any abnormalities
Total	12	490,667	--	--

1-6 Risk Management ▶

CSRC is based on honesty and its operating philosophy is based on the principles of integrity, transparency, and accountability, to implement corporate governance and strengthen the mechanism of risk management to create a business environment of sustainable development. CSRC develops various internal regulations in accordance with the law, plans a range of management and control work after assessing all risk factors, and implements accordingly. Meanwhile, internal auditors shall list high-risk operations for the annual audit plan, use audit results to prepare audit reports, and regularly submit them to the Auditing Committee for review and attend Board of Directors meetings as nonvoting participants to make reports. In addition, each department shall conduct an internal control system self-assessment every year to ensure the effectiveness of system design and implementation.

Risk Management and Opportunities Associated with Climate Change

The main climate risks: Against the backdrop of the entry into force of the Paris Agreement in 2016, countries around the world have begun to formulate countermeasures such as climate taxes. Since CSRC is a company with global operations, changes in national regulations in the region will directly or indirectly affect the company's energy prices and production costs.

Management methods: Actively reduce CO₂ emissions, upgrade equipment for greater efficiency, install De-SOx and De-NOx equipment, put monitoring system online to monitor wastewater and air pollution discharge status for checking at any time, add solar photovoltaic system in the factory area, implement effective recovery of process exhaust, convert into steam for reuse and power generation. Many of our plants have obtained or aim to obtain ISO 14064 certification.

Main climate-related opportunities: CSRC's Carbon Black Business is a model of circular economy, such that we will process residuals of the petrochemical/coal/steel industries (feedstock oil) and convert them into sales of carbon black. Steam can also be sold or generated on its own (water, electricity) to improve energy efficiency and reduce pollution in the surrounding area. This will effectively reduce environmental impact and improve environmental quality. In addition, increasingly obvious climate change means that impacts on the ecological environment and natural resources will be even greater and the earth's resources will be even more precious. Therefore, in order to adjust to the risks of climate change, green products will be an opportunity for CSRC to further increase its market share.

Opportunity strategies: The action we take is through manufacturing optimization, continuously improving the efficiency of converting feedstock oil into carbon black. And through the recovery of process exhaust, convert heat energy into steam and sell to neighboring factories or convert steam to kinetic energy for power generation, making full use of the circular economy and contributing to the energy industry. In addition, CSRC has developed green products in the form of the LH and SATIN BLACK series of carbon

black products, extending the product life of tires and rubber products and reduce energy consumption, thereby cherishing the Earth's resources.

For detailed climate risk and opportunity response, please refer to 3-2 Response to Climate Change.





Risk Management of Unethical Behavior

In order to prevent occurrences of unethical behavior, CSRC has established a whistleblower system in the form of its "Reporting System of Violations of Professional Ethics." Furthermore, it works regularly through internal control operations, routine audits and so on to reduce the risk of various types of unethical behavior. The company has also established an effective accounting system and internal control system, to investigate whether there are off-book accounts or secret accounts are kept strictly for unethical and higher risk business activities. The internal auditors review the design and implementation of the system from time to time, regularly audit the compliance of the system in the previous paragraph, and prepare an audit report for submission to the Board of Directors.



Financial Risk Management

The financial instruments used by CSRC include equity investments, beneficiary securities investments, accounts receivable, accounts payable, borrowing, and so on, which are prone to exchange rate fluctuations and inflation risks. The exchange rate is mainly affected by fluctuations in the US dollar and RMB market, and since the price of crude oil is linked to the prices of all bulk materials, it will also affect the changes in the cost of raw materials. The extent of the impact on profit and loss depends on the supply and demand of each product market. The financial management department conducts overall planning and coordination of the operation of domestic and foreign financial markets. It monitors and manages related financial risks through internal risk reports of risk level and scope analysis. In addition, a business management analysis department is set up to watch closely the changes in the prices of major raw materials and status of supply and demand, and review the purchasing status of the procurement plan regularly.

For customers with accounts receivable, the customer's credit status shall be reviewed and the rating shall be provided regularly, as the basis to approve the line of credit, execute sales to the customer on credit, and control accounts receivable, and the anticipated accounts receivable shall be reviewed every month to achieve the objective of zero bad debts for the year. CSRC also takes out related insurance policies to avoid operational risks such as fire insurance, business interruption insurance, earthquake insurance, typhoon and flood insurance, third-party liability insurance, directors and executive managers liability insurance, etc. to reduce the loss caused by loss from disaster.



Capital Risk Management

Capital management focuses on a sound operating plan. CSRC maintains sufficient capital based on its operating plans to support the expansion and construction of various businesses. Therefore, CSRC maintains good profitability and financial structure in order to support the needs of working capital, capital expenditure, debt repayment, and dividend payment in the mid- and long-term.



Risk Management of Purchases and Sales

The purchases of CSRC are mainly carbon black raw materials such as ethylene tar, anthracene oil, and coal tar oil. In addition to maintaining a stable cooperative supply relationship with domestic main oil product suppliers, the Taiwan facilities also import oil products to reduce the risks of supply shortages and price fluctuations. In addition to maintaining good cooperative relations with local steel mills in various regions, the Mainland China facilities also actively develop cooperation with coking plants to avoid excessive concentration of product sources so as to obtain the best import oil prices.

In terms of sales, because the main customers are major tire factories with sound financial structures, past account collections have therefore been normal and favorable. In addition, the Company's sales departments have quota controls for customers and conduct credit check procedures on a regular basis to avoid the risk of sales concentration and bad debts of accounts receivable.



Information Security Risk Management

In order to respond to the risks and opportunities as well as challenges that enterprises face in their sustainable operations, we go beyond deepening and implementing information security in daily business execution to follow international security policy standards (such as: ISO 27001, NIST). We continue to improve the security infrastructure of governance and technology, strengthen security defense equipment, security analysis and education training, etc. From management to technology, we comprehensively improve the security protection capabilities and reduce the risk of business interruption due to security incidents to ensure that the use of enterprise information services and data have the best protection. As of the end of 2019, no security breaches had occurred.

In addition, we plan to establish "Information Security Management Committee" to improve information security governance. The Information Security Management Committee will be responsible for reviewing the security governance policies of each subsidiary, supervising the operation of the Group's information security management, and regularly reporting to the Board of Directors on the general situation of information security governance. Separately, TCC Information Co., Ltd. is responsible for Group-wide information security governance, planning, supervision, and promotion of implementation in order to build a full range of security defense capabilities and foster good information security awareness among colleagues.

02

Innovation and Service

2-1 R&D and innovation

SDGs 8.3 SDGs 9.5

2-2 Circular economy and “green gold” business opportunities

SDGs 7.2 SDGs 7.3 SDGs 12.2 SDGs 12.6

2-3 Product quality and customer service

SDGs 12.4

2-4 Supply chain management

SDGs 16.5



Performance Highlights 1

In 2019, the proportion of local procurement of Linyuan Plant was as high as **100%**



Performance Highlights 2

Revenue of **green products** in 2019 increased by **373%** compared with 2017



Performance Highlights 3

Silver rating of the EcoVadis Supplier Corporate Social Responsibility (CSR) Assessment in 2019



Performance Highlights 4

In 2019, LH10 carbon black product was honored with the **"Innovative Design of the Year"** by the Golden Torch Awards as awarded by the Outstanding Enterprise Manager Association.



Performance Highlights 5

The total satisfaction rating of the 2019 customer satisfaction survey was **9.52**



Performance Highlights 6

In 2019, 4 key customers conducted on-site audits. One of them issued a rating **98.6** points, and all audit results were passed with high scores, making us a qualified supplier.



Performance Highlights 7

In the 2019 Maanshan Plant supplier audit and evaluation results, the proportion of A-tier suppliers was as high as **96%**

Major Topics	R&D and Innovation	Disclosure Items GRI 103-1~3、GRI 416-2	Circular Economy	Disclosure Items GRI 103-1~3
Materiality	The sustainable development of an enterprise requires constant innovation and surpassing oneself. In order to maintain market competitiveness, we must continue to invest in research and development. Product innovation also forms the core competitiveness of growing together with customers		Fully practicing circular economy can enhance the efficiency of resource consumption, in response to climate change and improve resilience	
Policy/Commitments	The development plan of the carbon black business is to conduct research and development of production and application with "the most advanced processes and technologies."		CSRC is an industry leader and a model of a circular economy implementation. As such, it uses residuals such as feedstock oil from the petrochemical and steel industries as raw materials to produce carbon black and steam, thus creating new value.	
Targets	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;">Short-Term Targets (1-3 Years)</p> <ul style="list-style-type: none"> ■ For rubber and plastic products market, we will cooperate with major customers to develop carbon black for low rolling resistance tires to meet the tire demand of hybrid vehicles, and also develop ultra-clean carbon black to be applied to various types of vehicles and daily-use rubber products as well as plastic dyeing with injection extrusion. ■ For the non-rubber plastic products market, we will engage in continuous development of ink coating, ultra-clean dyed fiber grade, and electronic ink grade carbon black. </div> <div style="width: 45%;"> <p style="text-align: center;">Mid-Long Term Targets (3-5 Years)</p> <ul style="list-style-type: none"> ■ Continue to improve the efficiency of oil consumption in the production of carbon black, and increase the number of green product lines and their associated revenue. </div> </div>		<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="text-align: center;">Short-Term Targets (1-3 Years)</p> <ul style="list-style-type: none"> ■ Exhaust gases from the recovery process to be converted into steam for power generation. The use of self-generated electricity should account for more than 30% of the total electricity consumption. ■ Annual wastewater recycling rate of over 30%. </div> <div style="width: 45%;"> <p style="text-align: center;">Mid-Long Term Targets (3-5 Years)</p> <ul style="list-style-type: none"> ■ Promote water balance projects. ■ Set waste recycling goals. </div> </div>	
Responsibility (Responsible Units)	Carbon Black Business R & D department		EHS center, EHS office of each plant, and production departments	
Resources	<ul style="list-style-type: none"> ■ The Carbon Black Business has a total of 76 R&D personnel worldwide across 3 R&D centers located in the United States, India, and Taiwan. ■ Regularly hold international R&D meetings to share R&D experience. ■ The introduction and implementation of new technologies are regularly exchanged and learned by each plant. ■ Participate in the laboratory inspection standard LPRS program to ensure laboratory inspection standards. 		<ul style="list-style-type: none"> ■ Technology R&D expenses for waste recycling 	
Grievance Mechanism	<p style="text-align: center;">The company's website has a stakeholder communication mailbox for complaints. E-mail: csrcir@csrcgroup.com</p>			
Action Plan	<ul style="list-style-type: none"> ■ Improvement and adjustment of granulation system equipment to improve the quality of carbon black granulation. In addition to reducing the defect rate, this can also increase the operating range of the client processing. ■ Improve the problem of carbon deposition on cauldron walls, reducing the number of carbon black grits and improving carbon black tint. ■ Introduce a new atomization system and carry out data analysis of carbon black grits. ■ Evaluate the feedstock oil pretreatment system and the new granulating binder to improve the process stability and product yield. ■ Evaluate and improve the reactor combustion mode to improve the efficiency of oil consumption. ■ Continue to carry out various cooperation projects with government and industry to enhance technological exchanges and create product value. 		<ul style="list-style-type: none"> ■ The carbon black process is to be a model of circular economy, because the raw materials are waste from the oil refining and steel industries ■ Promote steam recovery and power generation, and collect excess steam as an energy source ■ Recycling of the remaining waste in the process as raw materials for downstream building materials ■ Promote 5R development strategy and actively develop new circular economy applications 	
Validity Assessment	<ul style="list-style-type: none"> ■ To meet customer needs, facilities must meet development specifications, nitrogen adsorption surface area index, oil absorption value structure index, and so on. ■ Ensure the normal operation of the quality management system and pass external audit evaluations. 		<ul style="list-style-type: none"> ■ Enhancement of oil consumption efficiency ■ The amount of self-generated electricity used should account for more than 30% of the total electricity consumption. 	



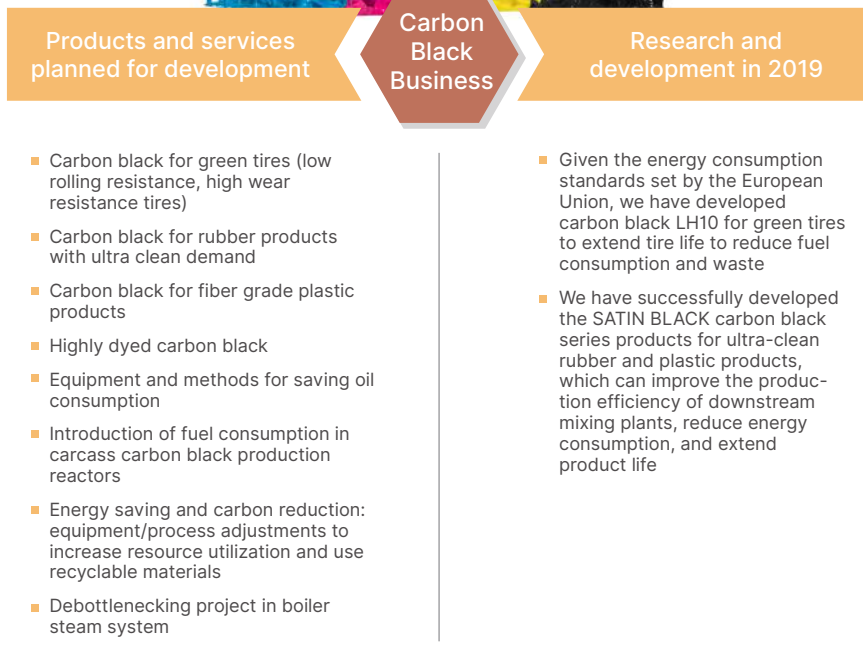
Major Topics Sustainable Supply Chain Management

Disclosure Items | GRI 103-1~3、GRI 204-1、GRI 301-1、GRI 308-1、GRI 308-2、GRI 414-1

Materiality	CSRC attaches great importance to supplier partnerships, and we look forward to coexisting with suppliers to create long-term stable, mutually beneficial, and cooperative relationships.		Grievance Mechanism	<ul style="list-style-type: none"> ■ Linyuan Plant public inbox: ebidding.kc@csrcgroup.com ■ Maanshan Plant public inbox: ebidding.mas@continentalcarbonasia.com
Policy/Commitments	Our procurement policy and philosophy are based on comprehensive management of fundamental procurement concepts including understanding, selection, development, use and control, and so on. In order to achieve the business goals of CSRC, we undertake long-term, global planning and setup of procurement management through an analysis of the overall supplier environment.			
Targets	<p style="text-align: center;">Short-Term Targets (1-3 Years)</p> <ul style="list-style-type: none"> ■ Increase the proportion of green procurement ■ Continue to develop outstanding suppliers and deepen the sustainable supply chain ■ Use more sustainability metrics to conduct supplier evaluations 	<p style="text-align: center;">Mid-Long Term Targets (3-5 Years)</p> <ul style="list-style-type: none"> ■ Push for improvement of high-risk suppliers based on the results of supplier grading assessments 	Action Plan	<ul style="list-style-type: none"> ■ Incorporate an Integrity Clause and a Corporate Social Responsibility Commitment into supplier contracts; 100% of suppliers are expected to sign by 2021. ■ CSRC carries out an audit assessment of suppliers of upstream and raw materials once a year in order to improve supply chain CSR and green supply capacity. After a supplier is evaluated, it is classified into one of four levels according to the evaluation score. If a manufacturer is rated as C-tier for two consecutive years, the purchasing or outsourcing unit must cooperate with the relevant units to visit or invite the manufacturer to the factory for interviews.
Responsibility (Responsible Units)	Procurement Department		Validity Assessment	<ul style="list-style-type: none"> ■ Supplier grading evaluation system ■ Evaluation of supplier questionnaires
Resources	Setup costs for supplier grading evaluation system			

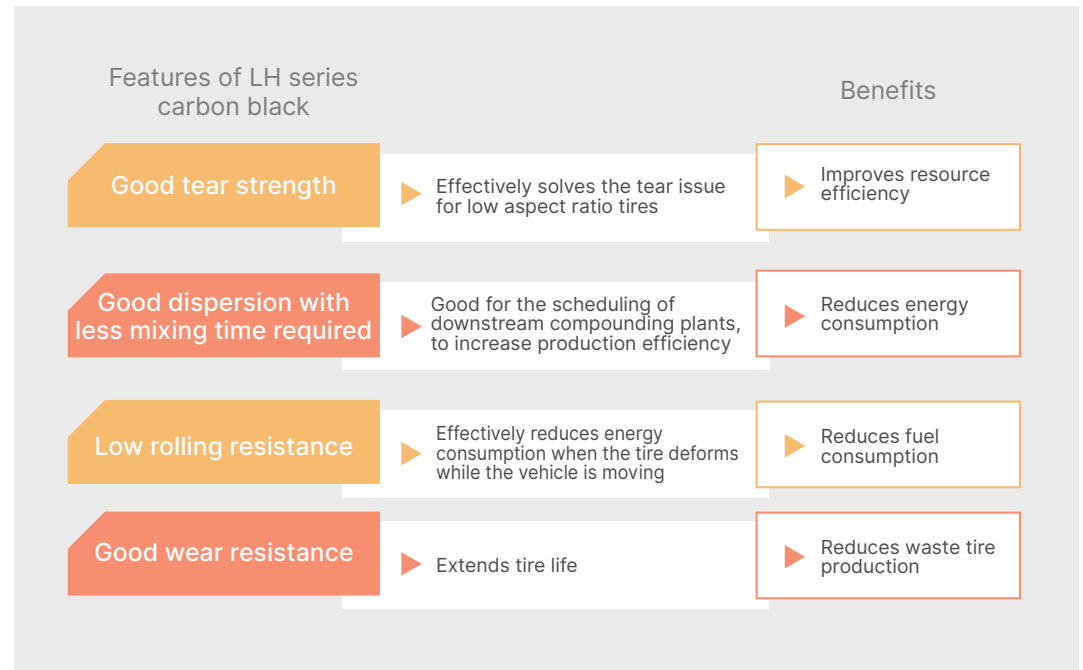
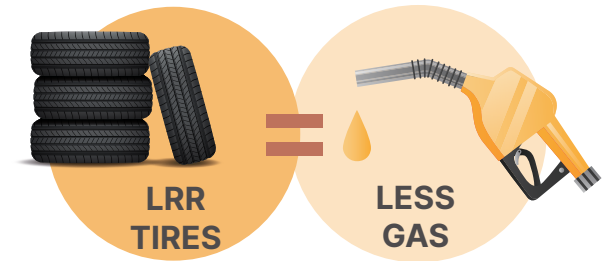
2-1 R&D and Innovation ▶

Amid ever-changing market trends, industries in different fields are constantly pursuing upgrades and transformation. CSRC upholds the concept of sustainable management as we adhere to the Company's brand value, ensure excellent product quality, continuously optimize products with a responsible attitude, and strive to coexist with nature. Therefore, we actively invest in R&D and innovation in the hope that through technical exchanges with customers we can work together to develop innovative products with high value, thereby enhancing product efficiency and reducing environmental burden. R&D expenses in 2019 reached NT\$140 million.



2-1-1 Green products

CSRC constantly pursues product innovation with its carbon black core technology, developing diversified green products to improve the quality of human civilization and live in harmony with the natural environment. Starting from 2009, the European Union has established its "Tyre Labelling Law" to improve vehicle energy efficiency. Following this policy of safety and environmental quality, CSRC has addressed it by actively developing its new LH series carbon black with high rigidity, low rolling resistance, and good resistance to thermal aging and buckling. The series can be used for general passenger cars and trucks, giving tires higher energy efficiency to comply with EU regulations.





Achievement

In 2019, Linyuan plant's carbon black product Continex LH10 won the Golden Torch Award - Annual Innovation Design Award bestowed by the Outstanding Enterprise Manager Association. LH10 is derived from an innovative carbon black development process. Compared with the traditional ASTM series, LH10 can increase the tensile strength of rubber products as well as their rigidity, anti-heat aging ability, tear resistance, and other properties. This provides more outstanding wear resistance for tires with lower rolling resistance performance in addition to improved tire performance. It also reduces vehicle fuel consumption in line with environmental protection trends. This successfully demonstrates the Company's characteristics and strength, as carbon black research and development innovation will be an indispensable process for the tire and automotive industries. In the future, we will continue to develop special application carbon black products with high value added to be used in high-end rubber products, plastics, and the ink and coating industry. At the same time, we will comply with environmental trends with the concept of a circular economy, and through the improvement of manufacturing methods we shall improve the quality of existing products. Furthermore, we shall undertake the establishment of research and development directions based on product application technology, investing R&D manpower and resources to contribute to the advancement of human civilization.



In addition to developing the energy-efficient LH series, we are also committed to developing toxic-free carbon black series. Rubber and plastic (such as ABS and PP) and transparent paints and coatings on natural materials may contain high-risk materials such as polycyclic aromatic hydrocarbons (PAHs). Since most PAHs are produced by incomplete combustion of organic matter, if PAHs are contaminated with mineral oil and coal tar, then when using these substances as additives the release of agents, lubricants, and other oils are used in the process may cause PAHs to remain in the product. In addition, studies have shown that PAHs are most harmful to the human skin and respiratory tract. As persistent organic pollutants, they have been listed as carcinogens by the International Cancer Research Center. In view of this, we are committed to reducing the content of PAHs in carbon black and complying with type 3 requirements of German Safety (GS) standards as issued by Germany's Product Safety Commission (AfPS), thereby allowing customers to use our products with peace of mind. The revenue of this series of products has grown for two consecutive years, increasing by 373% from 2017 to 2019.



Polycyclic aromatic hydrocarbon limits in carbon black

PAH content *	Testing method	Unit	Maximum
Benzene[a]pyrene		ppm	0.5
Total amount of phenanthrene, pyrene, anthracene, fluoranthene	CSRC internal testing and third-party agency inspection	ppm	10
Total amount of 15 kinds of polycyclic aromatic hydrocarbons (listed in AfPS GS 2019:01 PAK **)		ppm	20

* From July 1, 2020, GS Mark reduced the total number of test items from 18 to 15.

** Older specification AfPS GS 2014: 01 PAK is valid until June 30, 2020. The new specification AfPS GS 2019: 01 PAK will be put into effect from July 1, 2020.

2-2 Circular Economy and Green Gold Business Opportunities ▶

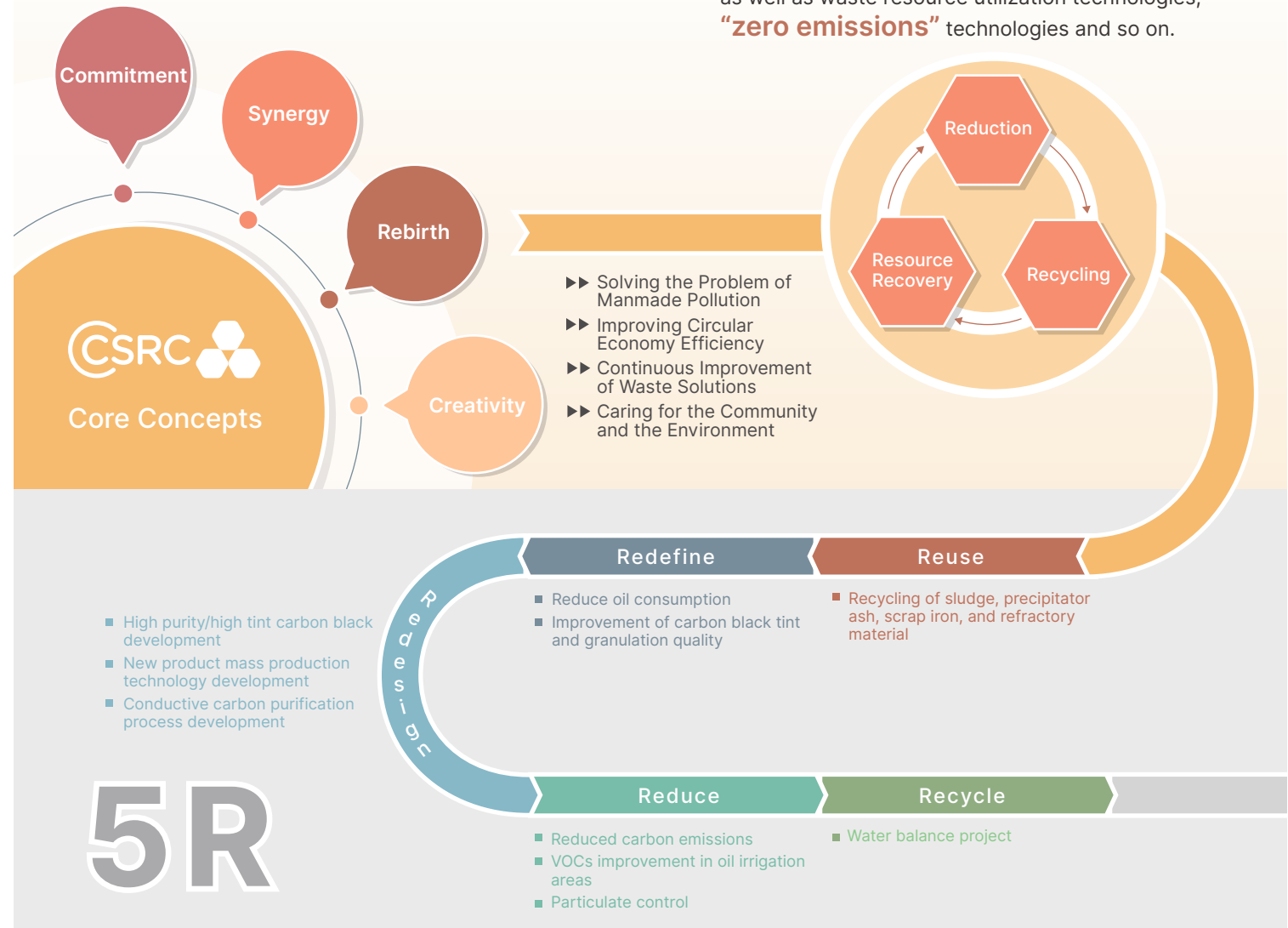
2-2-1 A model of circular economy

Circular Economy Concept

Unlike the depletion of resources in the linear economic value chain, the concept of circular economy pays attention to the sustainable use of resources and uses resources as long as possible. The original one-time production model for waste, products, and so on makes the most use of resources to construct a continuous value chain model, in order to minimize the waste generated by the production system and get the most value from the product. International CSRC knows the importance of sustainable management and actively introduces the operating spirit of circular economy, anticipating that it will become a company actively leading the field of sustainable development. We thus advance the 5R concept, encompassing Reuse, Redefine, Redesign, Reduce, and Recycle, summarizing the use of resources in the operation of the Company and actively find new circular economic solutions from it.

Circular Economy ▶

It is an economy that draws on the support of advanced production technologies, alternative technologies, reduction technologies and symbiotic bond technologies as well as waste resource utilization technologies, “zero emissions” technologies and so on.

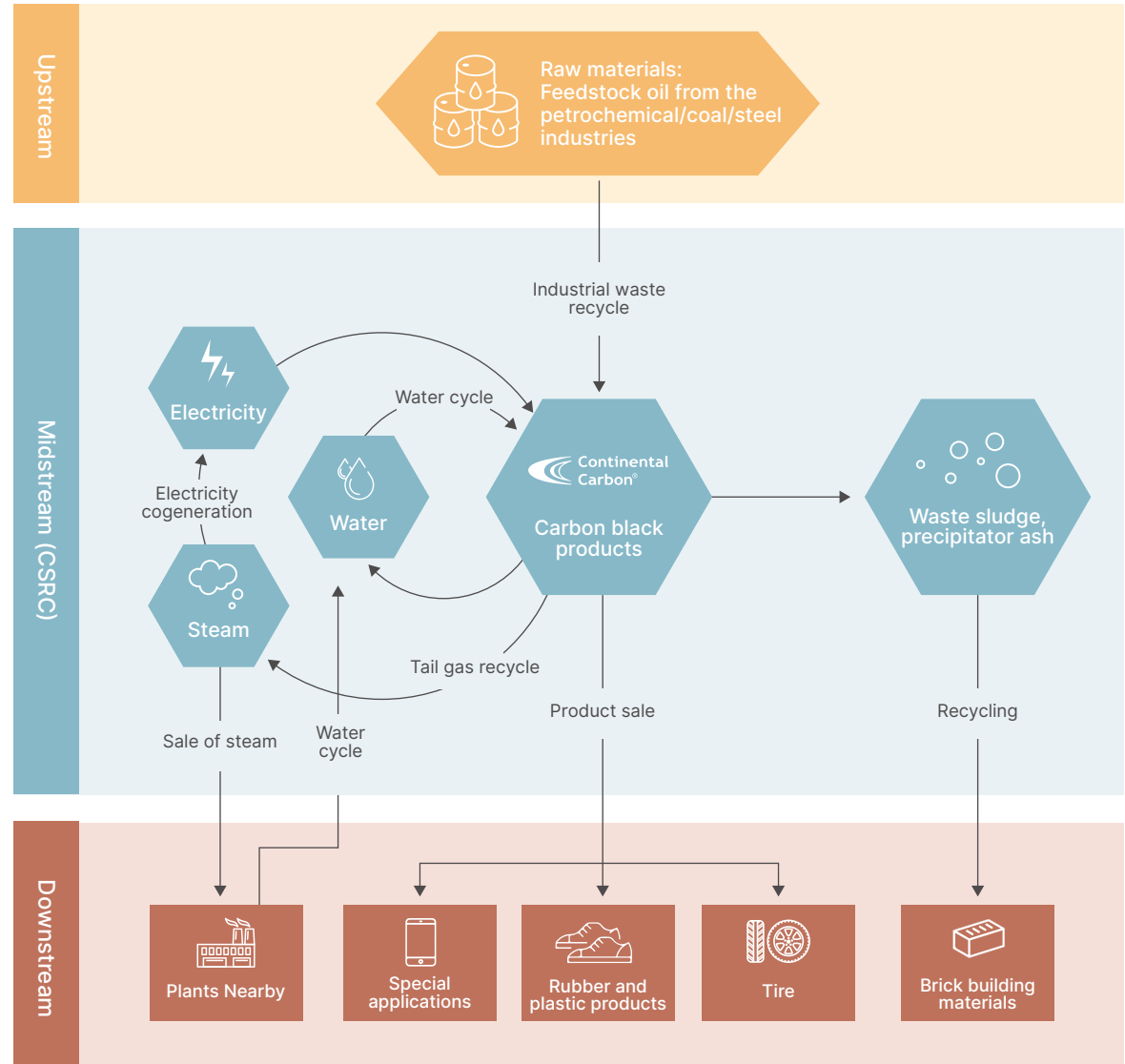


Circular Economy in Practice

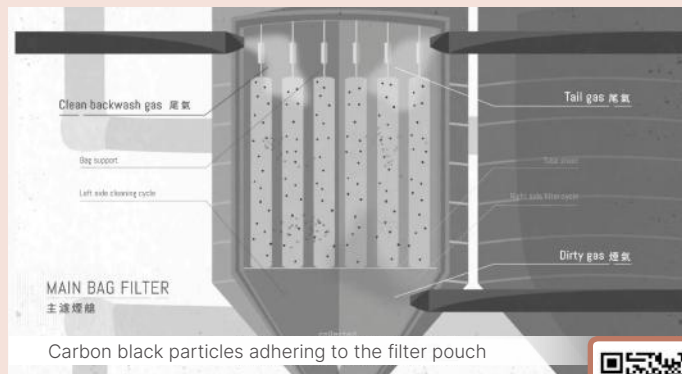
The value chain of carbon black is a model of a circular economy. Its raw material source is residuals from petrochemical, steel industries (feedstock oil). After these wastes go into our special production process, they can be transformed into high-value carbon black, as well as producing additional steam and electricity for clean green energy. This not only reduces the amount of waste and lowers the risk of environmental pollution, but it also drives new industries and technology, creating an economic model of resource recycling.

In addition, the temperature of an incinerator can generally only reach 600-800° C. After incineration of industrial waste, air pollution will still be discharged. In comparison, the reactor furnace temperature of the carbon black process is as high as 1,800° C. Dioxins and other toxic substances can be completely removed from feedstock oil under high temperature combustion.

CSRC Circular Economy in Practice



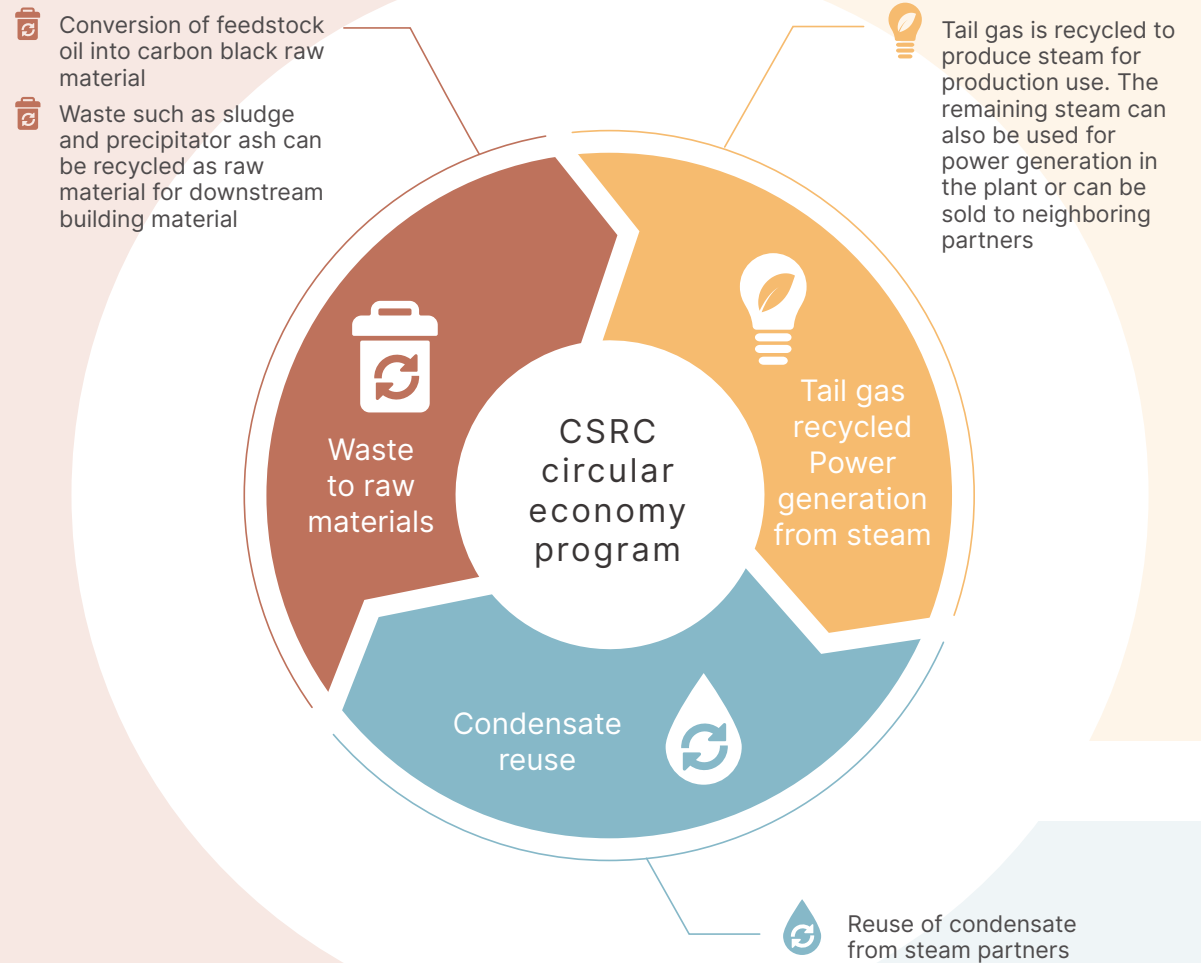
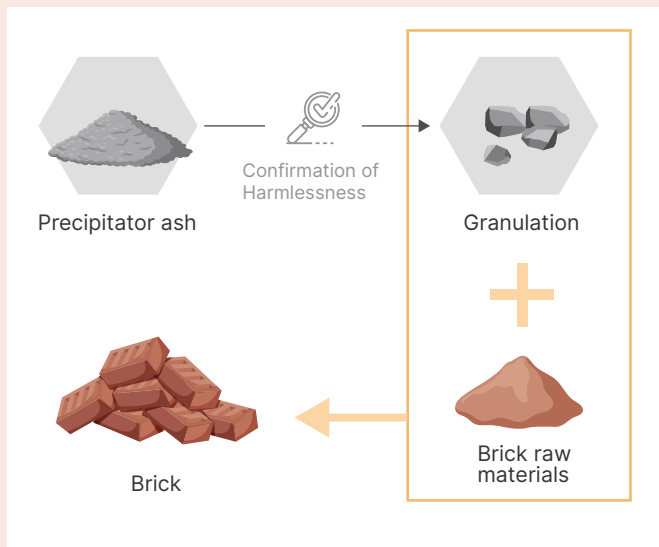
Video of carbon black circular economy in practice



2-2-2 Circular Economy Program

Waste to building materials

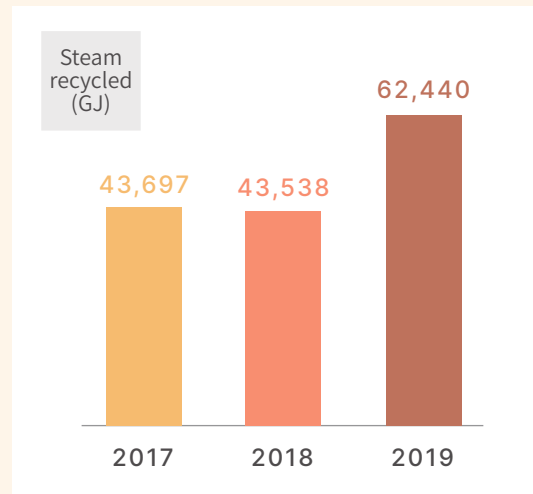
CSRC actively develops new technologies combined with a circular economy to create new economic value for waste. Linyuan Plant collects precipitator ash from the carbon black process and first confirms its quality and toxicity, and then processes it together with raw materials for bricks. This successfully converts precipitator ash from waste into raw materials for the building materials industry chain, thereby reducing waste while creating new economic value. This plan has been passed by Ministry of Economic Affairs for the case reuse application, and can actually be used for downstream.



Tail gas recycle and steam power generation

The U2 production line of Taiwan’s Linyuan Plant and the U4 production line of the Maanshan Plant in China have added “Production Line Residual Heat Boiler”. Using these boilers, the temperature of the flue gas can be reduced before entering the filter bags, reducing the amount of water that must be sprayed during the cooling process. In this way, both water and energy consumption can be reduced. At the same time, these boilers can also produce steam that can be used for oil tank heating or for the carbon black production line. Excess steam can be used in neighboring plants, reducing air pollutants caused by the use of fuel in neighboring factories. This achieves the positive benefits of enhancing energy resource reuse and reducing environmental impact. Any remaining steam can also be used to generate electricity for the plant’s own operations. Linyuan Plant restarted its steam generator in the second half of 2019, and the average proportion of self-generated electricity exceeded 50% of total electricity consumption. Through this circular economy program, a total of 23,126 tons of steam was generated from line boiler heat recovery in 2019, an increase of 43% from 2018.

The amount of steam recycled from online heat recovery boilers at Linyuan Plant over the past 3 years



Note: 1 metric ton of steam = 2.7 GJ

Maanshan Plant online heat recovery boiler site after renovation



Steam drum



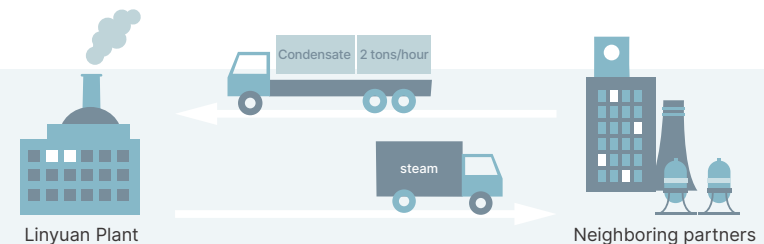
Sub-cylinder



Overall heat exchange section

Condensate reuse

After Linyuan Plant supplies steam to a neighboring partners, the partner then sends the condensate produced by its process back to the Linyuan Plant for reuse. This achieves the economic benefits of recycling water resources. Partners can provide approximately 2 tons of condensate per hour. (The maximum amount is 20 tons.)



2-3 Product quality and customer service ▶

We stand by the idea of "Full Participation, Customers First" for our quality policy, establishing a quality management system based on international environmental standards to ensure the good quality of our products. In addition, we also encourage colleagues to actively participate in international seminars every year. Content includes the latest foreign production technology, pollution prevention technology, equipment development, and so on. In this way, colleagues can obtain domestic and foreign market information as well as insights into industry development directions and bring them back to their plants to share with colleagues. Furthermore, technical exchanges among the eight global quality assurance laboratories facilitate the integration of relevant resources and maximization of resource utilization.



Awards and recognition

In 2018, an international tire manufacturer required CSRC to conduct a supplier corporate social responsibility (CSR) evaluation for its carbon black business through EcoVadis, a third-party CSR evaluation platform. The evaluation and analysis results were announced in 2019, with International CSRC having won a silver rating. This means that our efforts in corporate social responsibility have already earned recognition by advanced international management organizations.

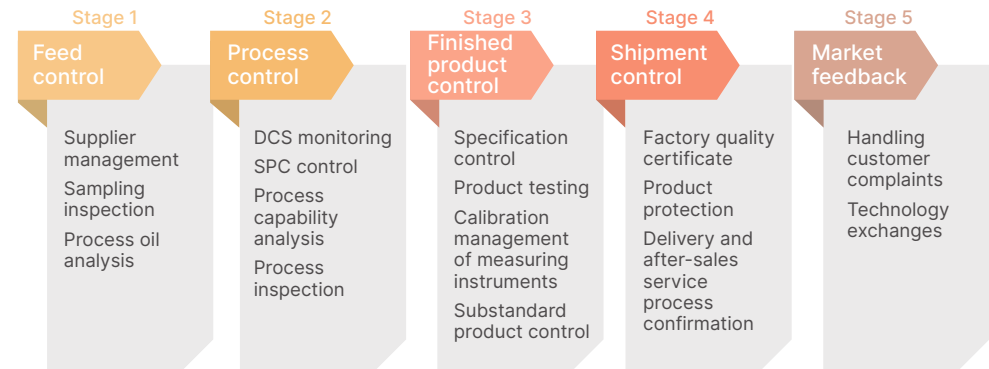
EcoVadis is a world-renowned CSR evaluation authority evaluating environmental, ethical and social behavior and covering more than 150 countries and 190 industry sectors. A total of 55,000 suppliers participated in the evaluation, with evaluation items including environment, labor and human rights, business ethics, and sustainable procurement.

In the future, CSRC will continue to strengthen the connection with international CSR trends, ensuring the balance of the ecological environment and driving the prosperity of local society, so as to contribute to the sustainable development of the world.



2-3-1 Product Quality

CSRC formulates its quality management methods by taking customer needs into consideration and setting 100% customer satisfaction as its goal. Through a systematic quality management process, we ensure the consistency of product quality control operations. At the same time, we use a 5-stage quality control model to list the work items of each stage in detail to effectively ensure product quality and follow the implementation and improvement of the quality management system.



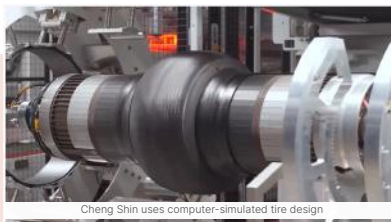
In addition, we also use PDCA mechanism (plan, do, check, act) in a continuously looping dynamic inspection process, and adjust and optimize at any time to pursue higher product quality. The Company also inspects the quality of all product attributes using its own laboratory. The inspection details are as follows:

Test Item

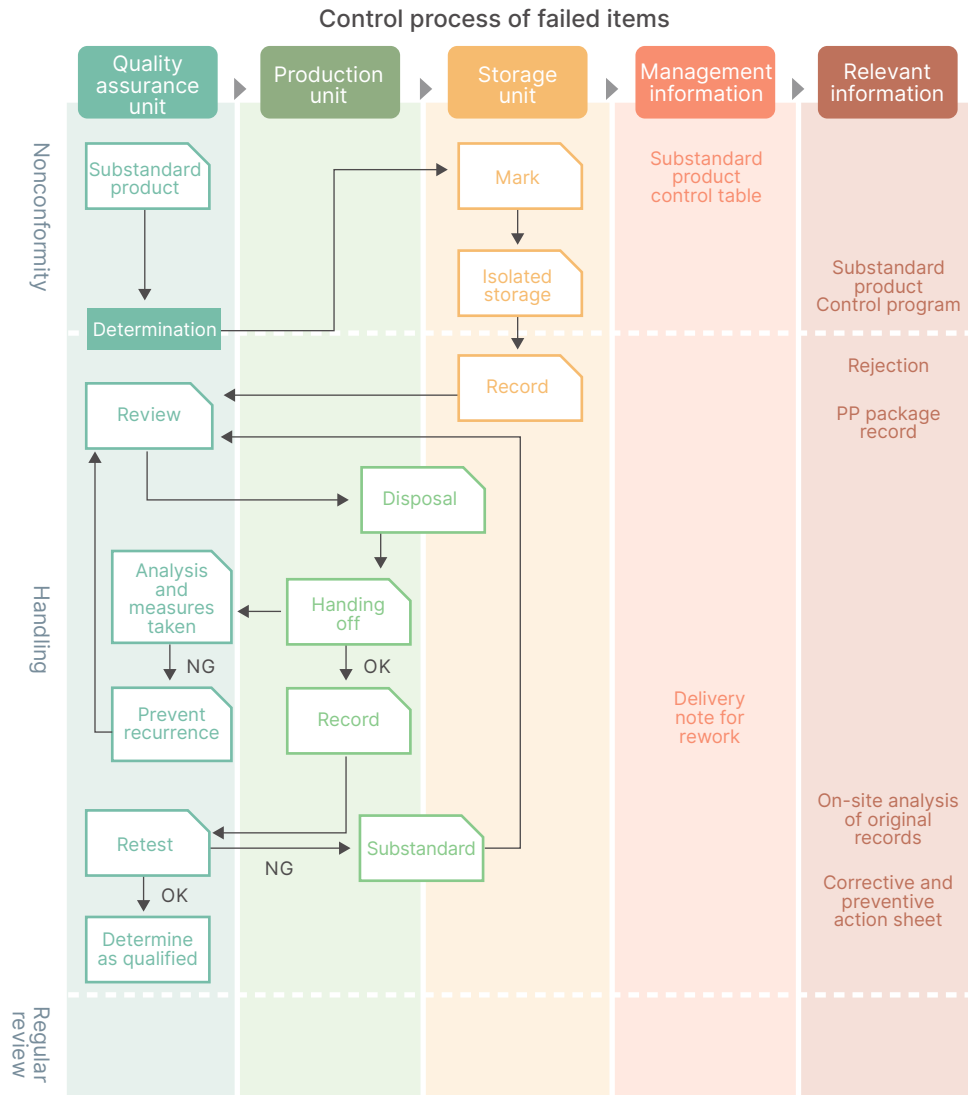
- Raw oil moisture
- Feed oil distillation range and BMCI
- Feedstock pitch content
- Sulfur and chlorine content of raw oil
- Feedstock oil proportion and PAI
- Carbon black color strength
- Carbon black NSA total surface area/STSA external surface area
- Heat loss
- Carbon black ash
- Carbon black washing sieve residue
- Carbon black PH value
- Carbon black volatile matter
- Carbon black particle hardness
- Carbon black fine powder content/carbon black size distribution
- Carbon black toluene decolorization
- 300% fixed elongation stress



Videos of CSRC's successful case of cooperation with customers



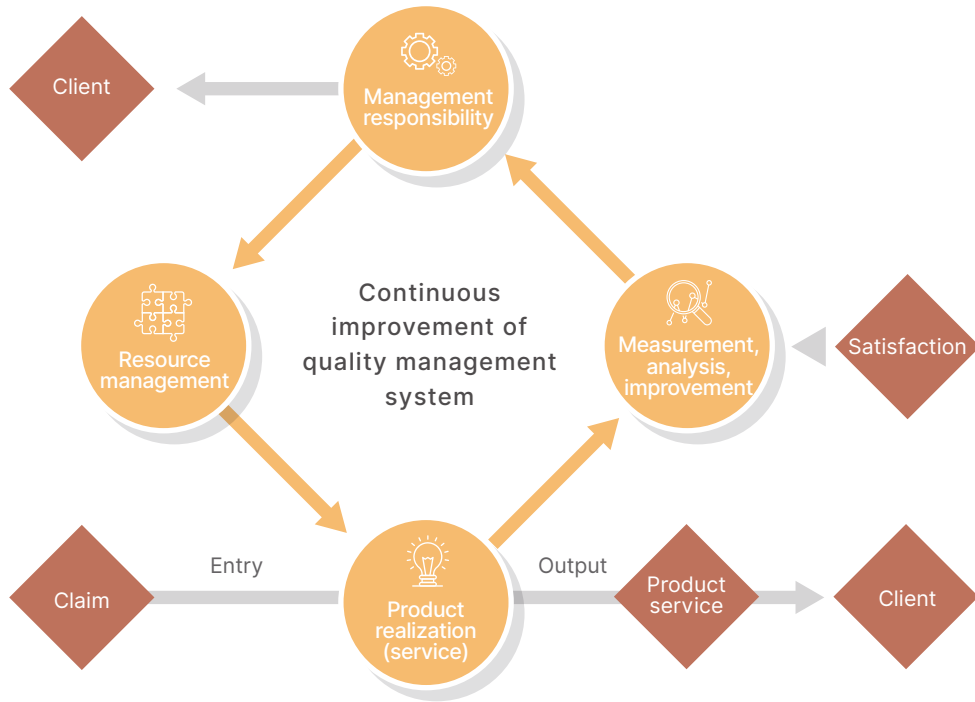
In case of a failed inspection, the corresponding improvement control process is as follows:



In addition to internal product management, we also continue to carry out external third party detection. To ensure the implementation of systematic improvement management, Linyuan Plant passed IATF 16949 in 2017: 2016 version of the automotive industry quality management system verification (valid until 2020); meanwhile, it passed ISO 9001 again in 2018: 2015 version quality management system verification (valid until 2021). The Maanshan plant also passed IATF 16949 in 2018: 2016 version of the automotive industry quality management system verification (valid until 2021), and passed ISO 9001 in the same year: 2015 version quality management system verification (valid until 2021).



2-3-2 Quality management process



We plan and execute all internal audit operations through our annual quality management system to ensure that all departments implement quality management and check the implementation of packaging regulations. Every year, some of manufacturers comes to the factory for second-party audits. In 2019, two customers went to Maanshan Plant and two went to Linyuan Plant for audits. The audit results all passed with high scores, making us a qualified supplier.

2-3-3 Product safety labels

All production processes of CSRC comply with international environmental standards to achieve an optimal balance between corporate development, social responsibility, and environmental protection. Furthermore, we regularly update the material safety data sheet (MSDS) of products to provide the latest product safety features, disposal methods, etc., for reference so as to provide guarantees to customers and consumers' right to know.

Items included in the material safety data sheet			
Chemical and manufacturer information	Firefighting measures	Physical and chemical properties	Disposal methods
Hazard identification data	Leak handling methods	Stability and reactivity	Shipping information
Component identification data	Safe handling and storage methods	Toxicity data	Regulatory information
First aid	Exposure precautions	Ecological information	Other information



At the same time, we cooperate with national transportation regulations to carefully handle all types of transportation permit qualification certificates before shipping products. We also meets the legal requirements of the country where the product is to be imported, attaching required label contents on the packaging to indicate batch, production date, product name, place of origin, safety, etc. and provide safe and environmentally friendly product information to avoid client and consumer misuse. In 2019, CSRC did not have any violations related to product safety labeling.



2-3-4 Customer Satisfaction Surveys

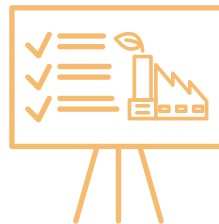
We believe in customer service is the key to consolidating customer satisfaction and loyalty. Only when their opinions are properly recorded and managed can we create maximum value to accumulate and create more quality customers. For any given customer, only the sales department is aware of consultation details, related procurement content, and business behavior information containing quotation information and transaction prices whether in the form of files, mail, or text records; they are not disclosed to other business departments. At the same time, the concept of confidentiality of customer information is regularly promoted to business colleagues. No complaints about customer privacy disclosures were received in 2019.

The Company regularly organizes customer satisfaction surveys every year. The full score for each evaluation is 10 points and the target is 8.5 points. Five aspects are evaluated as bases for improvement and supervision; the evaluation items include technical services, product quality, delivery arrangements, sales staff service, and overall satisfaction. By understanding market trends and customer needs, we can adjust various trading conditions in due course and improve the Company's overall profitability. CSRC's 2019 customer satisfaction questionnaire, the total number of customers replied accounted for 86% of total revenue. Total satisfaction was 9.52, with various ratings all falling between 9.18 and 9.61. Furthermore, responses have maintained above 9 points for the past 5 years, clearly indicating that customers are positively affirming our products and services.

Item	2017	2018	2019
Technical services	9.48	9.34	9.61
Product quality	9.96	9.42	9.18
Delivery arrangements	9.80	9.50	9.55
Sales person service	9.87	9.41	9.61
Overall satisfaction	9.61	9.36	9.52

Customer Evaluation

CSRC strictly maintains product quality, playing the role of a good supplier. In 2019, Linyuan Plant received annual factory visit audits by two international tire customers. One of them scored the facility at 98.6 points. Both affirmed Linyuan Plant's product quality and site conditions, allowing it to pass the examinations. In addition, Maanshan Plant also received two international tire customers for audit in 2019. The results of the evaluation all passed with high scores, due to its full preparation of information in advance and active improvement in response to customer suggestions for rectification projects. This demonstrated the accumulated strength of the plants.



Pressure gauge without verification label was improved



Equipment identification was improved



Packaging retention time was improved

2-4 Supply Chain Management ▶

2-4-1 Raw Material Supply Overview

In the carbon black production process, the main raw materials are all kinds of fuel oil (coal tar, anthracene oil, ethylene tar, and carbon black oil). These feedstock oils are process residuals of the petrochemical, coal, and steel industries. However, through special carbon black processing, these waste materials can instead be converted into high-value carbon black and truly practice a circular economy. Raw materials for Linyuan Plant are mainly provided by CPC's Kaohsiung ethylene tar plant and by China Steel Chemical (creosote, anthracene oil, or carbon black oil).

On the other hand, in order to maintain a flexible procurement strategy and respond to storage needs for imported oil, we have leased two oil tanks at Kaohsiung Port with capacities of 5,000 kiloliters and 3,000 kiloliters respectively. This provides convenient scheduling and helps us maintain a stable supply of production.

CSRC raw material consumption for each plant in 2019

Type	Material name	2019 (tons)
Non-renewable materials	Maanshan Plant feedstock oil + fuel oil	92,830
	Linyuan Plant feedstock oil + fuel oil	197,003
	Total	289,833
Renewable materials	Linyuan Plant wood pallets	60
	Total	60

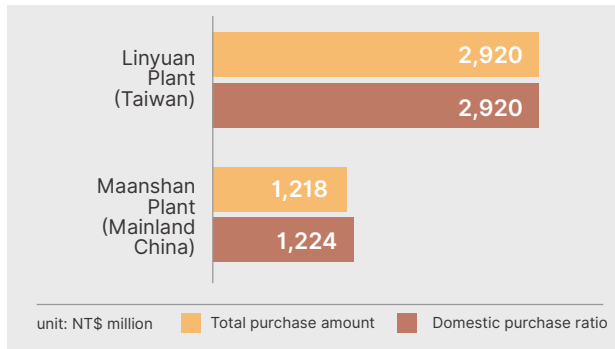
Notes:

1. Non-renewable materials are defined as resources that cannot be replenished in the short term. E.g.: minerals, metals, oil, natural gas, coal, etc.
2. Renewable materials are defined as those that can be quickly restored through ecological recycling or agricultural procedures and can be used continuously for future generations. E.g.: wood, water.

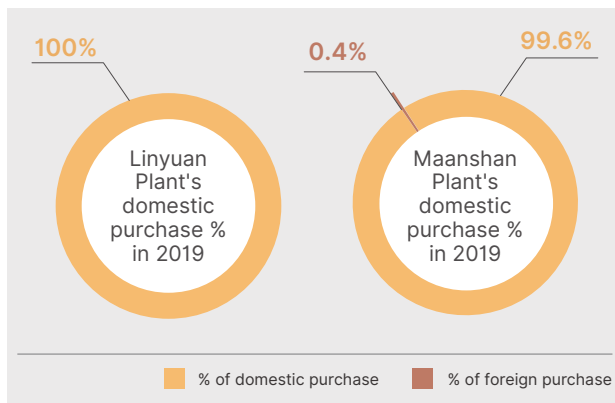
2-4-2 Domestic procurement

Domestic Taiwanese manufacturers provide 100% of the raw materials purchased by the Linyuan Plant. The percentage of local procurement from Maanshan Plant in Mainland China is also as high as 99.6%. Aside from reducing the indirect transportation carbon emissions of international shipments, this also makes it easier to monitor the supply status of raw materials, reducing operational risks and making production operations more stable.

Domestic purchase % for each plant in 2019



Note: The domestic suppliers of Linyuan Plant are defined as suppliers registered in Taiwan; domestic suppliers of Maanshan Plant are defined as suppliers registered in Mainland China.



2-4-3 Supplier Management

Supplier selection mechanism

Supplier cooperation is an important key to sustainable operation. We select high-quality suppliers through the supplier selection mechanism. Before selection, a supplier will first be required to complete a self-assessment report that reports items including a company profile, Ministry of Economic Affairs company business registration information, environmental photos of the company's factory, equipment List, R&D technology quality assurance environment, proof of performance (purchase orders, input invoices), and entity finances (balance sheet, income statement). Afterwards, we conduct on-site investigations and visits to the vendors selected according to the self-assessment reports. We assess financial soundness and whether there is any bad record of on the social environment, etc. Only after passing the inspection can it be listed as a qualified supplier. In 2019, there were a total of 84 new suppliers for Linyuan Plant and Maanshan Plant, of which 100% passed the environmental and social selection criteria.

Number of new suppliers and screening ratio for 2019

Supplier category	Linyuan Plant		
	Number of new suppliers	Number of new suppliers screened with environmental and social standards	Ratio of new suppliers screened with environmental and social standards
Supplies	14	14	
Spare parts	12	12	
Engineering	12	12	100%
Total	38	38	
Supplier category	Maanshan Plant		
	Number of new suppliers	Number of new suppliers screened with environmental and social standards	Ratio of new suppliers screened with environmental and social standards
Supplies	11	11	
Spare parts	23	23	
Engineering	12	12	100%
Total	46	46	

Supplier Integrity and Corporate Social Responsibility Commitment

Starting from 2019, CSRC has incorporated an Integrity Clause and Corporate Social Responsibility Commitment into supplier contracts. Furthermore, they emphasize the importance of occupational safety and health, ensuring that all suppliers are free of environmental, human rights, and safety violations. Linyuan Plant took the lead in signing a new version of the supplier contract commitment in 2019; the number of suppliers who signed was 105. Maanshan Plant will also implement the signing of all suppliers simultaneously in 2020. We hope to achieve 100% signing by 2021, expanding the influence of a sustainable supply chain.

Supplier Corporate Social Responsibility Commitment

For the sustainable operation of the enterprise, the supplier shall abide by the following terms:

- Continuously pay attention to environmental protection, energy saving and carbon reduction, prioritize domestic procurement, improve energy resource use efficiency, comply with environmental protection laws and regulations, and create a sustainable environment together.
- Comply with relevant waste, waste gas and wastewater management standards. Regarding disposal and treatment of any waste, pollutants and other environmental hazards, all should comply with statutory or international convention requirements.
- Do not employ child labor and protect basic human rights when hiring employees (including but not limited to labor rights, freedom of association, International Labour Organization conventions, etc.). Give reasonable remuneration and provide legal working conditions.
- Uphold business ethics and comply with anti-money laundering and anti-monopoly as well as non-disruptive business competition when running a business.
- Should develop a sustainable procurement policy for its suppliers, and the content of the policy should at least cover the supplier policy issued by the group

Supplier Evaluation

In order to establish sustainable supply chain management, we implement a graded audit once a year for major raw material suppliers. They are classified into one of four levels according to the evaluation score. If a manufacturer is rated as C-tier for two consecutive years, we will conduct a field visit or ask the manufacturer to come to the factory for interviews and make written records and help to improve the unqualified items.

Nature of item	Audit evaluation item		
Necessary requirements	Product compliance	Continuous supply capability	Quality performance
	Delivery performance	Quality management system evaluation	Software development function
Reference requirements	Financial stability	Process capability	Change management process
	Sustainability	Customer Service	Construction contact
	Machines and equipment	Environmental sanitation	

Evaluation score level

A-tier, 90 points or more	B-tier, 80-89 points	C-tier, 60-79 points	D-tier, 59 points or less
Good suppliers, which can be given priority to bargaining opportunities.	Reliable suppliers, which can be given general price comparison or bargaining opportunities.	Strengthen suppliers' improvement and training, and the bidding rights will be decreased until the next evaluation with better scores.	Listed as a supplier to be eliminated, and the bidding rights should be stopped.

In 2019, Linyuan Plant had 39 suppliers under audit and evaluation. Among them, the ratio of A-tier suppliers increased compared with 2018 and there was no D-level suppliers. Only 1 C-tier supplier had to improve. The overall performance was better than last year.

Linyuan Plant		A-tier	B-tier	C-tier	D-tier	Total
2019	Number	23	15	1	0	39
	Ratio	59%	39%	2%	0%	
2018	Number	29	21	2	2	54
	Ratio	54%	38%	4%	4%	
2017	Number	5	44	2	1	52
	Ratio	10%	85%	4%	1%	

As for Maanshan Plant in 2019, A-tier suppliers accounted for 96%, significantly higher than last year's 31%, and only one C-tier supplier had to make improvements. No D-tier suppliers was evaluated.

Maanshan Plant		A-tier	B-tier	C-tier	D-tier	Total
2019	Number	68	2	1	0	71
	Ratio	96%	3%	1%	0%	
2018	Number	18	38	1	2	59
	Ratio	31%	64%	2%	3%	
2017	Number	18	18	2	0	38
	Ratio	47%	47%	6%	0%	

2-4-4 Contractor Management Regulations

Occupational Safety and Health Management Measures for Contractors

To protect the work safety of contractors or suppliers, clearly define various occupational safety regulations and comply with government labor safety and health regulations in the project contract. Maanshan Plant complies with the current laws and regulations in Mainland China specifying "Construction and Operation Safety, Health and Environmental Management Operating Procedures" for contractors engaged in on-site construction. The purpose is to strengthen construction safety and environmental protection operation management, reducing injuries during construction or operation. During the construction process, factory auditors will randomly check the contents of the operation from time to time. If a violation of industrial safety regulations is found, the contractor can be directly requested to stop work. The construction task can be continued after the relevant situation improves.

Environmental Management Measures for Contractors

We require contractors to comply with our environmental policy, strengthening environmental cleaning and power washing of vehicle tires during engineering or work construction, complying with environmental protection regulations, and avoiding any environmental pollution behavior. CSRC supervisors will also be sent to inspect whether the contractor actually complies with the regulations. In 2019, a total of 96 substandard cases were

Measures to improve supplier evaluation results

For the two suppliers whose evaluation results were C-tier in 2019, we coached for improvement separately and they successfully passed the second evaluation. The detailed improvement measures are as follows

Plant	Classification before improvement	Problem description	Improvements	Passed the second evaluation
Linyuan Plant Supplier	C	The supplier's contact did not immediately respond to questions we raised. After-sales service needs to be improved.	This vendor is an annual contract supplier. It was recommended that the contact should be replaced or an assistant should be added to assist after-sales service.	Yes
Maanshan Plant Supplier	C	Products purchased with this supplier failed during the warranty period	The supplier has completed repairs on site	Yes

checked during the construction period of the contractor. After handling fines, suspension, etc., all cases have been improved. In addition, when the contractor generates general industrial waste, hazardous industrial waste, and resource waste during construction, the supervisor of the project or work organizing department must be contacted and the relevant storage and removal forms filled out. Afterward, the contractor must go to the storage management department that manages various types of waste to handle storage or removal operations; it cannot be thrown away at will.

Contractor education and training

We regularly hold contractor education and training to ensure that the contractor can understand the construction specifications and safety protections. Training content includes the contractor's entry process description, limited space operation specifications, hot work specification, hanging work specification, information on waste disposal, on-site code violations, information on workplace accidents, etc.



03

Green Manufacturing

3-1 Environmental Policy and Investment

SDGs 7.2 SDGs 7.3 SDGs 13.3

3-2 Response to Climate Change

3-3 Energy and Greenhouse Gas Management

SDGs 7.2 SDGs 7.3

3-4 Air Pollution Control

SDGs 3.9 SDGs 11.6

3-5 Water Resources Management

SDGs 6.3 SDGs 12.2

3-6 Waste Resource Management

SDGs 11.6 SDGs 12.2 SDGs 12.5



Performance Highlights 1

In 2019, self-generated electricity at Linyuan Plant and Maanshan Plant respectively accounted for 56% and 95% of total electricity consumption, and both of them were higher than annual target of 30%. The total power generation capacity of the two plants was 76,644,073 kWh, which is equivalent to the annual power consumption of **22,000** households and carbon absorption of **105** Daan Forest Parks



Performance Highlights 2

In 2019, oil consumption per unit of carbon black of Linyuan Plant and Maanshan Plant decreased compared to 2018. Oil consumption efficiency increased by 1.3% and 2.1% respectively, saving **4,275** tons of oil



Performance Highlights 3

Maanshan Plant invested in the upgrading of De-SOx and De-NOx equipment in 2019, reducing air pollution emissions by **90%** compared to 2018



Performance Highlights 4

In 2019, water consumption density of Maanshan Plant decreased by **5%** compared to 2018



Performance Highlights 5

In 2019, Maanshan Plant replaced paper bags with environmentally friendly PE bags, reducing paper waste by approximately **22,310kg**



Performance Highlights 6

In 2019, environmental protection expenditure of Linyuan and Maanshan Plant totaled NT\$**180** million, mainly invested in pollution prevention equipment

Major Topics	Emissions	Effluents	Waste	
	Disclosure Items GRI 103-1~3、GRI 305-1、GRI 305-2、GRI 305-4、GRI 305-7		Disclosure Items GRI 103-1~3、GRI 306-1~2	
Materiality	Continuing to invest in environmental protection equipment and committing to reducing process emissions will enhance market competitiveness and fulfill corporate citizen duties.		The petrochemical industry is highly dependent on energy and fossil fuels, and is closely related to many basic industries for people's livelihoods. Therefore, to meet the requirements of various environmental protection laws and regulations to avoid harm to the environment caused by wastewater, waste materials will effectively reduce environmental impact.	
Policy/Commitments	<ul style="list-style-type: none"> Ethical Corporate Management Best Practice Principles clearly state that while pursuing sustainable operation and profitability, we shall also pay attention to environmental factors and incorporate them into corporate management and operations. Comply with environmental protection laws and regulations, maximize energy efficiency, minimize carbon emissions. 		<ul style="list-style-type: none"> Ethical Corporate Management Best Practice Principles clearly states that while pursuing sustainable operation and profitability, we shall also pay attention to environmental factors and incorporate them into corporate management and operations. We will comply with environmental protection laws and regulations and continue to invest and improve pollution prevention equipment based on the principle of resource utilization and reduction. 	
Targets	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Short-Term Targets (1-3 Years)</p> <ul style="list-style-type: none"> Tail gas from production to be converted into steam for power generation. The use of self-generated electricity should account for more than 30% of the total electricity consumption. </div> <div style="width: 45%;"> <p>Mid-Long Term Targets (3-5 Years)</p> <ul style="list-style-type: none"> Regarding procurement and use of electrical equipment, the high-efficiency motors of the CNS14400 IE3 national standard will be fully adopted in the future. Continue to replace old equipment with new ones. Tail gas should be effectively recycled, as it can be converted into steam for reuse and power generation for self-use. In order to support the Paris Agreement, CSRC is committed to reducing greenhouse gas emissions by 25% by 2025 and 30% by 2030, compared to the 2014 base year. </div> </div>		<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Short-Term Targets (1-3 Years)</p> <ul style="list-style-type: none"> Annual wastewater recycling rate of over 30%. Qualified and proper handling rate of hazardous waste of 100%. </div> <div style="width: 45%;"> <p>Mid-Long Term Targets (3-5 Years)</p> <ul style="list-style-type: none"> Promote water balance project, improving water efficiency. Complete the re-planning and renovation of the waste storage area. </div> </div>	
Responsibility (Responsible Units)	EHS Center, EHS office of each plant			
Resources	<ul style="list-style-type: none"> Regularly prepare a budget each year to invest in compliant, high-performance and low-polluting machinery and equipment Invest in high temperature air preheater and boiler design. Complete flue gas denitration/desulfurization technology evaluation Outsource annual greenhouse gas inventory to improve results Launched online Monitoring system to monitor the status of air pollution discharge 24/7 		<ul style="list-style-type: none"> The boiler is equipped with LO-NOx burners and flue gas recirculation equipment, and SNCR/SCR NOx reduction system is newly added Added SNCR/SCR NOx reduction system to carbon black process The oil tank is equipped with an oil and gas collection system Regularly update filter bags, maintain waste gas collection facilities and potentially hazardous equipment to reduce dust emissions 	
Grievance Mechanism	The company's website has a stakeholder communication mailbox for complaints. E-mail: csrcir@csrcgroup.com			
Action Plan	<ul style="list-style-type: none"> Large-scale energy-consuming power equipment for power factor improvement (such as motors, capacitors, etc.) to achieve the goals of saving electricity and carbon reduction Replacement and renewal of old equipment with high energy consumption Carbon black production line process tail gas recovery, converting it to steam for reuse and power generation The roof space of the warehouse is provided for solar photovoltaic companies to add photovoltaic systems Conduct annual greenhouse gas inventory, confirm the effectiveness of energy saving and carbon reduction, and develop improvement strategies 		<ul style="list-style-type: none"> Re-planning and renovation of storage area Repair rainwater collection pipelines in the plant area in stages After gradually implementing water balance project, we will start the water integration plan 	
Validity Assessment	<ul style="list-style-type: none"> Set up energy metrics for monitoring and measurement: achieved self-generated electricity target in 2019 After identifying the laws and regulations related to the management system as well as the needs and expectations of stakeholders, distribute this information to relevant units for compliance assessment Internal audit: regularly implement internal audits to provide necessary information to meet the requirements of the management system Management review: periodically review the management system to ensure the appropriateness, adequacy and effectiveness of its continuous improvement 		<ul style="list-style-type: none"> Set up environmental metrics for monitoring and measurement After identifying the laws and regulations related to the management system as well as the needs and expectations of stakeholders, distribute this information to relevant units for compliance assessment Internal audit: regularly implement internal audits to provide necessary information to meet the requirements of the management system Management review: periodically review the management system to ensure the appropriateness, adequacy and effectiveness of its continuous improvement 	

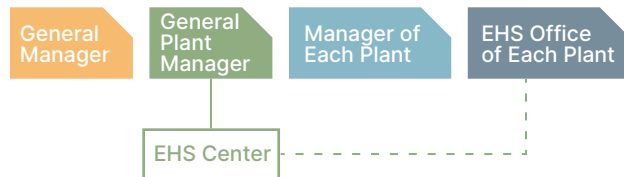
3-1 Environmental Policy and Investment ▶

3-1-1 Environmental Policy

Establishing Environmental Policy

Knowing that the Earth's resources are limited, CSRC has therefore always attached great importance to environmental protection. In addition to finding the balance between the economy and the environment and making the best use of resources through circular economy, CSRC also upholds the spirit of caring for the environment and cherishing resources. Its environmental business philosophy is Harmony with the Environment, Sustainable Management for Society. Furthermore, CSRC's Carbon Black Business has set up an EHS Center to promote action plans for all carbon black plants on the environment, industrial safety, labor and human rights, and so on. In addition, in coordinating major environmental policy directions, the safety and environmental office of each plant will implement the environmental management plan in accordance with these policies. Review regularly every quarter and report to the plant director and general manager.

Environmental Policy Decision Making Chart



EHS Center responsibilities

- EHS policy formulation, key performance indicator (KPI) target setting, standards training, promotion of research and introduction of new standards for the establishment of electronic management systems.
- EHS legal interpretation and standardization promotion; major risk monitoring.
- EHS change management policy and technical standards formulation.

Responsibilities of EHS office of each plant

- Links and communication with local government units such as environmental protection, safety supervision, health supervision, and fire protection.
- EHS regulatory compliance assessment, system and standard training, risk assessment and internal compliance audit.
- EHS training for employees and suppliers; development of publicity and education activities.
- Dynamic risk management of engineering/equipment/process/chemical changes and implementation of EHS risk assessment.
- Implementation of environmental impact assessment, legal treatment of three forms of waste (wastewater/exhaust gas/hazardous waste), and discharge supervision.
- Occupational disease control evaluation, occupational disease prevention and management, monitoring, management and supervision of all toxic and harmful factors in the workplace.

Environmental Management System

Linyuan Plant has introduced ISO 14001 environmental management system in response to international environmental protection requirements since 1997, and it has obtained international certification for ISO 14064-1 greenhouse gas inventory standards. Maanshan plant in Mainland China also introduced the ISO 14001 management system and passed the annual supervision and audit of the local quality certification center, and it obtained the AA level of the measurement management system certificate. These initiatives will improve the management quality of CSRC in energy saving, environmental protection and production processes and improve the direction of program planning, while also implementing environmental protection policies and reducing environmental impacts. Regarding raw materials, processes and products, we uphold the highest management principles of caring for the environment and cherishing resources. We have established a system to promote various environmental measures with the PDCA mechanism.



Maanshan Plant measurement management system AA level certificate



Maanshan Plant quality certification center supervision audit qualification notice



Linyuan Plant ISO 14001 certificate



Linyuan Plant ISO 14064-1 certificate

3-1-2 Environmental Expenditures

To promote environmental protection, CSRC invests in various pollution source treatments such as waste disposal, air pollution control, etc., and maintains pollution prevention equipment to improve its efforts in this area. In 2019, the total amount of environmental protection expenditures of Linyuan Plant were approximately NT\$24,071 thousand. These funds were mainly invested in waste disposal and waste gas emission treatment, as well as in pollution prevention equipment; the allocation was 37% and 44% respectively. For Maanshan Plant, the total expenditure was approximately NT\$157,881 thousand. It was mainly invested in pollution prevention equipment investment, accounting for 88% of the total amount.

Environmental protection expenditures of Linyuan Plant in 2019

Investment category	Description	Amount (NT\$ thousand)	Percentage
Waste disposal, waste gas emission treatment	Waste treatment fees	8,891	37%
	Air pollution fees	1,942	
Pollution control	Sewage charges	649	8%
	Fees for use of specific facilities for air product monitoring in special industrial zone	1,849	
Management activity	CEMS connection repair	193	11%
	Maintenance of De-SOx equipment	9,092	
Investment in pollution prevention equipment	Maintenance of De-NOx equipment	1,454	44%
	Total	24,071	

Environmental protection expenditures of Maanshan Plant in 2019

Investment category	Description	Amount (NT\$ thousand)	Percentage
Waste disposal, waste gas emission treatment	Hazardous waste disposal	13,835	9%
	Investigation of soil and groundwater for the whole plant	2,587	
Pollution control	Post environmental impact assessment report	636	2%
	Exhaust gas CEMS maintenance cost	1,272	
Management activity	Wastewater CEMS maintenance cost	1,060	1%
	Environmental protection training	22	
Investment in pollution prevention equipment	Technical renovation project of sewage plant	11,027	88%
	Investment in the maintenance of SNCR De-NOx technology for 70 and 45 ton boilers	6,149	
	Investment in the maintenance of SCR De-NOx technology for 70 ton boiler	34,649	
	Transformation of hazardous waste warehouse into hazardous waste storage space	1,824	
	Production exhaust EBF technical renovation project	84,820	
Total	Total	157,881	100%



3-1-3 Green Energy Power Generation

In order to promote green energy power generation, CSRC Group provided idle spaces of the warehouse rooftop in the plant to solar energy operator Chailease Finance to construct a solar energy photovoltaic system with an area of 1,686 square meters and installed capacity of 297.6 kilowatts. Separately, in 2019 we set up an area of 3,830 square meters in the R&D center to install a solar power system with a capacity of 725.4 kilowatts, going further to contribute to our efforts in the green energy industry.



3-2 Response to Climate Change ▶

3-2-1 Management of Climate Risks and Opportunities









Climate Change Management Strategy

Following the Paris Agreement, governments and companies must actively face the issue of responding to climate change. Domestic and international greenhouse gas emission regulations are gradually tightening, while natural disasters brought about by extreme climate conditions have a direct impact on operating sites and an effect on the Company's finances. In this regard, CSRC is actively implementing the identification of risks and opportunities and setting energy-saving and carbon-reduction targets to help gradually slow down climate change.

Identification of Climate Risks and Opportunities

We have referred to global climate change, the international industry situation, and discussions with external experts to assess the climate risks and opportunities faced by each plant area. Finally, the following risk and opportunity items were identified as having a significant financial impact on operations, and we have advanced CSRC's response measures to actively face the challenges of climate change.



Aspect	Item	Impact on CSRC's operations and finances	CSRC's response strategy
Transformation risk	 Emission standards and total volume control	Restriction on air pollution emissions from major production facilities will increase operating costs.	<ul style="list-style-type: none"> Putting in De-NOx/De-SOx pollution prevention equipment. Scheduling regular equipment maintenance fees and routine maintenance of pollution prevention equipment. Monitoring systems online to monitor the status of wastewater and air pollution discharge at any time.
	 Increased cost of greenhouse gas emissions	Failure to meet national greenhouse gas reduction and renewable energy use targets would result in penalties by the competent authorities and affect our corporate image.	<ul style="list-style-type: none"> Provide factory space and add solar photovoltaic systems. Effectively recycle tail gas and convert it into steam for reuse and power generation. Develop an active carbon reduction strategy.
	 Local communities	Abnormal discharge of pollution affects the environment of neighboring communities.	<ul style="list-style-type: none"> Regularly update filter bags, maintain tail gas collection facilities and potentially hazardous equipment to reduce dust emissions.
Physical risks	 Heavy rainfall	Typhoons bring heavy rainfall that may lead to insufficient drainage and water accumulation in the plant, as well as power outages or equipment failures. These could affect production and even interrupt operations.	<ul style="list-style-type: none"> Strengthen Business Continuity Plan (BCP) and develop contingency plans and programs.
	 Drought	Water restriction measures could cause losses in our plants as they must reduce production or shut down furnaces.	<ul style="list-style-type: none"> Promote water balance project, monitor the dynamic changes of water use, and improve water reuse rate.
Opportunities	 Recycling industry	The residuals (feedstock oil) of the petrochemical/ coal/steel industries can be turned into carbon black for sale.	<ul style="list-style-type: none"> With process improvement and optimization, we will continue to improve the efficiency of oil consumption for carbon black manufacturing.
	 Energy resource integration	Improve the efficiency of energy resource use (water, electricity), reduce regional pollution, effectively reduce environmental impact, and improve environmental quality.	<ul style="list-style-type: none"> Effectively recycle tail gas and convert it into steam for sale to neighboring factories. Convert steam into energy and generate electricity for self-use.
	 Green products	As climate change has become more important, the impact on the ecological environment and natural resources will be even greater and the Earth's resources will be even more precious. The development of green products will be an opportunity to further increase in market share.	<ul style="list-style-type: none"> CSRC has developed the LH and SATIN BLACK series of carbon black products. These products can extend the life of tires and rubber products and in turn reduce energy consumption. In the future, we will continue to invest in developing more green and sustainable products.

3-2-2 Energy saving and carbon reduction

Climate change improvement goals

Facing global climate change, CSRC is continuously strengthening its resilience of climate adjustment. It is also making continuous efforts to reduce greenhouse gas emissions, formulating the following energy saving and carbon reduction targets. These are expected to slow down the impact of climate change on enterprises and the entire natural environment.

2019 Target

Recycle tail gas and turn it into steam for power generation, and the annual use of self-generated power should account for more than 30% of the total power consumption.

Achievements

- Linyuan Plant has started co-generator since June 2019 with total power generated of 35,398,153 kWh, and the power consumption after June 2019 was 63,526,153 kWh. Therefore, the percentage of annual use of self-generated power was approximately 56%.
- Maanshan Plant's total power generated was 41,245,920 kWh, and the power consumption was 43,378,995 kWh. Therefore, the percentage of annual use of self-generated power was 95%.

The total power generation of the two plants was 76,644,073 kWh and was equivalent to annual power consumption of 22,000 households. It was also equivalent to reducing 40,851 tons of CO₂ emissions of external electricity purchase, and equivalent to carbon absorption of approximately 105 Daan Forest Parks.

Notes:

1. According to the latest statistics from Taiwan Power Company, the average monthly electricity consumption per household in 2018 was 292 kWh. Therefore, the annual electricity consumption of each household is estimated as: 292 kWh x 12 months = 3,504 kWh.
2. The carbon emission coefficient of electricity is 0.533 kg CO₂e/kWh as most recently announced by the Bureau of Energy.
3. According to data from the Bureau of Energy of the Ministry of Economic Affairs, one Daan Forest Park has an annual carbon absorption capacity of 389 tons.

Medium to Long-Term Targets

Power savings

Regarding procurement and use of electrical equipment, in the future, the high-efficiency motors of the CNS14400 IE3 national standard will be fully adopted. We will continue to replace old equipment with new ones. Tail gas should be effectively recycled, as converted into steam for reuse and power generation for self-use.

Greenhouse gas reduction

We support the Paris Agreement and we are committed to reducing greenhouse gas emissions by 25% by 2025 and 30% by 2030 compared to the 2014 base year.

Energy saving and carbon reduction effects

In terms of power usage, CSRC's main energy-saving solutions include the recycling process to convert exhaust gas waste heat to steam power generation as mentioned in section on circular economy (2-2). At present, both Linyuan and Maanshan Plant have achieved significant benefits. In addition, since 2012 the power factor of large energy-consuming power equipment has been improved for motors, capacitors, etc., to achieve the goals of saving electricity and carbon reduction. Through energy-saving and carbon-reduction measures, Linyuan and Maanshan Plant have reduced CO₂e by 2,156 tons in 2019, equivalent to the carbon absorption of 6 Daan Forest Parks.^{Note 1}

Note 1. According to data from the Bureau of Energy of the Ministry of Economic Affairs, one Daan Forest Park has an annual carbon absorption capacity of 389 tons.



Energy savings and carbon reduction results for Linyuan Plant in 2019

Program for energy saving and carbon reduction measures	Program description	Annual energy savings and carbon reduction
Waste heat recovery from online boilers	Online waste heat boilers can recycle tail gas and turn into steam, generate heat energy, and save the use of purchased electricity	<ul style="list-style-type: none"> ■ About 138,578 kWh of electricity saved (499GJ) ■ CO₂e of approximately 74 tons
Energy saving improvement project focusing on frequency conversion of tail gas filter smoke bin fans	Install frequency converters to control the operation of fan motors to improve power efficiency	<ul style="list-style-type: none"> ■ About 123,111 kWh of electricity saved (443GJ) ■ CO₂e of approximately 66 tons
Energy saving case for fan frequency conversion	Install frequency converters to control the operation of fan motors to improve power efficiency	<ul style="list-style-type: none"> ■ About 51,218 kWh of electricity saved (184GJ) ■ CO₂e of approximately 27 tons
Total		CO ₂ e emissions reduction of approximately 167 tons

Energy savings and carbon reduction results for Maanshan Plant in 2019

Program for energy saving and carbon reduction measures	Program description	Annual energy savings and carbon reduction
Waste heat recovery from online boilers	Online waste heat boilers can recycle tail gas and turn into steam, generate heat energy, and save the use of purchased electricity	<ul style="list-style-type: none"> ■ About 3,168,000 kWh of electricity saved (11,405GJ) ■ CO₂e of approximately 1,689 tons
Replacements using high efficiency and energy saving motors	Replace the original Y/Y2 series motors with YE3 series ultra-high efficiency motors	<ul style="list-style-type: none"> ■ About 563,349 kWh of electricity saved (2,028GJ) ■ CO₂e emissions reduction of approximately 300 tons
Total		CO ₂ e emissions reduction of approximately 1,989 tons

Note: 10,000 kWh of electricity = 3.6 GJ; the carbon emission coefficient of electricity is calculated based on the latest 2018 calculation of 0.533 kg/kWh

3-3 Energy and Greenhouse Gas Management ▶

3-3-1 Energy Management

Energy Policy

Whether from Linyuan or Maanshan production plants, CSRC regularly collects statistics on energy usage as the basis for revising its energy policy direction. At present, the main direction of energy management is to improve equipment power efficiency. Each carbon black plant regularly budgets to invest in compliant, high-performance and low-polluting machinery and equipment, improve operation yield and productivity, reduce the output of defective products and waste, improve equipment efficiency year by year, and improve the efficiency of resource use. In addition, they maximize the reuse value of thermal energy in a circular economy model and increase the amount of waste heat to generate electricity.

Energy consumption

In the process of manufacturing carbon black, CSRC's energy use mainly includes heavy oil, purchased electricity, self-produced steam, and process exhaust gases.^{Note 1} The total energy consumption of the Linyuan Plant in 2019 was 8,318,688 GJ. Due to the increase in carbon black production, total energy consumption increased by 13% compared with 2018. The main energy source was heavy oil, which accounted for 88% of total energy use. In addition, purchased electricity declined due to an increase in the proportion of self-use steam. In respect to energy consumption density (taking tons of carbon black production as the denominator), it was 87.30 GJ/ton in 2019. This marked an increase of 4% over the previous year. In the future, energy efficiency needs to be reviewed.

In respect to Maanshan Plant, total energy consumption in 2019 was 4,591,658 GJ. Due to a reduction in output, energy consumption was 27% less than last year. Heavy oil use accounted for 84% of all energy use. In terms of energy consumption density (taking tons of carbon black production as the denominator), energy consumption per unit of carbon black production (tons) in 2019 was 88.75 GJ/ton, increasing by 2% from last year. This was due to the amount of output reduction was greater than the amount of energy use reduction.

Note 1: There are two sources of process exhaust gas. One refers to the waste gas produced by the high-temperature cracking of the oil for the production of carbon black. This exhaust gas is flammable and the content includes, H₂, C₂H₂, CH₄, CO and other substances. Another source is because the carbon black produced by combustion belongs to the gas-solid phase and the gas and solids of the carbon black are separated by a bag dust collector. After collecting by exhaust gas return method, this carbon black gas plus the aforementioned oil cracking waste gas can be used in granulated carbon black drying and use for burning in gas-electric boilers

Energy use of Linyuan Plant over the past 3 years

Amount of each type of energy consumed			
Energy type	2017	2018	2019
Heavy oil (tons)	167,232	167,067	179,951
Tail gas (thousand cubic meters)	657,243	723,030	837,844
Purchased power (KWh)	59,397,572	58,513,800	28,294,200
Self-produced steam (tons)	Internal use	145,541	114,684
	External sale	441,279	488,272
Conversion to GJ			
Heavy oil (GJ)	6,819,166	6,812,444	7,337,826
Tail gas (GJ)	1,870,829	2,058,090	2,384,905
Purchased power (GJ)	213,829	210,647	101,858
Self-produced steam (GJ)	Internal use	392,960	309,647
	External sale	1,191,453	1,318,334
Total energy consumed (GJ)	7,425,955	7,332,738	8,318,688
Energy density (GJ/ton)	86.36	83.91	87.30

Energy use of Maanshan Plant over the past 3 years

Usage amount for each type of energy			
Energy type	2017	2018	2019
Heavy oil (tons)	129,212	133,497	94,044
Tail gas (thousand cubic meters)	556,443	567,651	389,002
Purchased power (KWh)	2,601,200	1,662,575	2,133,075
Self-produced steam (tons)	Internal use	299,758	306,414
	External sale	3,044	2,387
Conversion to GJ			
Heavy oil (GJ)	5,268,827	5,443,579	3,834,799
Tail gas (GJ)	1,583,904	1,615,808	1,107,285
Purchased power (GJ)	9,364	5,985	7,679
Self-produced steam (GJ)	Internal use	809,347	827,318
	External sale	8,219	6,445
Total energy consumed (GJ)	6,087,537	6,276,882	4,591,657
Energy density (GJ/ton)	90.83	87.30	88.75

Notes:

- The heat value coefficient of each energy conversion GJ unit is based on the latest energy product unit heat value table published by the Bureau of Energy of the Ministry of Economic Affairs. In addition, the heat value of the exhaust gas of the process is similar to that of the Maanshan plant and the Linyuan plant. Therefore, using the 2019 Linyuan Plant's exhaust gas composition analysis, the heat value is 680Kcal/m³.
- The calculation method of total energy (GJ) is heavy oil + purchased electricity + self-use steam. Last year's report added process exhaust when calculating the total energy. However, because the process exhaust is mainly used to produce steam, in order to avoid double counting, this report is not included.
- Energy intensity is the energy consumption (GJ) used per unit of carbon black production (tons).
- There were errors in the data for various energy usage statistics for the Linyuan Plant's report last year, which will be corrected in this year's report.

3-3-2 Greenhouse Gas Management

CSRC attaches great importance to greenhouse gas control. Among its efforts, Linyuan Plant inspects greenhouse gas emissions through a third party every year and has obtained the ISO 14064-1 greenhouse gas verification statement. Furthermore, it uses the results of the inventory as the basis for internal greenhouse gas management to clarify the operational efficiency of production equipment and the benefits of operating procedures, and then makes timely adjustments. In response to climate risk, management always pays attention to the greenhouse gas regulations and requirements of Taiwan's Environmental Protection Administration (EPA) and strictly abides by its regulations. Furthermore, the EPA has announced that the Linyuan Plant should declare its second batch of emission sources of greenhouse gas emissions. Therefore, the results of the inventory will be used as a reference for the subsequent promotion of greenhouse gas management. It is also reported regularly on the greenhouse gas logging platform.

The total greenhouse gas emissions of Linyuan Plant in 2019 were 217,188 tons of CO₂e, a decrease of 0.6% from 2018. Category 1 constitutes the main source of emissions; inventory items include exhaust gas, heavy oil, acetylene, diesel, motor gasoline, water fertilizer, liquefied petroleum gas, etc. The only source of Category 2 emissions is carbon emissions connected to purchased electricity. Based on the analysis of greenhouse gas emissions per unit of production, the emission intensity in 2019 was 2.28 tons CO₂e/ton. Compared with 2018, it has dropped by 9%, representing an improvement in carbon emission control efficiency and attainment of a downward trend for three consecutive years. This shows the effectiveness of CSRC's energy conservation and carbon reduction management.

Greenhouse gas statistics of Linyuan Plant for the past 3 years

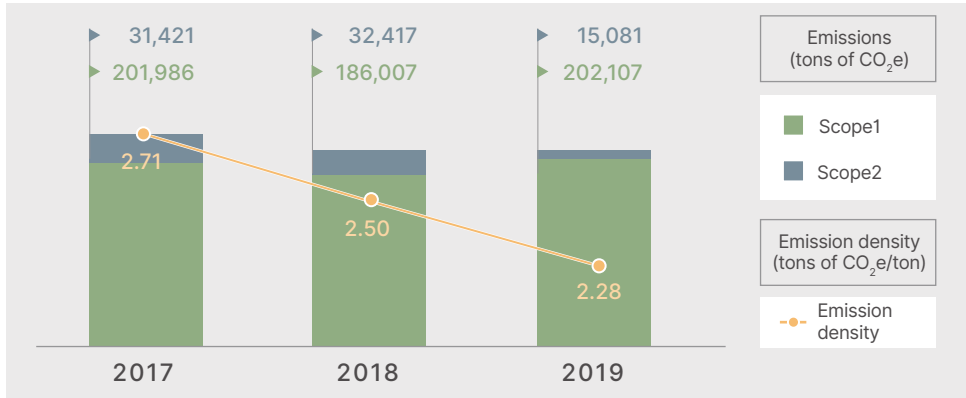
Emission scope	2017	2018	2019
Scope 1 (tons of CO ₂ e)	201,986	186,007	202,107
Scope 2 (tons of CO ₂ e)	31,421	32,417	15,081
Total emissions (tons of CO ₂ e)	233,407	218,423	217,188
Emission density (tons of CO ₂ e/ton)	2.71	2.50	2.28

Notes:

- The calculation of greenhouse gas emissions is carried out by the operational control law. The calculation method is activity data * emission factor * GWP value. (The emission coefficient value refers to the latest version of the Greenhouse Gas Emission Coefficient Management Table of the EPA; the GWP value is quoted from the IPCC Fourth Assessment Report). Greenhouse gases include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbon, sulfur hexafluoride, and nitrogen trifluoride.
- The carbon emission coefficient of Scope 2 purchased electricity in 2019 has not yet been announced. Therefore, the 2018 emission factor is 0.533kg CO₂e/degree for purposes of calculation.
- Scope 1 emissions include exhaust gas, heavy oil, acetylene, diesel, motor gasoline, water fertilizer, and liquefied petroleum gas.

3-4 Air pollution control ▶

Greenhouse gas statistics of Linyuan Plant for 3 years



According to the latest regulations in mainland region, Maanshan plant does not need to be evaluated by government-designated agencies for greenhouse gas emission. Therefore, an external inventory of carbon emissions in 2019 was not conducted. Based on the data analysis of the previous two years, the emissions of various carbon sources was declining. The annual reduction rate of total emissions was 5%. The greenhouse gas emission density also dropped from 1.65 tons CO₂e/ton to 1.46 tons CO₂e/ton, a decrease of 12%. In the future, we will continue to pay attention to carbon emissions trends, implement sustainable business concepts and energy conservation and environmental protection policies to reduce environmental impact.

Greenhouse gas statistics of Maanshan Plant for the past three years

Emission scope	2017	2018	2019
Scope 1 (tons of CO ₂ e)	109,383	103,752	According to the latest regulations of Mainland China, no carbon inspection is required.
Scope 2 (tons of CO ₂ e)	1,534	1,170	
Total emissions (tons of CO ₂ e)	110,917	104,921	
Emission density (tons of CO ₂ e/ton)	1.65	1.46	

Notes:

1. The calculation of greenhouse gas emissions of Maanshan plant is externally calculated by the agency designated by the mainland government.
2. The emission factor of Scope 2 purchased electricity is calculated based on the value announced in the mainland.
3. Category 1 emission source is heavy oil.

3-4-1 Air Pollution Statistics

After the feedstock oil used in the carbon black production process is burnt and pyrolyzed in the reactor and following related chemical reactions, the main air pollutants produced are volatile organic compounds (VOCs), sulfur oxides (SO_x), nitrogen oxides (NO_x), and particulate pollutants (total suspended particulates, TSP). To reduce environmental impact, we monitor gas emission data as a management basis at any time and actively deploy air pollution reduction measures.

Air Pollution Discharge from Linyuan Plant

Aside from a decrease in volatile organic compounds (VOCs) at Linyuan Plant in 2019, other types of air pollution gas emissions increased compared with 2018. This was mainly because of the increase in carbon black production in 2019. From the analysis of absolute emissions data, only sulfur oxides (SO_x) achieved significant improvement in 2018. It means that the desulfurization equipment placement has achieved results, and other gas systems have a slight growth trend due to increased production. However, if we look at the emission density in 2019, except for sulfur oxide SO_x, all other air pollution gases were lower than 2018. In the future, we will continue to invest in air pollution reduction measures. We hope that the absolute emission of air pollution will be reduced with increase in the output.



Absolute emission of air pollution from Linyuan Plant

Types of air pollution gas at Linyuan Plant	2017	2018	2019
Volatile organic compounds, VOCs (kg)	4,329	4,653	4,638
Sulfur oxide, SOx (kg)	108,708	79,551	89,396
Nitrogen oxide, NOx (kg)	203,993	242,078	262,366
Total suspended particles, TSP (kg)	8,882	11,893	12,514

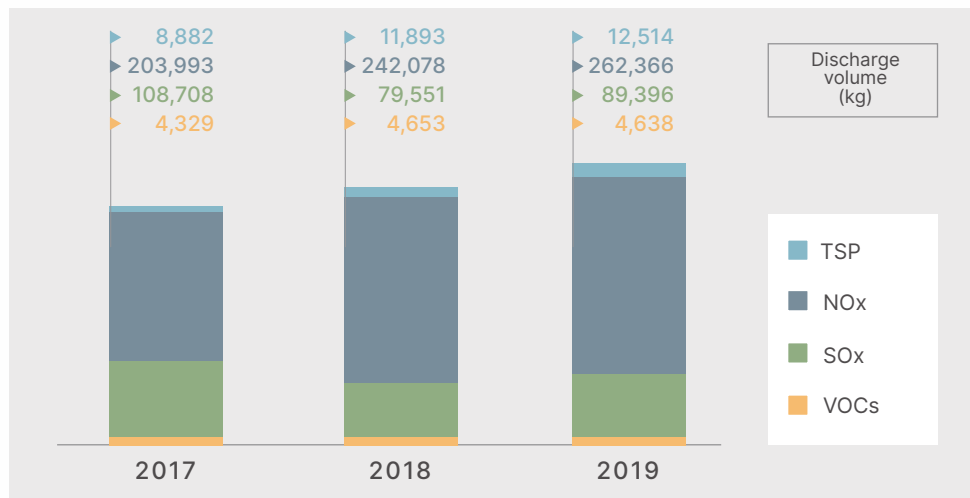
Note: The emissions data of various air pollutants are estimated based on the testing methods, emission coefficients, and emission calculation formulas announced by the Environmental Protection Administration.

Air pollution emission density from Linyuan Plant

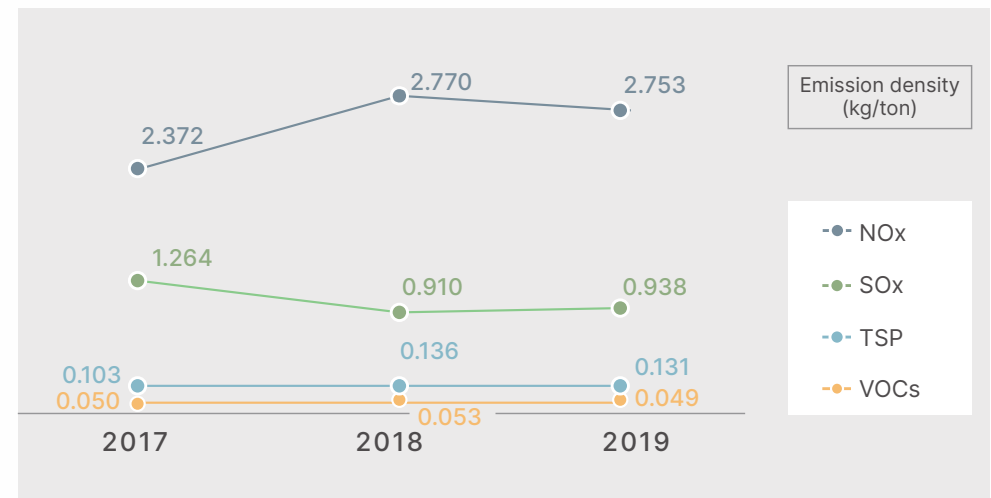
Types of air pollution gas at Linyuan Plant	2017	2018	2019
Volatile organic compounds, VOCs (kg/ton)	0.050	0.053	0.049
Sulfur oxide, SOx (kg/ton)	1.264	0.910	0.938
Nitrogen oxide, NOx (kg/ton)	2.372	2.770	2.753
Total suspended particles, TSP (kg/ton)	0.103	0.136	0.131

Note: The emission density calculation method is absolute emissions (kg)/current year's carbon black production (tons).

Air pollution discharge from Linyuan Plant for the past 3 years



Air pollution emission density from Linyuan Plant for the past 3 years



Air Pollution Discharge from Maanshan Plant

Maanshan Plant started to assess greenhouse gas emissions from 2018, monitoring sulfur oxides, nitrogen oxides and total suspended particulates. The data shows that the emissions of various air pollution gases in 2019 have been significantly reduced compared with 2018. The reduction was 96% for sulfur oxides, 79% for nitrogen oxides and 80% for total suspended particulates. The emission intensity is also showing a downward trend, mainly because of the newly installed boiler De-SOx and De-NOx system at Maanshan Plant in 2019. Emissions have reached the ultra-clean emission standard, so there is a significant decrease in the emissions data in 2019 compared to 2018.

Absolute emissions of air pollution from Maanshan Plant

Types of air pollution gas at Maanshan Plant	2018	2019
Sulfur oxide, SOx (kg)	161,800	6,100
Nitrogen oxide, NOx (kg)	79,500	16,400
Total suspended particles, TSP (kg)	7,000	1,400

Notes:

- The emissions data of various air pollutants are estimated based on the testing methods, emission coefficients, and emission calculation formulas announced in Mainland China.
- Maanshan Plant only started to collect air pollution data in 2018, so there is no data for 2017.

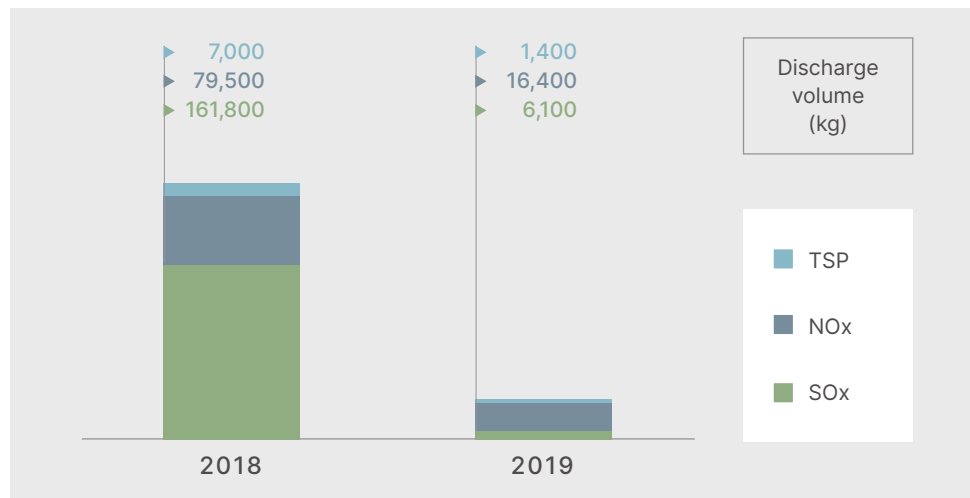
Air pollution emission density from Maanshan Plant

Types of air pollution gas at Linyuan Plant	2018	2019
Sulfur oxide, SOx (kg/ton)	2.250	0.118
Nitrogen oxide, NOx (kg/ton)	1.106	0.317
Total suspended particles, TSP (kg/ton)	0.097	0.027

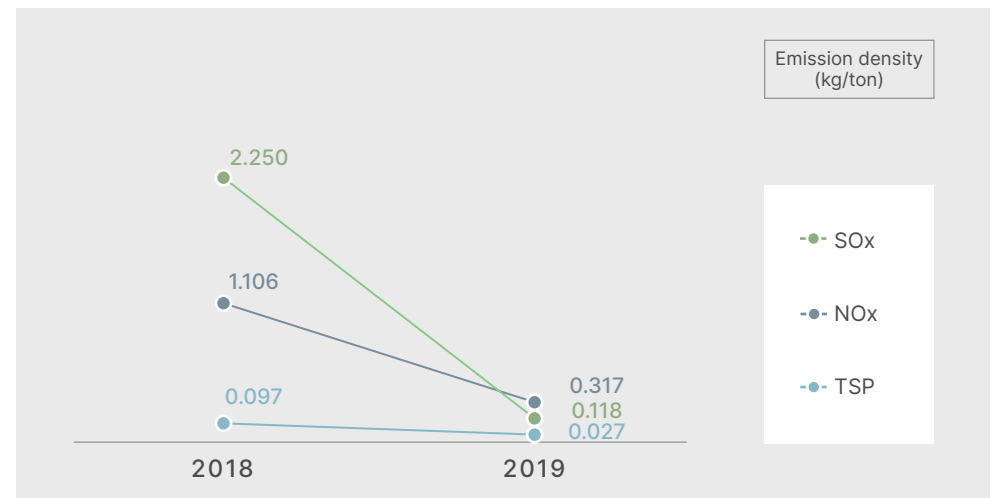
Notes:

- The emission density calculation method is absolute emissions (kg)/current year's carbon black production (tons).
- Maanshan Plant only started to collect air pollution data in 2018, so there is no data for 2017.

Air pollution emissions from Maanshan Plant for the past 3 years

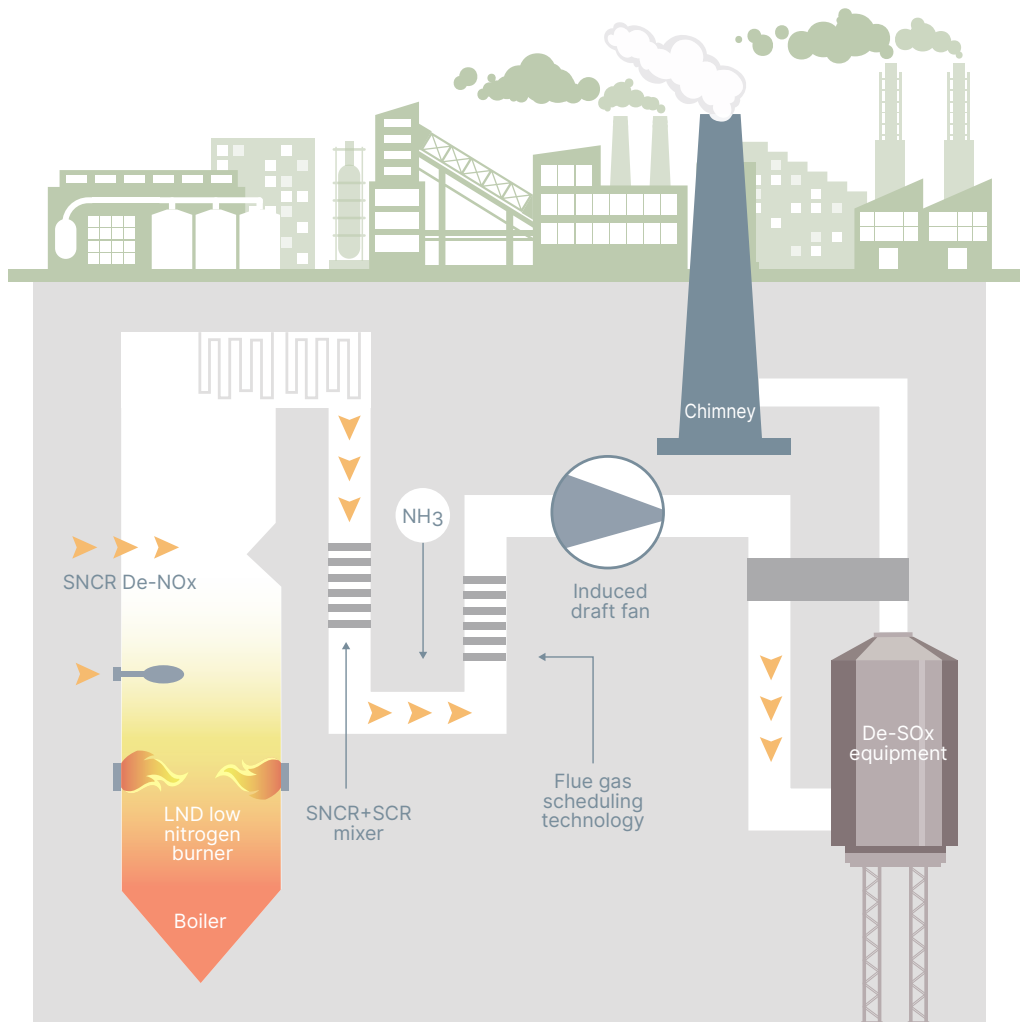


Air pollution emission density from Maanshan Plant for the past 3 years



3-4-2 Air Pollution Prevention and Management

Illustration of air pollution treatment of CSRC



Control of volatile organic compounds (VOCs)

To control the volatile organic compounds in the raw oil tank, CSRC installed oil and gas collection systems above each storage tank, sets up connecting pipes at breather valves, and uses power fans to draw air to maintain a slight negative pressure in the tanks. Then the extracted exhaust gas is introduced into the combustion furnace air for use to achieve the control effect.



Breather valve connecting pipe setup

Sulfur oxide (SOx) control

The carbon black process will use coal tar and fluid catalytic cracking (FCC) bottom oil. However, while the sulfur content of coal tar is about 0.3-0.5%, the sulfur content of FCC oil is as high as 2-4%, higher than the current oil sulphur standard. Therefore, it needs to undergo desulfurization treatment to reach the air pollutant SOx emission concentration standard. To this end, the Linyuan Plant has installed De-SOx desulfurization equipment in the exhaust pipe of the factory chimney and successfully reduced the monthly average SOx emission concentration from 160 ppm to below 22 ppm. With low-emission facilities, the air quality load is reduced as much as possible.

Advantages of De-SOx tower

- Material usage of the scrubber is only 1/2 or 1/3 of the traditional one
- The pressure loss is relatively small, so less the power is required
- It can still operate continuously in suspension conditions
- No nozzle is needed for liquid supply, and the power of liquid delivery is small
- Easy to start, stop and operate
- It can maintain a stable desulfurization rate even when the amount of gas changes significantly
- It is not easy to produce a bias flow of gas, making it especially suitable for large-scale
- Good gas absorption efficiency and dust removal efficiency
- The system has a long operating time, stable operations, and convenient maintenance and repair

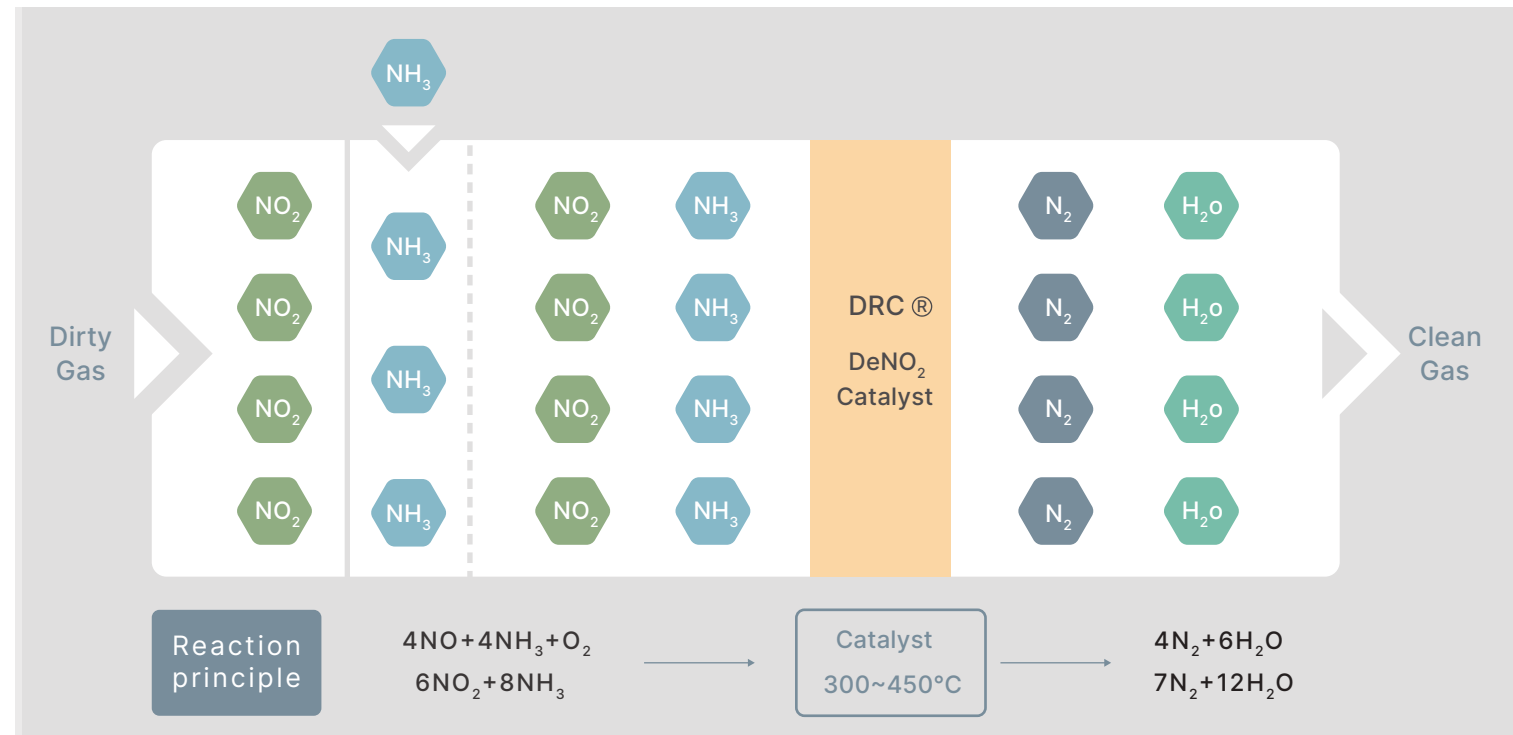


Nitrogen oxide (NOx) control

The methods currently adopted by CSRC to reduce nitrogen oxide (NOx) include:

1. Staged combustion of flue gas reflux: The flue gas is divided into three stages for combustion, and part of the flue gas is returned to the boiler combustion zone in the first stage. The amount of air supplied is less than that of complete combustion, and the diluted oxygen concentration is reached so that the nitrogen in the fuel cannot generate NOx. In the second and third stages, residual fuel and air are combusted. Because of its slower burning speed, it can lower the flame temperature. It also forms a low oxygen concentration environment to reduce NOx production.
2. Selective catalytic reduction (SCR) denitration system: It is currently the most common technology with the highest denitration efficiency, with an efficiency of over 90% (calculated based on 30 ppm NOx emission concentration of the EPA). It has successfully solved the problem of flue nitrogen oxide emissions from the boiler exhaust of Linyuan Plant.

Schematic diagram of the SCR system



Particulate pollutant (total suspended particulate, TSP) control

The factory areas continue to improve production equipment to reduce pollutants. For example, filter bags are updated in advance for the bag dust collector, and a circular pulse cleaning bag dust collector has been developed. The dust collection efficiency to prevent particulate pollutants can reach more than 99%. In addition, the imported PDA inspection system can grasp the production status at any time and adjust in real time, effectively solving the original design flaw of the bag dust collector in that it is easily blocked by carbon deposits and smoke leakage.

3-5 Water Resources Management ▶

3-5-1 Water Management

We strictly control the use of water resources and continue to improve the efficiency of water recycling, avoiding excessive water intake and causing damage to the surrounding environment. In addition, we will promote the water balance plan, which includes cooperation with neighboring factories from 2020. After steam is sold to partners in neighboring factories, the partners will transport the condensed water generated during the process back to Linyuan Plant for reuse, expanding the influence of the water cycle. The total amount of tap water taken in 2019 was 2,085,577 tons

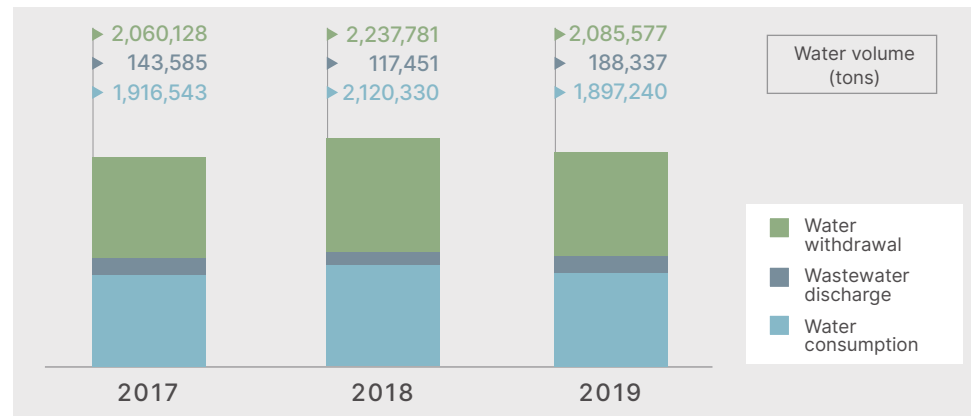
Note: The amount of tap water taken of Linyuan Plant is 1,488,337 tons; the amount of tap water taken of Maanshan Plant is 597,240 tons.

Analysis of the overall water flow direction of CSRC over the years (Linyuan + Maanshan Plant)

	2017	2018	2019
Water withdrawal (tons)	2,060,128	2,237,781	2,085,577
Wastewater discharge (tons)	143,585	117,451	188,337
Water consumption (tons)	1,916,543	2,120,330	1,897,240

Note: Water consumption = water withdrawal - wastewater discharge; the source of water withdrawal is tap water (fresh water)

Analysis of the overall water flow direction of CSRC over the years (Linyuan + Maanshan Plant)



The water source of Linyuan Plant is from the tap water of the Fengshan Reservoir, and no water is sourced from areas under water stress. From the overall analysis of the flow of water resources, the amount of water taken in 2019 was 1,488,337 tons, an increase of 4% compared with 2018. After being used in the plant, the water is treated as sewage and discharged into the sewage treatment plant in the Linyuan Industrial Park. The amount of tap water used in processing was 1,469,105 m³ in 2019, an increase of 6% from 2018 due to increased production capacity. In addition, in order to promote the effective use of water resources, Linyuan Plant adopts a circular economy model to recover process wastewater and collect rainwater. After water purification, it is reused in the carbon black process. In 2019, the water recovered by the process was 174,897 m³, and the recovery rate was 12%. However, due to a failure of the measurement meter in 2018, it cannot be compared with the data of the previous year. From the perspective of water intensity per unit of production, it was 17.3 m³/ton in 2019, a decrease of 7% from 18.7 m³/ton in 2018. This shows that there has been progress in production water efficiency.

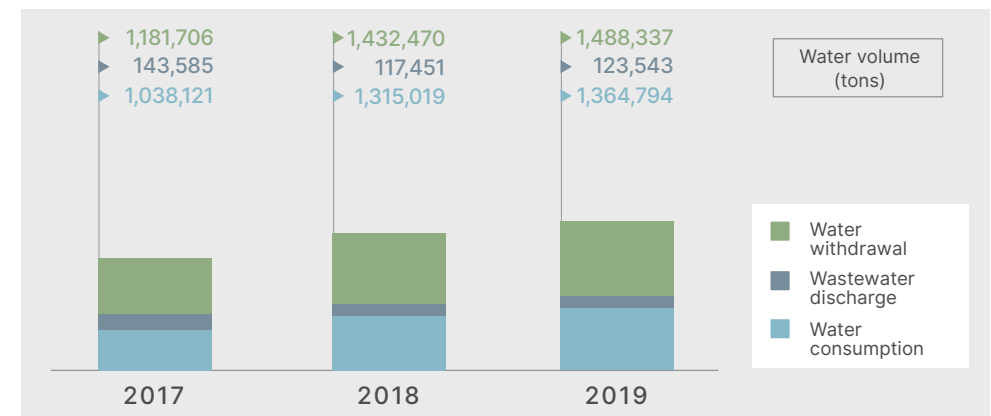
Analysis of water resources flow direction at Linyuan Plant for the past 3 years

	2017	2018	2019
Water withdrawal (tons)	1,181,706	1,432,470	1,488,337
Wastewater discharge (tons)	143,585	117,451	123,543
Water consumption (tons)	1,038,121	1,315,019	1,364,794

Notes:

1. The use of water intake includes tap water consumption, packaging water, and office administration water.
2. Water consumption = water withdrawal - wastewater discharge

Analysis of water resources flow direction at Linyuan Plant for the past 3 years



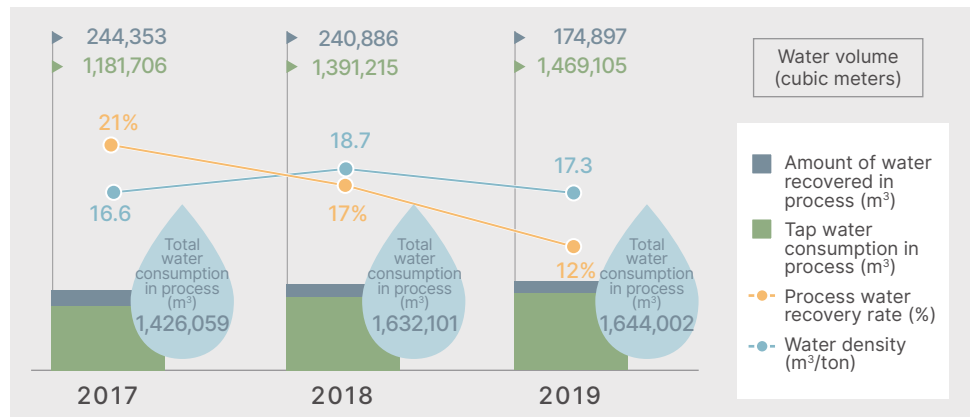
Water resources use data of Linyuan Plant for the past 3 years

	2017	2018	2019
Tap water consumption in process (m ³)	1,181,706	1,391,215	1,469,105
Amount of water recovered in process (m ³)	244,353	240,886	174,897
Total water consumption in process (m ³)	1,426,059	1,632,101	1,644,002
Process water recovery rate (%)	21%	17%	12%
Water density (m ³ /ton)	16.6	18.7	17.3

Notes:

- The statistical method is the monthly bill of Taiwan Water
- Total process water consumption = process tap water consumption + process recovery water consumption
- Process recovery rate (%)=The amount of water recovered in the process (m³)/Processing tap water consumption (m³)
- Water intensity = total water consumption of the process (m³) / annual carbon black production (tons)
- The data of process recovered water consumption from 2017 to 2018 is affected by the failure of the meter. Therefore, the data in the table will be slightly different from the actual value.

Water resources use data of Linyuan Plant for the past 3 years



The water source of Maanshan Plant is tap water and no water is sourced from areas under water stress. From the overall analysis of the flow of water resources, the amount of water taken in 2019 was 597,240 tons, a decrease of 26% compared with 2018. The amount of tap water used in processing was 494,470 tons in 2019, a decrease of 32% from 2018 due to a decline in production capacity. From the perspective of water intensity per unit of production, it was 9.6 m³/ton in 2019, a decrease of 5% from 10.1 m³/ton in 2018. The water efficiency of the production process has continued to improve in the past three years.

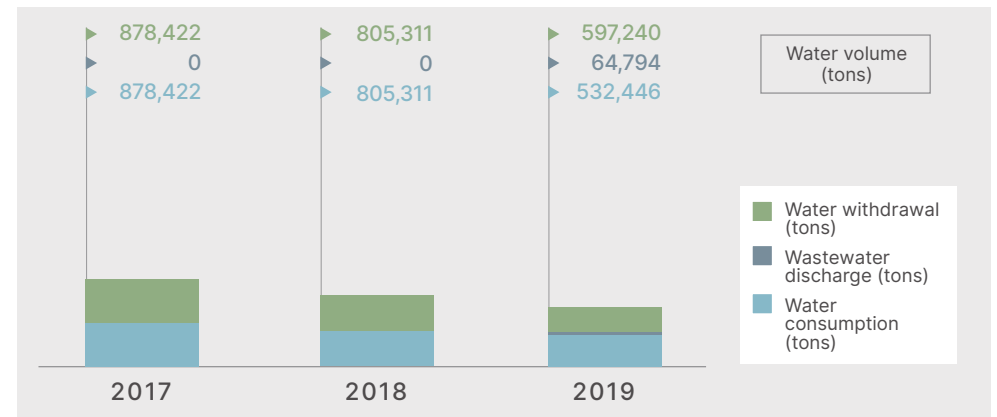
Analysis of water resources flow direction at Maanshan Plant for the past 3 years

	2017	2018	2019
Water withdrawal (tons)	878,422	805,311	597,240
Wastewater discharge (tons)	Reuse without external discharge	Reuse without external discharge	64,794
Water consumption (tons)	878,422	805,311	532,446

Notes:

- The use of water intake includes tap water consumption, packaging water, and office administration water.
- Water consumption = water withdrawal-wastewater discharge

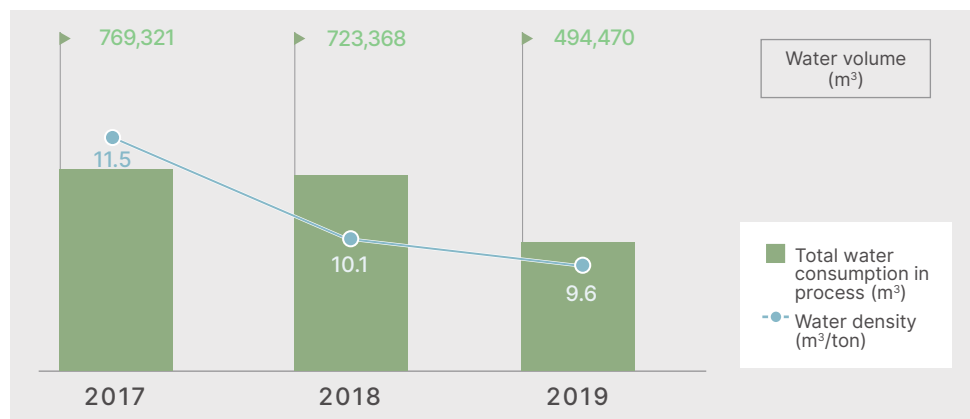
Analysis of water resources flow direction at Maanshan Plant for the past 3 years



Water resources use data of Maanshan Plant for the past 3 years

	2017	2018	2019	Notes:
Total water consumption in process (m ³)	769,321	723,368	494,470	1. The statistical method is the monthly bill of Taiwan Water
Water density (m ³ /ton)	11.5	10.1	9.6	2. Total process water consumption = process tap water consumption + process recovery water consumption
				3. The Maanshan Plant has no statistics on the amount of water recovered in the process
				4. Water density (m ³ /ton) = Total water consumption in the process (m ³) / annual carbon black production (tons)

Water resources use data of Maanshan Plant for the past 3 years



3-5-2 Wastewater Management

CSRC has established a sewage treatment plant in accordance with regulations and standards. We treat the wastewater generated in the process to meet the discharge standards, or it can be used as process water after purification. We thus try our best to achieve the resource utilization mode of a circular economy. Among them, Maanshan plant refers to "IATF 16949-2016 Automotive Industry Quality Management System", "ISO 9001-2015 Setting Quality Management System" and "GB/T 19022-2003 Measurement Management System Requirements for Measurement Process and Measurement Equipment" in formulating its "Wastewater Treatment Plant Operating Procedures." These standardize sewage treatment equipment operation, abnormal accident handling procedures, and occupational safety requirements, ensuring that the sewage treatment plant can efficiently manage and achieve the purpose of water purification.

Water quality discharge data for Linyuan Plant

The water quality testing method of Linyuan Plant is sampled and tested by qualified manufacturers approved by the Environmental Inspection Institute. All discharged water complies with legal standards.

Test Item	2017	2018	2019	Discharge standard
PH	8.0	8.0	7.7	6~9
COD (mg/L)	13.4	61.6	38.2	90
SS (mg/L)	5.1	21.5	23.6	25
Water temperature (°C)	23.5	33	30.3	42
Oil (mg/L)	<1.0	2	ND	10
Phenols (mg/L)	ND	0	<0.0020	1
True color	<25	<25	<25	550
Ammonia (mg/L)	6	7.8	15.5	60
Nitrate nitrogen (mg/L)	5.17	20.8	12.9	50
Chloroform (mg/L)	0.0153	<0.00102	0.00875	0.6

Note: When the detection value is lower than the lowest reliable concentration that can be measured by the instrument, ND (not detector) means that the concentration is too low and cannot be measured.

Water quality discharge data for Maanshan Plant

For 2017 and 2018, Maanshan plant's wastewater was completely reused without discharge. In 2019, it was discharged to Cihu High-tech Zone sewage treatment plant. After the discharge, the wastewater was automatically detected and connected to the Environmental Protection Bureau for monitoring. The water quality test results were all up to standard.

Water quality discharge data	2019	Discharge standard
Ammonia (mg/L)	0.638	25
COD (mg/L)	28	150
SS (mg/L)	24	150
Petroleum (mg/L)	0.36	10
Volatile phenols (mg/L)	0.01	0.5
PH	7.2	6~9

3-6 Waste resource management ▶

3-6-1 Waste treatment methods

CSRC emphasizes the recycling economy spirit of waste utilization, properly disposing of business waste, complying with the requirements of various waste laws and regulations, and looking for opportunities for resource reuse. We follow the Environmental Protection Administration's "Operational Procedures for Industrial Waste Management" for internal advance processing and then entrust a qualified waste disposal contractor to do the follow-up removal work. In 2019, the total weight of non-hazardous waste of CSRC was 1,353.42 tons, and hazardous waste was 768.86 tons. ^{Note}

Note: The waste produced by the Linyuan Plant includes domestic waste and general business waste. The waste produced by the Maanshan Plant includes solid waste, hazardous waste, and valuable waste.

The industrial waste of the Linyuan Plant is of different nature. In accordance with Taiwan's laws and regulations, the methods of landfill, incineration, heat treatment(except for incineration treatment), and physical treatment are adopted. Among them, the waste after heat treatment and physical treatment can be recycled and reused. In 2019, the waste recycling rate of Linyuan Plant was 29%. Maanshan Plant is in accordance with the current laws and regulations in the mainland area, and it uses burial, incineration and recycling. In 2019, the waste recycling rate was 16%.

CSRC 2019 Waste Statistics (Linyuan + Maanshan Plant)

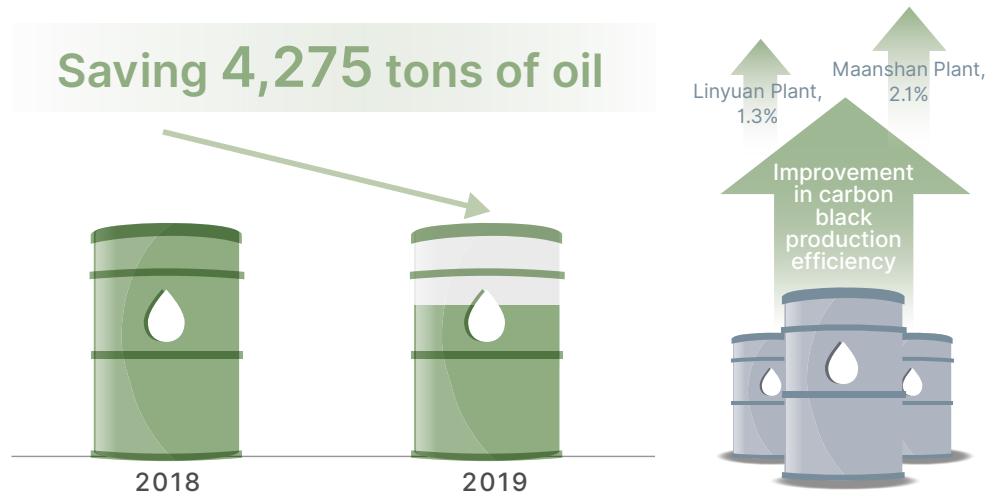
Type of waste	Disposal method	Linyuan Plant (tons)	Maanshan Plant (tons)	Total (tons)
Non-hazardous waste	Incineration	750.16	-	1,353.42
	Landfill	104.51	-	
	Heat treatment (except for incineration treatment)	115.86	-	
	Physical handling	232.23	-	
	Recycling	-	150.66	
Hazardous waste	Incineration	-	607.54	768.86
	Landfill	-	161.32	
	Total (tons)	1,202.76	919.52	

3-6-2 Waste Reduction Strategy

Reduce oil consumption per unit of carbon black

In order to avoid the waste of resources and a consequent increase in waste generated resulted from excessive use of raw materials, we continue to study technological breakthroughs and improve the process techniques, striving to increase the carbon black production capacity per unit of feedstock oil, and reduce the amount of feedstock oil required to manufacture carbon black. In 2019, oil consumption per unit of carbon black of Linyuan and Maanshan Plant was successfully reduced. Oil consumption efficiency increased by 1.3% and 2.1% respectively, saving the two plants a total of 4,275 tons of oil. With its core technology, CSRC has improved its competitiveness while reducing the use of raw materials, truly practicing low-carbon production and reducing environmental impact.

Decline in oil consumption per unit output of carbon black



Replacing paper bags with PE bags

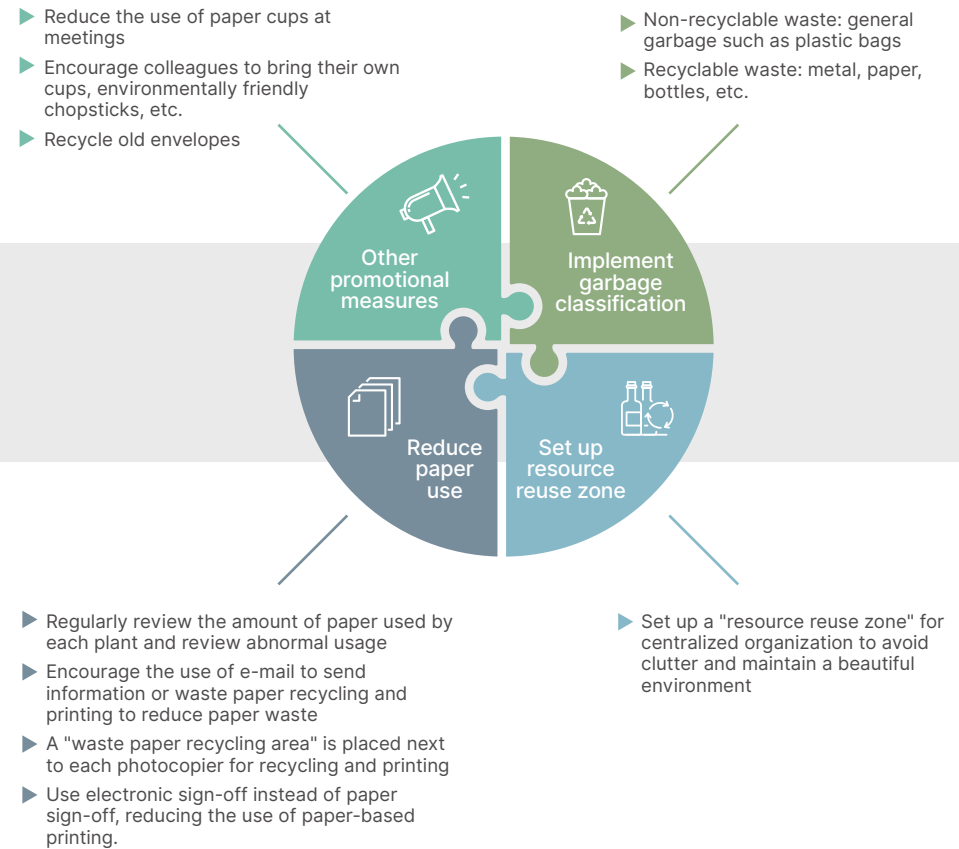
To meet special customer requirements, CSRC has successively adopted PE plastic film packaging bags from 2019, replacing the original paper bag packaging. Utilizing the characteristics of PE being soluble in rubber, customers can put the packaging bag into the hopper when mixing, reducing the manpower and time of processing the packaging bag. It can also reduce the carbon black loss attached on the paper bags, reduce the cost of paper bag disposal and environmental protection concerns, and also avoid waste generation. At present, Maanshan Plant has adopted a large number of PE bags, and a total of 65,618 bags were used in 2019 (equivalent to reducing the use of the corresponding amount of paper bags). If the average weight of a paper bag is 0.34 kg, it is estimated that approximately 22,310 kg of paper waste will be reduced. In 2020, Linyuan Plant will also start to adopt the use of PE bags.



22,310 kg of paper waste was reduced

Garbage classification and reduction

In addition to waste reduction measures in factories, in terms of waste reduction in offices, we encourage employees to use their own cups and environmentally friendly chopsticks, and practice double-sided printing to save paper, reducing the consumption of paper cups in meetings and other behaviors. The following are various waste reduction practices:





04

Forming an Excellent Workplace

4-1 Human resources development and management

4-2 Talent cultivation

SDGs 4.5

4-3 Salary and benefits

SDGs 10.4

4-4 Occupational safety and health

SDGs 3.9

SDGs 8.8

SDGs 12.4



Performance Highlights 1

Implementation of **Employee Stock Ownership Trust Program** in 2019



Performance Highlights 2

Training expense NT\$ **4.3935** million, increasing by **155%** compared to 2018



Performance Highlights 3

The average satisfaction rating for education and training courses was as high as **9.14** points in 2019



Performance Highlights 4

100% of employees took performance and professional development reviews attained in 2019



Performance Highlights 5

No occupational injuries or deaths occurred at CSRC in 2019



Material Topic

Occupational Safety and Health

Disclosure Items | GRI 103-1~3、GRI 403-1~10

Materiality	The safety of employees in the workplace is the most important thing for CSRC. Only when employees work at ease can their work efficiency be demonstrated.	
Policies / Commitments	We follow the OHSAS 18001 management system to formulate specifications to promote the continuous improvement of safety management.	
Targets	Short-Term Targets (1-3 Years)	Mid-Long Term Targets (3-5 Years)
	<ul style="list-style-type: none"> ■ Strengthen emergency response plans ■ Introduce ISO 45001 occupational safety and health management system ■ Build electronic platform (periodic supervision, management of potential hazards, risk assessment) 	<ul style="list-style-type: none"> ■ Set up an emergency medical team ■ Establish first aid emergency response plan
Responsibility (Responsible Units)	EHS Center, EHS office of each plant	
Resources	<ul style="list-style-type: none"> ■ Build OHSAS 18001 management system and business continuity ■ Participate in the community of safety and environmental health related associations; learn to exchange experience in affiliated factories; improve Company occupational safety and health management. 	

Grievance Mechanism	The company's website has a stakeholder communication mailbox for complaints. E-mail: csrcir@csrcgroup.com
Action Plan	<ul style="list-style-type: none"> ■ Refer to related labor safety management methods in the industry. Improve standard procedures for labor safety management ■ Continue to build an e-system platform, use data management to improve in real time, and improve the safety and environmental management system
Validity Assessment	<ul style="list-style-type: none"> ■ Develop occupational safety and health metrics for monitoring. (Refer to 4-4-3 Management Objectives and Performance for indicator items) ■ After identifying the laws and regulations related to the management system and the needs and expectations of stakeholders, this information will be distributed to relevant units for compliance assessment ■ Regularly implement internal audits to provide necessary information to meet the requirements of the management system ■ Regularly review the management system to ensure the appropriateness, adequacy and effectiveness of its continuous improvement

4-1 Human Resources Development and Management ▶

CSRC regards employees as its most important asset. A deep understanding of employees is an important cornerstone of the Company's growth. As such, we strive to build a high-quality and respectful workplace and provide employees with a complete and secure employment environment. In formulating its own "Human Rights Policy", the Company has followed the United Nations Global Compact, the United Nations Universal Declaration of Human Rights, the ILO Declaration on Fundamental Principles and Rights at Work and other international human rights conventions as well as labor-related laws and regulations applicable to each of the locations where it conducts its operations. The scope of application includes the Company and its domestic and foreign subsidiaries, joint venture companies, and other group-affiliated enterprise organizations with substantial control capabilities. It aims to fully demonstrate our responsibility to

respect and protect human rights and to treat and respect current colleagues with dignity. We firmly believe that only when employees are happy and respected can they grow together with the company. In 2019, there were no incidents related to human rights violations at the Taiwan or Maanshan Plants.

Human rights implementation policy

- ▶ Diversity, inclusion, and equal job opportunities
- ▶ Provide a safe and healthy working environment
- ▶ Attach importance to two-way communication and respect the freedom of assembly and association of employees
- ▶ Assist employees in maintaining physical and mental health and work-life balance



CSRC Human Rights Policy

4-1-1 Personnel Structure

As of the end of 2019, the total number of employees in CSRC's Taiwan and Maanshan plants was 442, all of whom were full-time employees. We had no part-time employees. Due to the characteristics of the industry, both the Taiwan and Maanshan plants are dominated by male employees, with 80% in Taiwan and 74% in Maanshan.

CSRC's total number of employees in 2019

	Taiwan				Maanshan Plant			
	Male		Female		Male		Female	
Employment contract	Permanent	Contract	Permanent	Contract	Permanent	Contract	Permanent	Contract
Type of employment	Full-time	Full-time	Full-time	Full-time	Full-time	Full-time	Full-time	Full-time
Number of personnel	194	2	49	1	145	0	51	0
	196		50		145		51	
	246				196			

Note: According to the type of employment, they are all full-time employees, and there are no part-time employees

CSRC maintains a certain turnover rate in its proportion of new hires and resignations to enhance the competitiveness of the enterprise. Compared with 2018, Taiwan's turnover rate decreased in 2019 due to great amount of investment in attracting and retaining talents. As for Maanshan plant, the organization is rather stable because of more local employees are hired, and all of the employees are permanent employees.

2019 new arrival rate

	Taiwan	Maanshan Plant
Male	23%	11%
Female	7%	4%
<30 years old	9%	6%
31-50 years old	20%	8%
>51 years old	1%	1%

note: new arrival ratio=Number of new employees in the category in 2019 / total number of employees at the end of 2019

2019 turnover rate

	Taiwan	Maanshan Plant
Male	13%	4%
Female	6%	3%
<30 years old	1%	3%
31-50 years old	16%	4%
>51 years old	1%	1%

note: turnover rate=Number of resigned employees in the category in 2019/total number of employees at the end of 2019

Total employees by gender, age group and job title

Taiwan							
Type	< 30 (excluding 30 years old)		30-50 years old		> 50 (excluding 50 years old)		Total
	Male	Female	Male	Female	Male	Female	
Senior supervisor	0	0	0	0	3	1	4
Mid-level supervisor	0	0	13	5	3	1	22
Basic-level supervisor	2	0	18	7	1	0	28
Specialist	13	12	43	20	5	2	95
Direct staff	12	0	62	2	21	0	97
Subtotal	27	12	136	34	33	4	246
Percentage (by gender)	14%	24%	69%	68%	17%	8%	
Percentage (by age)	16%		69%		15%		

Maanshan Plant							
Type	< 30 (excluding 30 years old)		30-50 years old		> 50 (excluding 50 years old)		Total
	Male	Female	Male	Female	Male	Female	
Senior supervisor	0	0	0	1	0	0	1
Mid-level supervisor	0	0	6	0	0	1	7
Basic-level supervisor	0	0	10	3	1	0	14
Specialist	7	3	12	17	3	0	42
Direct staff	15	2	73	24	18	0	132
Subtotal	22	5	101	45	22	1	196
Percentage (by gender)	15%	10%	70%	88%	15%	2%	
Percentage (by age)	14%		74%		12%		

Total employees by education level

Taiwan						
	Ph.D.	Master's degree	Bachelor's degree	College degree	High school and below (inclusive)	Subtotal
Senior supervisor	0	2	1	1	0	4
Mid-level supervisor	3	11	4	4	0	22
Basic-level supervisor	0	14	11	3	0	28
Specialist	3	39	39	6	8	95
Direct staff	0	1	27	36	33	97
Subtotal	6	67	82	50	41	246
Percentage	2%	27%	33%	20%	17%	

Maanshan Plant						
	Ph.D.	Master's degree	Bachelor's degree	College degree	High school and below (inclusive)	Subtotal
Senior supervisor	0	0	1	0	0	1
Mid-level supervisor	0	3	4	0	0	7
Basic-level supervisor	0	0	2	5	7	14
Specialist	0	0	10	27	5	42
Direct staff	0	0	3	33	96	132
Subtotal	0	3	20	65	108	196
Percentage	0%	2%	10%	33%	55%	

Note: Senior supervisors are assistant vice president level and above; mid-level supervisors are manager and deputy manager level; basic-level supervisors are assistant manager and supervisor level; specialists are engineers and specialists; direct staff are operators and analysts

4-2 Talent cultivation ▶

CSRC actively promotes talent cultivation to respond to international development and future operational needs and improve work performance. At the same time, to implement the brand spirit, we plan out five complete training courses for professional functions, core functions, management functions, environmental safety and health, and new personnel training. In 2019, CSRC invested up to NT\$4,393,500 in employee education and training. Compared with NT\$1,725,800 spent in 2018, this marked a twofold increase and clearly demonstrated the importance that CSRC attaches to employee learning and development.

4-2-1 Functional training

Environmental Safety and Health Training

For the environmental safety and health training required by government laws and company policies, we have courses such as carbon emission reporting and verification and emission monitoring plan formulation business training, solid waste regulations and corporate environmental risk management and control, etc.

Management functions training

Training planned according to the management ability and responsibilities of supervisors at all levels, such as interview skills, knowledge of labor regulations for managers, crisis communication workshop, seminar of safety management in production and culture shaping.

Core functions training

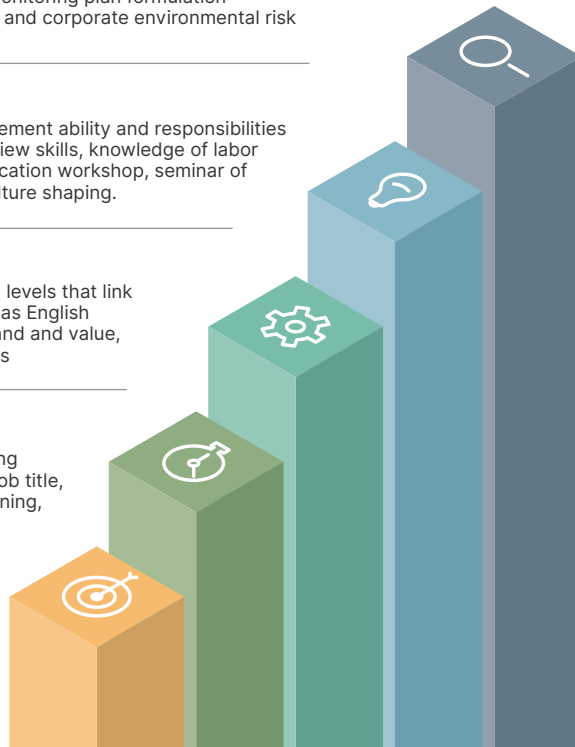
General education training activities at all levels that link the core values of the organization, such as English class, GE campaign, training on CSRC brand and value, sports/health and stress-relieving courses

Professional functions training

The professional knowledge or skill training required by each unit in response to the job title, such as quality professional technical training, IATF16949, VDA6.3 training, etc.

New personnel training

Basic training for new recruits and guidance activities related to employment, including basic knowledge of carbon black, and basic knowledge of safety/ hygiene/environment/fire fighting.



We conduct education and training surveys for employees of all ranks, understand the needs of employees, and provide corresponding training materials and courses. We establish an employee learning map to strengthen and enhance the ability of employees and accumulate their experience. The average hours of education and training for employees in 2019 are as follows:

Average number of training hours per employee in Taiwan and Maanshan plant

Employee category	Gender	Number of employees	Training hours	Average training hours
Senior supervisor	Male	3	88	29.3
	Female	2	92	46.0
Mid-level supervisor	Male	22	944	42.9
	Female	7	204	29.1
Basic-level supervisor	Male	32	1,294.5	40.5
	Female	10	307	30.7
Specialists	Male	83	2,430.5	29.3
	Female	54	1,514	28.0
Direct staff	Male	201	1,823.5	9.1
	Female	28	143.5	5.1
Total		442	8,841	20.0

Average number of training hours per employee

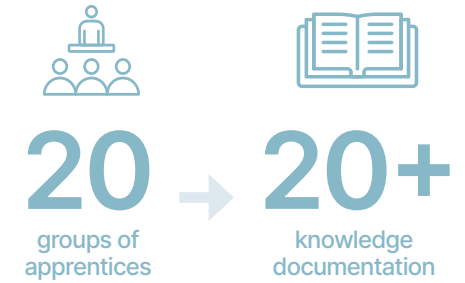
Employee category	Gender	Taiwan		Maanshan Plant	
		Total training hours	Average training hours	Total training hours	Average training hours
Senior supervisor	Male	88.0	29.3	0	0
	Female	68.0	68.0	24	24.0
Mid-level supervisor	Male	688.0	43.0	256	42.7
	Female	180.0	30.0	24	24.0
Basic-level supervisor	Male	666.5	31.7	628	57.1
	Female	183.0	26.1	124	41.3
Specialists	Male	1,900.5	31.2	530	24.1
	Female	1,022.0	30.1	492	24.6
Direct staff	Male	1,073.5	11.3	750	7.1
	Female	67.5	33.8	76	2.9
Total		5,937.0	24.1	2,904	14.8

In addition to offering diversified education and training courses, CSRC also cares about the actual feelings of employees and feedback after class. All internal training initiated by the HR Department and external training courses will conduct a satisfaction survey, with focus on the learning response of curriculum design, lecturer performance, and personal learning benefits. If necessary, training and related homework will be arranged to facilitate the acceptance of learning effectiveness and to enhance the effectiveness of the course. A total of 365 questionnaires were collected for course satisfaction in 2019, and the overall feedback was as high as 9.14 points. (total 10 points)

[Experience Inheritance and Knowledge Building Project]

In addition to the above five training courses, CSRC deeply understands the importance of employee internal communication. Therefore, the "Experience Inheritance and Knowledge Building Project" was designed in 2019. Based on the experience and inheritance of senior employees, a mentoring approach was taken to establish relevant experience and knowledge through a standard process and documentation. This transformed knowledge and experience accumulated over the years into important teaching materials within the Company. In addition to continuously optimizing the work process, this initiative can also effectively improve work efficiency and effectiveness.

Performance of benefits



[Rehiring senior staff as consultants]

In addition, we also hired 2 retired senior employees as consultants at Maanshan Plant. One of them serves as a workshop consultant. With his rich experience in project implementation, he gives technical guidance to engineering technicians, especially for the maintenance of key machinery and equipment as well as on-site supervision and construction of outsourcing work. The second one returned to the quality system manager of the R&D department, based on her years of deep expertise and experience in carbon black plant management and process management. She established and strengthened the ISO quality system and external audit of each plant for CSRC.

[Global Elite Program]

As CSRC is expanding our footprints in overseas territory, we actively cultivate global management talent through the "Global Elite Program." This allows us to discover high-potential individuals with mobility and a pioneering spirit in the market, and provides global elites with a deep understanding of organizational culture under the guidance and leadership of their mentors. Actual expatriate experience is also arranged so that trainees can participate in various projects in depth and develop and upgrade the skills required by the workplace.

竭盡所能 探索未來

全球菁英計畫 (GLOBAL ELITE PROGRAM)

中輪集團擬定持續擴展，藉由全球菁英計畫，期望能發掘具有移動性 (mobility)、開創性 (pioneering) 潛力人才，經完整的培訓輪訓後，發揚驅動全球華商之力量

特異要求：積極、熱情；抗壓性高；喜歡挑戰新事物且具海外意願者

計畫特色	各組條件
實施 (培訓輪訓) 海外培訓與實習共計12個月，搭配海外外派地點 調一輪收並回國就業	工程師 大學以上，工作經驗3年內；機械、機電、電機等相關 系序之佳；TOEIC 650以上
專業 (專業方向) 適合工程師、或以專科升外派「印度」或其他國家 精熟英語與管理	業務組 大學以上，工作經驗3年內；化學、化工、材料、環工等 相關系序之佳；TOEIC 650以上
儲備 (儲備條件) 前年評核有獲高年級資格，或訓練成功外派者 將有優待	高階管理組 碩士以上，2 - 4 年副總裁會計相關工作經驗之佳； TOEIC 850以上

應徵投遞：
請入中華集團官網>人力資源>大綱尋求，下載2023CSRC_GE專員簡章
填寫完成，請寄至集團人力資源部hr.recruit@csrcgroup.com
註明應徵何組別姓名

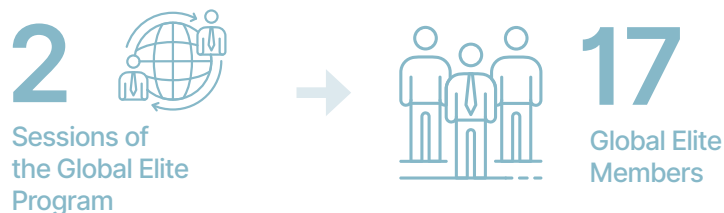
※ 詳細辦法，亦可透過中輪集團官網查詢，或親臨洽詢我們的一起探索未來！



A total of 17 Global Elites have been trained of two sessions as of 2019. 7 of them have become overseas supervisors of CSRC based in Taiwan, China, India, and elsewhere as they manage the operations and production of overseas factories.



Performance of benefits



Global Elite (GE) Program Testimonial

I joined CSRC's GE Program in 2018. Its solid rotation training and periodic evaluations helped me quickly accumulate industry knowledge and develop problem-solving skills from projects. After successfully completing the program, I was sent to India where I am mainly responsible for business and market development. The experiences and opportunities that I learned from different business cultures, actual operations, and the challenge of COVID-19 is quite valuable and precious.



Frank Chuang, 1st Session GE Program Participant
Currently a sales supervisor at CSRC India Plant

4-3 Salary and benefits ▶

CSRC provides employees with comprehensive salary benefits. It makes reference to industry salary standards and individual expertise in performance evaluation through regular external salary market surveys every year, accounting for competitive salaries in the market to ensure that colleagues' salaries have a certain degree of advantage over external markets. For key positions we also design salary packages that are better than market conditions and we cultivate excellent talent to serve as an aid to the continued growth of CSRC's operations. In addition to a fixed salary, CSRC also provides qualified peer performance awards and bonuses. Since 2017, a diversified performance bonus system has been established that effectively links the company's operating results, the performance of each factory, and individual performance in order to improve team morale, increase productivity in the organization, and ensure that the overall rewards are more competitive, thereby attracting outstanding talent to join our firm.

In accordance with Article 4 of the Taiwan Stock Exchange Corporation Rules Governing the Preparation and Filing of Corporate Social Responsibility Reports by TWSE Listed Companies, the following table discloses the number of full-time employees who are not in supervisory positions, and their average and median salaries.

Number of full-time employees not in supervisory positions and corresponding salary information

Item	2019	2018	Difference
Number of full-time employees not in supervisory positions	803	589	214
Total salary of full-time employees not in supervisory positions (NT\$ thousand)	484,752	415,571	69,181
"Average salary" of full-time employees not in supervisory positions (NT\$ thousand)	603	706	-103
"Median salary" of full-time employees not in supervisory positions (NT\$ thousand)	479	528	-49

Note:

- The number of employees and salary information above was declared in accordance with regulations of internal management information and Taiwan Stock Exchange Corporation.
- The average salary of full-time employees not in supervisory positions in 2019 was lower than 2018, and this was mainly because that the material subsidiary added in 2019 was in electronic manufacturing and the employees at production line accounted for 70% of total employees.
- Full-time employees who are not in supervisory positions in 2019 are employees who are not managers defined by the official letter Taiwan Caizheng Sanzi No. 920001301 and whose working hours have reached the normal working hours stipulated by the Company

4-3-1 Performance Appraisal

CSRC's annual performance appraisal work mainly targets colleagues who are currently under appraisal and who have been on duty for three months. Colleagues who have been employed for less than three months will be evaluated based on the standards of newcomers, in consideration of the fact that organizational fit and individual results are still forthcoming. In 2019, there were 216 employees in Taiwan and 187 in Maanshan Plant who fell within annual performance appraisal operations. Both plants completed 100% of their assessments.

In addition, we introduced an online performance management platform in 2019 so as to enable colleagues to respond to performance more quickly and conveniently. In addition to being able to fully record the performance achievements and evaluation history of colleagues over the years, the platform can also connect goals and results between supervisors and colleagues. Faced with changes in the external environment, the direction of the goal setting can also be adjusted in real time. The introduction of the online platform has successfully allowed all colleagues who meet the annual performance appraisal qualifications to complete the 2019 online appraisal tasks, implementing management by objectives using real-time and reasonable performance tracking.

Employees qualified for regular performance appraisal by region and number in 2019

	Number of employees	Actual number completing the assessment	Assessment ratio
Taiwan	216	216	100%
Maanshan Plant	187	187	100%



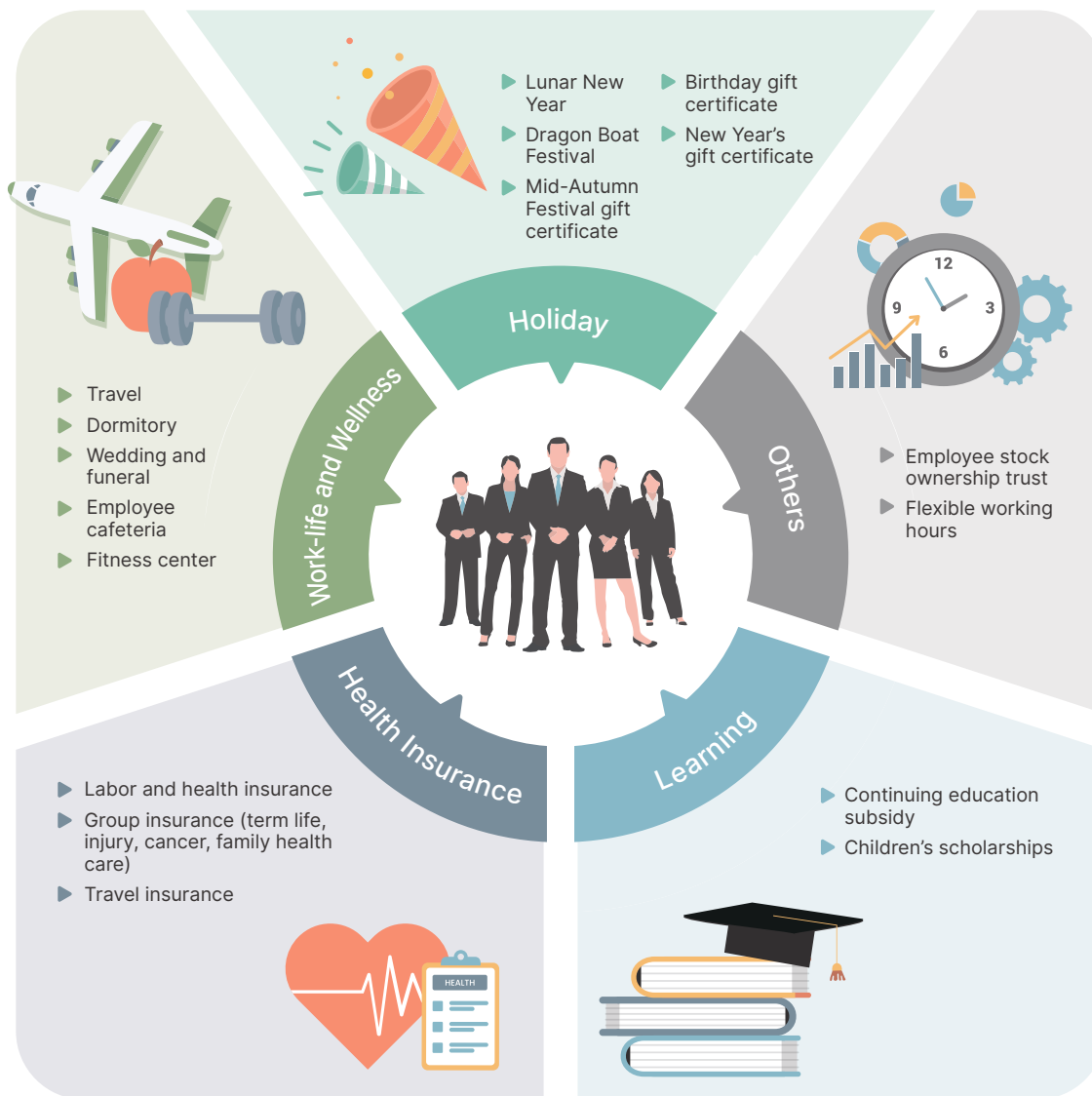
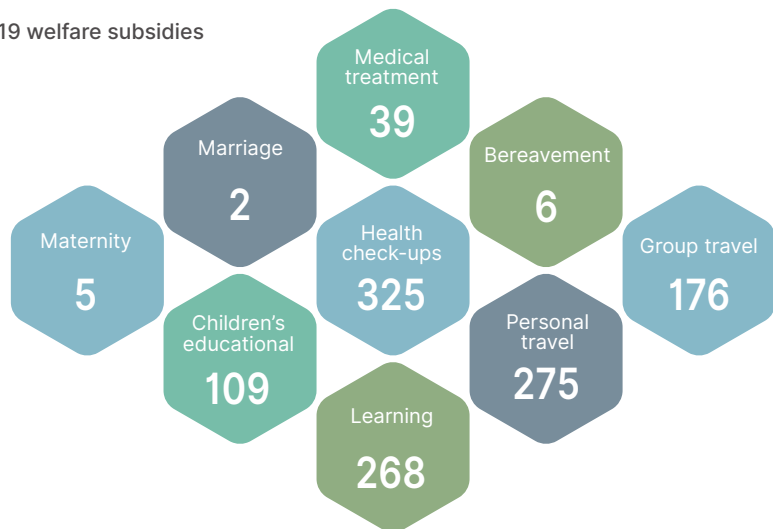
4-3-2 Employee Benefits

In addition to providing a caring and comfortable working environment, we also care about the lives of our employees as we adhere to a "people-oriented" ideal. With the support and encouragement of the Company, we plan various subsidies or welfare measures for festivals, life events, health insurance, and learning, so as to achieve a balanced life that promotes work, study, and leisure. In addition, we created Employee Stock Ownership Trust Program in 2019 where colleagues can choose to withdraw a certain amount from their wages every month and the Company will withdraw the same amount as a reward for participants, jointly sharing the benefits of the Company's wealth creation. At the same time, this also forms a part of employees' retirement plans.

We regularly provide employee health check-ups every year to help colleagues monitor their health conditions. Taking into account the balance of economic status, personal development, and physical and mental health management, we provide colleagues with continuous and multi-faceted support with annual health check programs better than government regulations, thereby taking full care of our employees' health.

The Company also provides annual leaves program that is better than Labor Standards Act; a pro rata of 7 days or above of employee's is provided for their first year. 5 consecutive days of vacation is also encouraged to promote work-life balance. Aside from that, we also provide sick leaves with full pay and flexible working hours, and employees can choose their clock-in and clock-out time according to person needs.

2019 welfare subsidies



4-3-3 Comfortable and considerate working environment



CSRC attaches great importance to employee food hygiene issues. There is a staff cafeteria that emphasizes the use of seasonal ingredients, cooking with less oil and less salt to provide employees with healthy meals. At the same time, safe fitness equipment is installed in the basement to keep colleagues healthy, strengthening the body through exercise.



The Company provides a fitness room (including a treadmill, all kinds of health facilities and equipment, and weight equipment) as well as a sports area (encompassing a yoga space, shooting machine, and pool table). With this high-quality exercise space, exercise equipment, and various exercise courses, we hire fitness coaches to encourage colleagues to sign up. Under the guidance of professional fitness coaches, not only can the goal of exercise be effectively achieved, but also the basic elements of exercise can be learned so that employees can exercise happily and correctly.



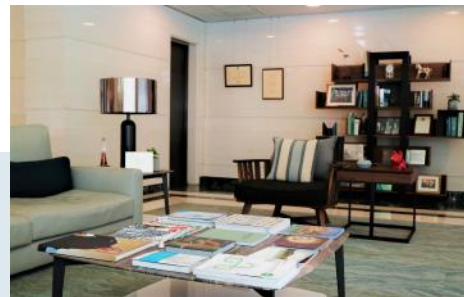
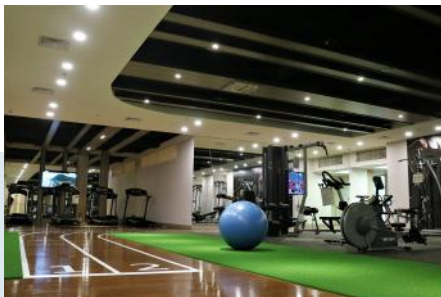
The Relief Massage Room is set up to hire free professional massage masters to help employees relieve stress.



We have formulated the Administrative Measures for Nursing Rooms to be sympathetic to the hard work of female colleagues who must take care of family and the workplace. Breast-feeding rooms are set up in various places in the Company to provide employees with breastfeeding needs to fully protect maternal employment and family care.



The Company plans a space for colleagues to rest in each workplace, so that they can maintain their optimal energy while working.





4-3-4 Volunteer System

CSRC provides employees with two days of volunteer leaves per year to encourage participation in social welfare services and the service outside of work. By doing so, we aspire to implement the spirit of service and of devotion of giving back to society.



4-3-5 Marriage, maternity, and bereavement care

CSRC cares for all employees and in case of marriage, childbirth, or the death of relatives, the Company presents a gift or ceremonial offering to accompany and support colleagues through all their important stages of life. In addition, in response to the government's policy of unpaid parental leave, colleagues can follow the Act of Gender Equality in Employment and the Regulations for Implementing Unpaid Parental Leave for Raising Children to submit an application to the Company for childcare leave without pay. An employee can also apply for extension of stay and reinstatement in advance according to personal needs.

Parental leave				
Item	Taiwan		Maanshan Plant	
	Male	Female	Male	Female
Number of employees entitled to parental leave in 2019 (A)	15	4	5	0
Number of actual uses of parental leave in 2019 (B)	0	0	5	0
Number of employees entitled to be reinstated after taking parental leave in 2019 (C)	0	0	5	0
Actual number of employees reinstated in 2019 after taking parental leave in 2019 (D)	0	0	5	0
Number of employees reinstated in 2018 after taking parental leave in 2018 (E)	0	0	0	1
Number of employees who took parental leave in 2018 and were still working 12 months after reinstatement (F)	0	0	0	1
Reinstatement rate (D/C)	0	0	100%	0
Retention rate (F/E)	0	0	0	100%

4-3-6 Employee Communication Channels

In addition to providing a comfortable working environment, we also encourage colleagues to take care of family life. We provide multiple internal communication channels to maintain the balance between physical and mental health and work enthusiasm, and actively maintaining a good relationship between labor and management. In addition to regular labor-management meetings, we facilitate trade union communication and coordination, company internal website message announcements, electronic newsletters, other interim meetings, and so on. After the training of new employees in factory affairs in 2019, we arranged seminars between factory directors and new employees to understand and listen to their voices and opinions. As of the end of 2019, no employees had filed any complaints or opinions.

Employee communication

If you have any suggestions or complaints concerning labor rights, benefits, etc., please feel free to contact at csrc_hr@csrcgroup.com or mailbox at each plant to express your opinions.



Labor-Management Relations

CSRC attaches great importance to positive employee relations, so it actively establishes multiple two-way communication channels. In accordance with the Labor Standards Act and the Convocation Rules of the Labor-Management Conference, labor-management conferences shall be held regularly at least once every quarter. Through two-way discussions at the meeting we establish a harmonious working environment for labor and the management. The trade union was also established at Linyuan Plant, and the percentage of employees participated was 78%. There was 0 caes of complaints or labor dispute in 2019.

4-3-7 Employee Satisfaction Survey

CSRC places great emphasis on the ideas of its employees. In addition to smooth communication at regular labor-management meetings, we also conducted an employee satisfaction survey at Maanshan Plant in 2019. After comprehensive evaluation by 165 employees, the satisfaction feedback score was 91 points. It expected to implement satisfaction surveys in 2020 in Taiwan for both new and resigned employees. We look forward to listening to the voices and suggestions of employees through actual feedback, so we can make adjustments and improvements according to their needs.



Performance of benefits



165
employees



91
points in satisfaction

4-4 Occupational safety and health ▶

4-4-1 Safety and health policies

CSRC is strongly focused on the safety and health of all employees in the operating environment, taking good occupational safety education and accident prevention as the highest guiding principles. In 2019, we established a EHS Center that is responsible for coordinating safety and health regulations and strategy formulation for the Carbon Black Business as well as monitoring and managing the environmental safety performance of each operating unit under it. In addition to the EHS Center, all operating offices in Taiwan have also set up safety and health committees and the director of each factory serves as its chairperson. There are 22 individuals on the safety and health committee of Linyuan Plant, of whom 13 are worker representatives. In addition, the occupational safety and health committee is held every three months in accordance with the law, and the proportion of labor participants is over one-third. Maanshan Plant has not yet set up a safety and health committee because it is not required to do so by laws and regulations in Mainland China. However, environmental safety projects are still managed in accordance with Safety and Environment Center policies.

CSRC Safety and Health Policies and Concepts



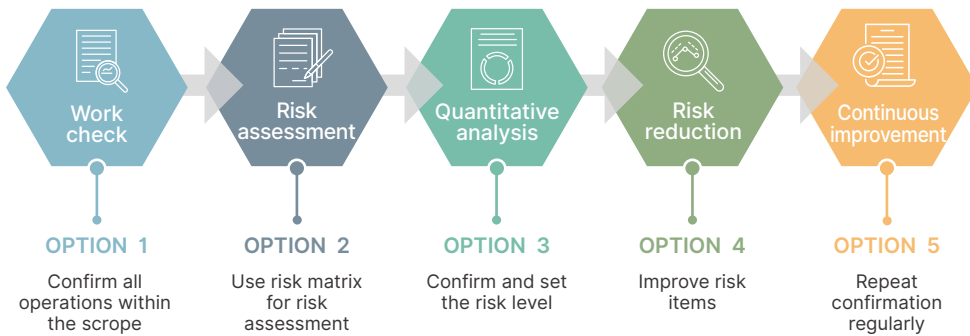
Safety and health management system

The safety and health management system architecture of CSRC is in accordance with OHSAS18001 and TOSHMS standards. At present, Linyuan Plant has passed the certification. The scope of workers covered by the system specification includes 191 internal full-time employees, 2 temporary employees, 2 external security personnel, and 43 contractors at Linyuan Plant. As for Maanshan Plant, there are 196 full-time employees, 12 temporary employees, 12 external security personnel, 12 cleaning staff, and 30 contractors. All personnel in the factory are covered by the management system. There are a total of 500 people in the two factories, and the ratio is 100%. Introduction of ISO45001 certification is planned for the future.



4-4-2 Occupational Safety Risk Management

Risk management process



Hazard identification and risk assessment

We formulate routine and non-routine occupational hazard identification and risk assessment procedures based on the safety and health management system, identifying potential hazards and safety and health risks in each plant area and clarifying management strategies through hierarchical control. Linyuan Plant considers the frequency, occurrence probability, possibility, and consequence score of an operation. After evaluation and calculation, the risks are divided into Levels 1 through 5, from greatest to smallest. A Level 1 risk is the most significant and unacceptable situation, and one which needs to be strictly controlled. Maanshan Plant also considers the possibility of risk and the consequences of an accident, dividing the risk from smallest to largest in three levels: none, blue, and yellow. The following are the main risk items identified in the two factories:

Risk Projects and Countermeasures of Linyuan Plant

Risk item	Risk content description	Countermeasures
Fire explosion	Improper device inspection and ignition of gas cylinders during hot cutting operations causing fire and explosion	Work in accordance with operating standard procedures, and emergency response training every six months
	Welding/cutting ignites surroundings or pipeline oil/gas, causing fire and explosion	
	Gas welding pipeline or device harmful air leakage causing fire	
Hypoxia poisoning	Personnel were injured or killed by touching or inhaling toxic gas and dust	Work in accordance with operating standard procedures, wear personal protective equipment, and strengthen safety monitoring measures
	Personnel entering a confined space with insufficient oxygen causing injury or death	
Induction	Electric shock caused by broken handle or wire during arc welding	Wear personal protective equipment, undergo annual safety and health education and training, and work in accordance with standard operating procedures
	Electric shock caused by accidentally touching the power supply during welding device inspection or wiring	
	Electric shock caused by damp environment or equipment	

Risk items and countermeasures of Maanshan Plant

Risk item	Risk content description	Countermeasures
Hazardous material leakage	Poor combustion of exhaust gas furnace and carbon monoxide leakage	The wet processing area is to be managed by a dedicated person and inspected regularly. Formulate safe operation procedures for operation, maintenance and repair, and management system for preventing carbon monoxide poisoning, and strictly enforce these measures
	Steam pipe rupture, exhaust pipe system leakage	The boiler room is to have a dedicated person responsible for management and regular inspections
Fire	Oil mixing and stringing occur; incomplete pipelines can easily cause oil leakage that lead to a fire incident	Formulate safety operation procedures for equipment in oil pump room. Employees must operate strictly in accordance with safety operating procedures. No smoking on site
	Incomplete pipelines and valves can easily cause oil leakage, causing environmental pollution or fire incidents	Field installations are to be equipped with toxic gas detection devices and video surveillance

Hazardous Chemical Management

The production process of the chemical industry often uses toxic chemicals that may be harmful to humans. In order to protect the health of employees and prevent the occurrence of industrial safety accidents, each factory area complies with laws and regulations to formulate chemical management guidelines to reduce occupational safety risks caused by hazardous chemicals. Linyuan Plant adheres to Article 10 of the Occupational Safety and Health Act and Article 17 of the Hazardous Chemical Labeling and General Knowledge Rules in making its safety and environment office responsible for formulating a Hazard Communication Plan and updating it in due course. Meanwhile, Maanshan plant has established its Chemical Management Measures in accordance with laws and regulations. Their purpose is to ensure that the workplace can meet the occupational safety requirements, strengthening all employees' awareness of the potential hazards of hazardous chemicals and jointly preventing the occurrence of such hazards.

Linyuan Plant Hazard Communication Plan

Items to be managed	Implementation content
Hazardous chemical inventory management	<ul style="list-style-type: none"> Make a list of hazardous chemicals and master the use and storage information of each hazardous chemical
Safety Data Sheet management	<ul style="list-style-type: none"> Compile a safety data sheet to help employees understand the characteristics and potential dangers of hazardous chemicals. Relevant units should place safety data sheets in the workplace where they are easily accessible
Hazardous chemical labeling	<ul style="list-style-type: none"> Relevant units should confirm that all hazardous chemicals within their jurisdiction have appropriate labels. The label should display the hazard diagram, name, hazardous ingredients, warning language, hazard warning messages, and hazard prevention measures, as well as the manufacturer (supplier) name, address, and phone
Priority management of chemicals	<ul style="list-style-type: none"> Identify relatively hazardous chemicals for priority management, and handle regular updates and declarations from April to September each year
Management of precursor chemicals	<ul style="list-style-type: none"> Industrial raw materials of precursor chemicals refer to raw materials that can be used to manufacture drugs. Therefore, an online declaration is required in January, April, July, and October each year, and all declaration records should be kept for three years
Management of dangerous factory materials	<ul style="list-style-type: none"> Due to the characteristics of the industry, the Plant uses dangerous substances above their controlled amounts. Therefore, they regularly reported to the competent authorities in January and July of each year
Hazardous chemicals assessment and hierarchical management	<ul style="list-style-type: none"> We use the website approved by the competent authority for evaluation and hierarchical management of hazardous chemicals in our Plant. Its records are regularly reassessed every three years and retained
Hazard general education training	<ul style="list-style-type: none"> Colleagues in the Plant (site) who manufacture, dispose of or use hazardous chemicals should be provided with relevant safety and health education and training according to the nature of the job (in addition to three hours of on-the-job training every three years). The above-mentioned education and training are sponsored by the Safety and Environmental Protection Office, with the cooperation of all units, and records should be kept for three years.
Information management of types of chemicals in factories and warehouses and quantity configuration	<ul style="list-style-type: none"> Manage information on the types and quantity of stored chemicals in order to make disaster relief decisions and ensure the safety of disaster relief personnel.

Maanshan Plant chemical management measures

Items to be managed	Implementation content
Purchase management	<ul style="list-style-type: none"> For chemicals purchased and brought into the factory, a safety data sheet should be obtained from the supplier (SDS) and safety labels placed on their storage containers
Use management	<ul style="list-style-type: none"> Gas leak detectors should be installed in places where combustible gas (LNG) is used. The detector should be tested regularly as required to ensure normal function, and records should be available for checking The unit that is using chemicals shall determine the individuals who will be using or be working in contact with the chemicals (e.g., through transportation/handling) and provide notification of chemical hazards as well as personal safety protection wearing requirements and work safety SOP education and training specifications Operational personnel who will come into contact with chemicals (such as through transportation/handling) must wear personal safety protection equipment throughout the period of operations Personal safety protection equipment, showers, and eye wash facilities are installed in chemical sites. The appearance and functionality of the hydrants/fire extinguishers are normal, and inspections are performed in accordance with the specified items and frequency, and there are inspection records to check Units using chemicals (such as laboratories, production units, etc.) should establish a chemical management list to record the storage location of each chemical, storage capacity, storage methods, etc. The unit that is using chemicals must formulate an emergency response plan for abnormal handling and schedule a planned drill and have drill records to check
Storage safety	<ul style="list-style-type: none"> Chemicals are not allowed to be stored in the open air, and should be stored in an indoor environment and in a designated location with an exhaust ventilation system Placement is required for chemical hazard signs in chemical storage containers, fire extinguishers set within 2 meters, and material safety data sheets (SDS) Access control is implemented in the chemical storage place, and non-related personnel are not allowed to enter and leave the place at will

Sprinkler system

In addition to reducing the risk of leakage through chemical management, each plant shall establish necessary sprinkler systems according to different process stages and material status as well as using machines to detect temperature and implementing cooling measures in a timely manner. These measures should be taken to effectively reduce high temperatures and prevent fires, and ensure stable and safe plant operations. At the same time, dust emissions in the factory must be reduced.



4-4-3 Management Objectives and Performance

In order to implement occupational safety policies, we set various safety and health management goals every year based on annual goals and follow the safety and health management system to promote continuous improvements in operations. This is done to achieve the goals of reducing hazardous factors that endanger safety and health, preventing accidents, and promoting the safety and health of employees.

	Key result areas (KRA)	Annual work goals	Performance
Industrial safety and environmental protection	Disability injuries (times)	0 times throughout the year	0 times throughout the year
	Employees who violated the work safety discipline and underwent probation (number)	Less than or equal to 2 individuals/department	0 times throughout the year
	Number of violations of work safety discipline by employees/contractors	From the third quarter onwards, reduced by 10% every quarter	1. The number of violations by employees throughout the year is 0 2. There are 12 contractor warnings and 58 fines for the whole year
	False alarms	Less than 2 incidents per year per department (production units) Less than 0 incidents per year per department (non-production units)	1. 0 incidents for the whole year (production units) 2. 0 incidents for the whole year (non-production units)
	Work safety improvement rate (completed/total number of proposals)	Above 50%	Linyuan Plant: Two improvements of the management plan were completed, with an improvement rate of 50%
	On-site 6S - sorted, tidy	Implementation by various departments	All departments implemented in accordance with regulations
Education and training	Training after revision of standard operating procedures	Implementation by various departments	All departments in compliance with regulations
	Work safety theme training (advocacy) and quiz	Training at least 3 times a year	Linyuan Plant: 12 times throughout the year Maanshan Plant: 44 times throughout the year
	Emergency drill	At least 2 times a year (Per class)	2 times throughout the year (one for each half of the year)
	Fire training (Including facility use)	Training at least 1 times a year	Linyuan Plant: 2 times throughout the year (one for each half of the year) Maanshan Plant: 1 time throughout the year
	Contractor industrial safety theme training (advocacy) and tests	3 times a year (pre-repair education and training)	3 times throughout the year
	Emergency response training for storage and transportation contract operations	Training at least 2 times a year	2 times throughout the year
	Loading operation training for storage and transportation contractors	Training at least 2 times a year	2 times throughout the year
		All departments to implement security inspections in accordance with the "Safety and Health Reward and Punishment Management Measures"	100% execution rate
System	Establish CNS 15506 procedure book/work manual	All departments to implement security inspections in accordance with the "Safety and Health Reward and Punishment Management Measures"	100% execution rate

Note: Implementation results are the sum of the data of Linyuan Plant and Maanshan Plant

4-4-4 Safety and health education and training

All new employees of CSRC are required to take 5 hours of training of "Safety and Health Education and Training for New Employees" and must pass a test. Existing employees also regularly organize employee safety and health education training and simulation drills every year. Regarding the related work environment, equipment, and hazardous substance management education and training, the training implemented by Linyuan Plant in 2019 includes hazard general education, safety and health education for in-service personnel, security and health professional license personnel retraining, safety education and training, emergency response, respiratory protection and prevention of dust hazards, firefighting foam system, hearing protection and other education training. A total of 208.5 hours of occupational safety education were conducted.

Maanshan plant also regularly conducts occupational safety information sharing and safety training in supervisor meetings every Tuesday. Safety training and advocacy courses are also offered quarterly, including examples of industrial safety incidents in the industry, and safety advocacy for equipment use. This aims to enhance employees' safety awareness to ensure their safety and health, while strengthening equipment operation management, personnel training, inspection and maintenance work and improving the dust collection system to ensure the normal operation of all environmental protection equipment.

Occupational safety training at Linyuan Plant



Hearing protection lecture



Lecture on respiratory protection and dust hazard prevention



Firefighting foam system education and training



Emergency ambulance course

Occupational Safety Training at Maanshan Plant



Self-contained air breather lecture



Use of fire extinguisher training

4-4-5 Employee Health Care

Occupation related health services

CSRC provides employee health and safety services, and does its utmost to improve employee health care. We will continue to use the PDCA mechanism to introduce relevant safety and health mechanisms, and implement, track and improve related procedures. In addition to setting up first aid facilities in the operation plant area, Linyuan Plant received a good response from the health care activities provided by the government's Southern District Labor Health Service Center in 2018. Therefore, an external medical team has been hired to enter the factory 2-3 times a week to provide interim health care to improve the health protection of employees while working in their areas of practice. At the same time, the plan is like a special physical examination for new employees and NMQ Nordic questionnaire survey, as well as occupation-related special health inspections. The target is colleagues who work in environments that are particularly hazardous to health. (This includes those featuring high temperatures, noise, ionizing radiation, abnormal air pressure, lead, tetraalkyl lead, dust, organic solvents, specific chemical substances, yellow phosphorus, and other operating environments that are particularly hazardous to health.)

Maanshan plant also implements special health checks every year according to occupational characteristics. The inspection rates were 97.2% for dust, 97.14% for noise, and 100% for xylene. This should gradually strengthen occupational health management and services for colleagues. In addition, the company also pays great attention to personal privacy and security, and does not track the content of discussions with medical staff to protect the rights and interests of employees.

Non-occupational health promotion benefits

Aside from professional health services, the Company also provides all employees personal health checks at partner hospitals every year. In addition to the personal health check services for employees before and on duty, Maanshan Plant also provides personal health checks upon resignation so as to help workers get the most complete health care. After the inspection report of Linyuan Plant is released, the hospital will also provide temporary health consultation services for colleagues whose inspection items are abnormal. In addition, we have also signed a contract with the health check hospital to hold health seminars and doctor's health check consultations every quarter. Furthermore, we regularly provide information about mental health promotion so that colleagues are well taken care of in terms of both physical and mental health.



Health information promotion and consultation service

4-4-6 Occupational injury management

No occupational injuries or deaths occurred at CSRC in 2019.

Work injuries in 2019 (Linyuan Plant)

By employment	Death toll	Number of serious injuries	General occupational injuries	Total working hours	Death rate	Serious occupational injury rate	General occupational injury rate	Occupational disease rate	Lost days rate	Absence rate
Full-time employees	0	0	0	410,513	0	0	0	0	0	0
Part-time employees	0	0	0	3,984	0	0	0	0	0	0
Security	0	0	0	8,640	0	0	0	0	0	0
Contractor	0	0	0	85,656	0	0	0	0	0	0

By gender	Death toll	Number of serious injuries	General occupational injuries	Total working hours	Death rate	Serious occupational injury rate	General occupational injury rate	Occupational disease rate	Lost days rate	Absence rate
Male	0	0	0	353,585	0	0	0	0	0	0
Female	0	0	0	45,276	0	0	0	0	0	0

Notes:

- No occupational injuries occurred in 2019
- Data calculation is mainly based on the monthly report of occupational incident statistics
- The ratio of deaths caused by occupational injuries = the number of deaths caused by occupational injuries x [1,000,000 million working hours] / total working hours
- Severe occupational injury rate (excluding deaths) = Number of serious occupational injuries (Excluding deaths) x [1,000,000 million working hours] / total working hours
- Recordable general occupational injury rate = recordable general occupational injury number x [1,000,000 million working hours] / total working hours
- Occupational disease rate is the frequency of occupational diseases relative to the total working hours of all workers
- Lost days rate (LDR) = number of days lost due to work injury x [1,000,000 million working hours] / total working hours
- Absenteeism rate = Absent hours (hours of occupational sickness leave, personal leave, sick leave or other leave for which pay is deducted) / Total working hours*100%

Work injuries in 2019 (Maanshan Plant)

By employment	Death toll	Number of serious injuries	General occupational injuries	Total working hours	Death rate	Serious occupational injury rate	General occupational injury rate	Occupational disease rate	Lost days rate	Absence rate
Full-time employees	0	0	0	393,568	0	0	0	0	0	0
Part-time employees	0	0	0	24,096	0	0	0	0	0	0
Service staff	0	0	0	0	0	0	0	0	0	0
Security	0	0	0	24,096	0	0	0	0	0	0
Cleaning staff	0	0	0	24,096	0	0	0	0	0	0
Contractor	0	0	0	60,240	0	0	0	0	0	0

By gender	Death toll	Number of serious injuries	General occupational injuries	Total working hours	Death rate	Serious occupational injury rate	General occupational injury rate	Occupational disease rate	Lost days rate	Absence rate
Male	0	0	0	428,752	0	0	0	0	0	0
Female	0	0	0	103,632	0	0	0	0	0	0

Notes:

- No occupational injuries occurred in 2019
- Data calculation is mainly based on the monthly report of occupational incident statistics
- The ratio of deaths caused by occupational injuries = the number of deaths caused by occupational injuries x [1,000,000 million working hours] / total working hours
- Severe occupational injury rate (excluding deaths) = Number of serious occupational injuries (Excluding deaths) x [1,000,000 million working hours] / total working hours
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- Absenteeism rate = Absent hours (hours of occupational sickness leave, personal leave, sick leave or other leave for which pay is deducted) / Total working hours*100%

Occupational disease recognition

With the development of the times, hazards not only exist in industry; workers in all occupations may be exposed to hazards in the workplace. The problems they face are not only hygienic but also in terms of health. The Company's people-oriented spirit and emphasis on occupational hygiene are issues of great importance to CSRC.

Among existing hazards, Linyuan Plant has identified two special hazard operations; namely, dust and noise. To control the existing special hazard operations, for example; engineering control, one session of noise hazard education and training, one session of dust operation hazard and one session of respiratory protection education and training; or reduce the exposure time and other related risk control measures. In terms of personnel, it is not only limited to the control of the job site. It also conducts general and special health checks every year superior to the regulations, so as to ensure that employees can work at the Linyuan Plant with peace of mind. In 2019, according to the statistics of special health checks for dust and noise, 0 people exceeded level 2 in the health classification.

However, in recent years, emerging occupational injuries have risen. Linyuan Plant also pays attention to issues such as human factors, mental health, and social hazards. Linyuan Plant has established and implemented plans for the prevention of musculoskeletal injuries, prevention of diseases caused by abnormal workloads, prevention of illegal infringements in performing duties, and maternal health protection. In 2019, masseurs were hired every Thursday to relieve tight muscles in order to enable employees to eliminate work hardships. In October, a seminar was held on the "three highs" (blood high pressure, high blood sugar, and high cholesterol) as well as physical fitness. In November,

a stress-relieving activity for the cultivation of succulents was held, and a nursing room was set up for the maternity protection of female employees, so that female employees can be all they can be without any worries.

In order to provide employees with the most important health services and prevent occupational injuries caused by occupational diseases, Maanshan Plant complies with the local occupational disease prevention and control laws. From the 10 categories and 115 occupational diseases defined in the code, it has identified occupational diseases with potential risks in the current Maanshan Plant operations. These include pneumoconiosis, occupational ENT diseases, physical factor occupational diseases, occupational skin diseases, and five types of occupational eye diseases. In 2019, the number of deaths of all employees and non-employees according to these 5 types of statistics was 0. No cases of occupational diseases have occurred. We hope that relevant measures can be more refined in the future in line with international standards, and that we can learn from the past as we protect employees from irreversible occupational injuries.



4-4-7 Management of Emergencies

Emergency Management Measures

CSRC attaches great importance to the handling and immediate notification procedures of industrial safety accidents. It actively eliminates potential hazards in the workplace through its "Hazard Identification and Environmental Safety and Health Inspection Mechanism." The factory area usually strengthens automatic inspections, and initiates abnormal notification and emergency response procedures when any accident or abnormal event occurs. Employees need to leave the work position as quickly as possible to report to ensure that the severity of the accident is minimized as soon as possible. Afterwards, it must be controlled according to the severity of the accident, strictly investigate and issue a review report, and include the results as a reference for the annual review and improvement of the occupational safety system to achieve the goal of creating a healthy and safe working environment for employees.

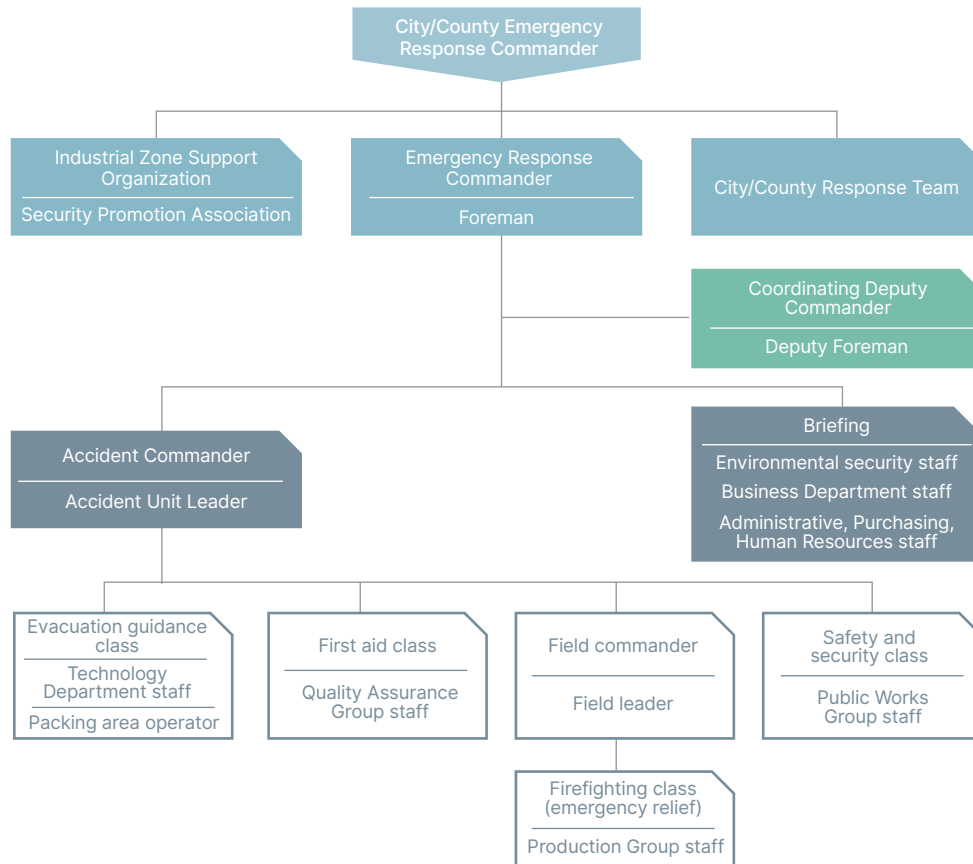
Hierarchical control

Accident classification	Level 1	Level 2	Level 3 (expanding incident outside the factory)				
Description	For a small amount of harmful or polluting substances leaks in the factory, small fires, or personal injuries that the on-site personnel in the jurisdiction can handle it by themselves	For a large amount of harmful or polluting substances leaking in the factory, medium-sized fires, or personal injuries that can be dealt with by seeking the personnel of other units or jurisdictions in the factory, and do not need to seek the support of units outside the factory.	For when a large number of harmful or polluting substances are leaked or there are large-scale fires, and they may spread to neighboring factories or homes, and assistance from outside units for rescue must be sought.				
Head of site command	Foreman on duty	Head of accident unit	<table border="1"> <tr> <td>Inside the factory</td> <td>Plant manager</td> </tr> <tr> <td>Outside the factory</td> <td>Kaohsiung Disaster Relief and Rescue Command Center</td> </tr> </table>	Inside the factory	Plant manager	Outside the factory	Kaohsiung Disaster Relief and Rescue Command Center
Inside the factory	Plant manager						
Outside the factory	Kaohsiung Disaster Relief and Rescue Command Center						
Response command center	Control room	Accident unit office	Plant manager's office				

Emergency Response Plan Operation Process

When an emergency occurs, the foreman of the jurisdiction is notified first, and the foreman decides whether to set up a response organization and enters a Level 1 accident response. If the situation cannot be controlled, it will be upgraded to Level 2. At this time, it will be commanded by the designated class and give notification to support units such as the fire brigade. When the situation is upgraded to Level 3 and represents that it will spread its effects outside of the plant, a complete emergency response plan organization will be activated for immediate management, and relevant units inside and outside the plant will work together to deal with the crisis.

System diagram of plant emergency response



Fire safety training

In response to potential crises in the plant, Maanshan Plant organizes "Unit Fire Safety Knowledge Training" every year to ensure the implementation of fire protection concepts. At Linyuan Plant, "Self-Defense Firefighting Group Training" is organized to prepare the firefighting team in the plant. Meanwhile, the external fire brigade conducts regular training and obtains fire protection certification. In 2019, a self-defense firefighting drill was held with a total of 40 participants. It was divided into a notification team, firefighting team, evacuation team, ambulance team and safety protection team to perform relevant drills to simulate a plant fire.

Actual self-defense fire drill training in 2019



Notification team: Confirm the fire, make internal and external notifications



Firefighting team: Perform preliminary firefighting



Evacuation team: Lead escape routes



Ambulance team: Conduct first aid



Safety protection class: Initiate the plant safety protection facilities



Review meeting convened

4-4-8 COVID-19 Prevention and Response

Safeguarding employee rights

Since February 2020, the world has faced the COVID-19 pandemic, and many national-level enterprises are facing suspension of work, in order to maintain the basic living needs of employees and protect their health and safety. Since the beginning of the pandemic, CSRC has formulated internal health management regulations in accordance with the response orders issued by the government. According to the law, we

have provided paid leave to employees under quarantine. Other individuals subject to quarantine are also provided with salary according to leave policy so as to take care of employees' salary rights. In addition, we have also updated the government's relief plan at any time and provided relevant information to all employees to avoid impact on their livelihoods.

Pandemic prevention measures

In order to prevent and control the spread of the pandemic, pandemic prevention and publicity documents are also put on the company's internal website for everyone's reference to protect ourselves, as well as our family members and colleagues.

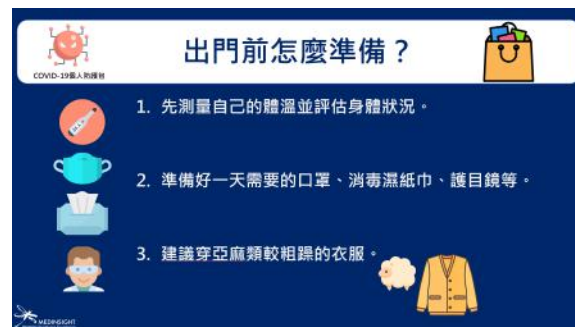
In addition, to reduce the risk of infection, all employees entering the factory and office must check their body temperature, wear a mask, and sanitize with alcohol. Keep meeting rooms well-ventilated and lower the frequency of meetings, and strengthen awareness to reduce official business trips and personal travel. Employees also need to sign a Severe Special Infectious Diseases (COVID-19) Information and Declaration. Those who have a history of entering or leaving the pandemic area or going abroad should:

- (1) Report to your supervisor.
- (2) After returning home, you should be quarantined at home for 14 days and maintain daily report health status and body temperature measurement records.

The company's internal website has sets up a section to promote pandemic prevention



Pandemic prevention announcements for employees



In Mainland China, CSRC also donates disinfectants, masks and other materials to the partner schools of Cement School, and assists in disinfection operations before school starts to protect the health of teachers and children.





05

Promotion of Social Well-Being

5-1 Social Feedback

SDGs 4.1

SDGs 4.7

5-2 Ecological Preservation

SDGs 15.4

SDGs 15.6

5-3 Cultural Promotion

SDGs 11.4



Performance Highlights 1

A total of **NT\$8.68 million** was invested in public welfare in 2019



Performance Highlights 2

A total of **1,254** beneficiaries from our charity activities in 2019.



Performance Highlights 3

Every employee is granted **2** days of volunteer leave per year, in order to encourage colleagues to participate in public service

Material Topics

Local Communities

Disclosure Items | GRI 103-1~3、GRI 413-1、GRI 413-2

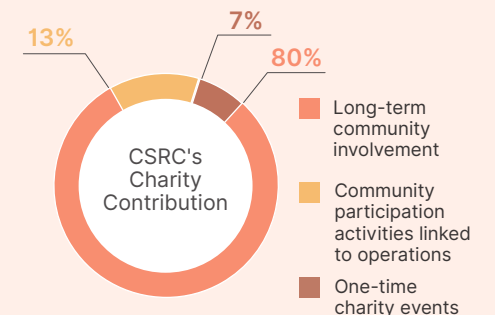
Materiality	Our production base is close to the local community and very close to residents' living environments. Any situation in the plant will directly impact the community where it is located, and any response from residents will also directly affect the operations of the plant. Therefore, building mutual trust and understanding with local communities is a very important issue for CSRC.				
Policy Commitments	In addition to the Company's commitment to sustainable operations and a circular economy, it also attaches great importance to corporate social responsibility. Its specific implementation direction includes "social feedback," "ecological preservation," and "cultural promotion," giving back to society with practical actions				
Targets	<table border="0"> <tr> <td style="text-align: center;">Short-Term Targets (1-3 Years)</td> <td style="text-align: center;">Mid-Long Term Targets (3-5 Years)</td> </tr> <tr> <td> <ul style="list-style-type: none"> Continue to promote neighborhood relations, care for disadvantaged neighbors, and establish friendly relations and a good image Organize public welfare activities, take root in environmental protection education and promote the concept of a circular economy Assist rural children in education and school environment construction </td> <td> <ul style="list-style-type: none"> Coexist and prosper with neighbors for our mutual benefit, and continue to promote various community participation projects and expand corporate social influence to become a benchmark enterprise in the field of carbon black Continue to promote environmental education and let more people understand that the carbon black industry can achieve sustainable coexistence with the environment. </td> </tr> </table>	Short-Term Targets (1-3 Years)	Mid-Long Term Targets (3-5 Years)	<ul style="list-style-type: none"> Continue to promote neighborhood relations, care for disadvantaged neighbors, and establish friendly relations and a good image Organize public welfare activities, take root in environmental protection education and promote the concept of a circular economy Assist rural children in education and school environment construction 	<ul style="list-style-type: none"> Coexist and prosper with neighbors for our mutual benefit, and continue to promote various community participation projects and expand corporate social influence to become a benchmark enterprise in the field of carbon black Continue to promote environmental education and let more people understand that the carbon black industry can achieve sustainable coexistence with the environment.
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Responsibility (Responsible Units)	All carbon black plants, Brand Marketing Department, Human Resources Department				
Resources	<ul style="list-style-type: none"> A budget of NT\$8.68 million was invested in 2019, mainly for the cultural promotion of the C.F. Koo Foundation as well as emergency relief, activities of local associations, in addition to various charity activities and assisting schools to encourage learning initiatives such as after-school tutoring, scholarships, summer camps, and so on. More than 300 individuals involved in 2019 The Company encourages employee volunteer days. Each individual is granted two days of volunteer leave per year to encourage colleagues to participate in public service 				

Grievance Mechanism	<ul style="list-style-type: none"> Smooth communication channels and contacts for neighborhoods and schools Improve the Company's internal notification and response mechanism The Company's website has a communication mailbox for stakeholders: csrcir@csrcgroup.com
Action Plan	<ul style="list-style-type: none"> Communicate with local office from time to time Actively assist the disadvantaged Sponsor cultural activities and charity activities Cooperate with schools and continue to promote various learning initiatives
Validity Assessment	<p>Regularly review the implementation of various community participation projects. In 2019, the total number of people benefited reached 1,254. In 2019 we had:</p> <ul style="list-style-type: none"> 233 after-school tutoring courses 1 session of summer camp activities 1 carbon black workshop Donation of 10,000 copies of environmental-themed comic books Donation of stationery to 2 elementary schools 1 session of World Yoga Day



CSRC attaches great importance to recycling and rebirth with a vision of "Eco-friendly civilization" and a mission of "Renewable energy and resources" In addition to actively improving the benefits of a circular economy, we also pay attention to social feedback, ecological preservation, and cultural promotion. Devoting ourselves to these three aspects of social well-being promote, we invested a total of NT\$8.68 million in 2019 toward these ends. In the future, we will continue to take social responsibility to neighboring communities. As the Company operates, it constantly interacts with neighbors in various ways to understand the needs of local communities. In 2019, Linyuan Plant and Maanshan Plant did not receive any negative feedback from neighboring communities.

Foci of CSRC Charity Activities



Total amount: NT\$8.68 million

5-1 Social Feedback ▶

5-1-1 Educational Care

Through the "Cement Academy" jointly promoted by the Taiwan Cement Group, we have deeply cultivated schools located next to the various carbon black plants of CSRC. We are committed to nurturing the development of schoolchildren, broadening their horizons, and enhancing their willingness to learn.

In addition, CSRC also supports students from disadvantaged families by setting up scholarship programs for schools over the long-term, sponsored by various factories to help disadvantaged families share the burden of education. We thus encourage outstanding students to keep improving and look forward to their becoming outstanding contributors to society in the future. In 2019, NT\$45,908 of scholarships was awarded in Taiwan and Mainland China in 2019, benefiting 20 students.



2019 Shanwei Elementary School After-school Tutoring (English and Composition)

Description and benefits

In 2019, after-school tutoring courses were provided at Shanwei Elementary School with three times a week. Participants were students from 1st to 6th grade. Through singing, reading and writing practice, kids learned a lot about English and composition.

Participating students gradually improved their English and composition skills in a relaxed and lively learning process through an entertaining and entertaining teaching process. We hope that students can use language as a tool to open up their expectations and desires for a wider world.

- Students who participated in the composition course completed a total of 20 composition exercises in 2019
- Students who participated in the English tutoring completed a total of 10 English song appreciation exercises and 10 English reading tests in 2019



Cement Academy class-party



A total of **96** after-school tutoring courses
40 students benefited

2019 Fengqiao Elementary School after-school tutoring (English, computers)

Description and benefits

In 2019, Maanshan Fengqiao Elementary School provided after-school English classes, computer classes, and talent courses. Participants were students from 4th to 5th grades. These classes were aimed to cultivate children's various interests and their interests in a broad range of fields, and then focus on learning and development to encourage them to complete their studies successfully. We look forward to nurturing students to become outstanding individuals in society, contributing and give back to society in the future.

- Participating students have significantly improved their oral and written English skills
- Participating students have a deeper understanding of computer and information technology, and can operate simple programs and word processing



A total of **137** after-school tutoring courses
44 students benefited

2019 Carbon black workshop

Description and benefits

In order to make neighborhood communities and schools get to know more about carbon black knowledge and products and the concept and advantages of a circular economy, we specially cooperated with DA YU Ink Stick to organize a carbon black workshop and fun activities at Shanwei Elementary School, including ink making activities, tournament games, talent show, and prize drawing activities. In an easy-to-understand way, we let all teachers and students grasp the ideas of carbon black and products with carbon black in our daily lives. After the activity, each student participating in the event received a hand-made ink stick with a print of the child's palm as a souvenir.

120 of teachers and students participated in a deeper to understand circular economy and carbon black applications



2019 Environmental Protection Summer Camp (Earth Defense Force)

Description and benefits

Environmental protection education takes root in childhood. The staff of Linyuan Plant conveyed the concept of environmental protection to kids of Shanwei Elementary School through four days and three nights of activities and experiences. It advocated and implemented environmental protection starting from oneself, and children learn the importance of environmental protection through games, as well as understanding the greenhouse effect, heat waves and other factors. They also gained a deeper impression of environmental protection concepts and knowledge through the results exhibition evening, and they then actually developed good habits of doing environmental protection easily. In this way, every participating child could become an environmentally friendly pioneer.

30 schoolchildren participated and cultivated with good habits of environmental protection starting from childhood





2 elementary schools,
700 students benefited

As for Indian plant, we also spared no effort to promote the concept of educational care to local primary schools. In 2019, our plant in India CCIL donated 700 exquisite stationery gift boxes to 2 local elementary schools, encouraging children to learn. Because some local schools in India have insufficient lighting equipment, students have to take classes outdoors. Therefore, in order to improve children's learning environments, we plan to donate LED lights to nearby primary schools in 2020, assist in their installation, and pay for the associated electric bill. In this way, we can let these children learn and grow in a worry-free environment.

[Green Gold Action]

In order to promote the concept of circular economy and achieve the sustainable development goal of environmental and ecological balance, CSRC advanced the "Green Gold Action" series of activities. In particular, we cooperated with Max Huang, the founding chairman of the Asian Comics Association and winner of the 2018 World Youth Business Conference charity role model award. We donated 10,000 copies of the "World's First UN Environmental Knowledge Comic, Zhang Xiaoyou's Great Adventure on Earth." All of the comic books were donated to elementary schools in Kaohsiung and to the Kaohsiung City Library. We thus hope that we can contribute to environmental education through these 10,000 comics and 10,000 hopes. In addition, we also used a simple and clear way to tell the children the story of green gold through this activity, so that they can understand carbon black more easily, while also understanding the importance of loving the Earth and a circular economy, and expressing awareness of environmental protection.



Donated
10,000 copies
of environmental
knowledge comic books



5-1-2 Recycling of Unused Goods

Upholding the spirit of a circular economy, and under the leadership of the Chairman and General Manager, we held the 2019 "Unused/Worthy Goods Charity Auction" In this way, we implemented the concept of cherishing resources and making the best use of them. Before the event, we inquired about materials needed by the Garden of Hope Foundation. In response to their needs, we encouraged employees to provide good items that are not used at home and let them have an opportunity to be used again through auction. We thus recovered new value and donated the entire amount of the last auction, as well as all the items that had not been auctioned to the Garden of Hope Foundation. In addition to giving back love to society, this also conveyed the concept of perpetual circulation, and of cherishing things and our own good fortune.



Raised and donated NT\$ **18,000** and **1** box of daily necessities



5-1-3 Health Promotion

In 2019, CSRC India Plant cooperated with local foundations to organize "World Yoga Day." The number of participants was about 300, and colleagues from CSRC were also invited to participate and promote health concepts to the community.

A total of **300** community members benefited



5-2 Ecological Preservation ▶



CSRC deeply understands the importance of the coexistence of civilization and nature. In order to maintain biodiversity, in 2007 CSRC and Taiwan Cement Co., Ltd., Ho-Ping Power Company, and Jiantan Temple to make a joint donation in establishing the "Dr. Cecilia Koo Botanic Conservation Center". Located in the tropics of Gaoshu Township, Pingtung County, it is committed to conserving tropical and subtropical plants from around the world to sustain the richest biodiversity on Earth.



33,680 species
of plants collected
(As of the end of May 2020)

5-2-1 Hundreds of Prosperity and Alliance Operations

In addition to continuing to expand its live collection of tropical plants, the conservation center is based on live preservation in different places and is based on academic research. Through international academic exchanges, it participates in the World Tropical Plant Conservation Project, developing into a world-class tropical plant conservation base. As of the end of May 2020, the conservation center has collected 33,680 species of plants and has become the most abundant living plant conservation organization in the world. Among them, the collection of plant categories such as orchids, begonias, bromeliads, succulents and ferns is the largest in the world. It plans to collect 40,000 plant species by 2027.

The content and purpose of the conservation center's "Hundred Kinds of Prosperity and Momentum Action" plan is to engage in project breeding for species that have been judged by the conservation community to be extinct in the wild, to be severely endangered, to be endangered, or to be vulnerable to threats. Because living samples of these species are difficult to obtain, the number of individuals is extremely small. The plan therefore calls for the collection manager to propose a list of priority conservation species. Commissioned by Professor Li Jiawei of National Tsinghua University, it will invite scholars from other domestic institutions to gather in the field alongside conservation center staff. It aims to encourage proliferation to 50 individuals in 1 year, and then foresees proliferation to 100 to 1,000 individuals in 3 years. The seedlings will be transplanted to their original habitats and to major botanical gardens across the world.

5-2-2 Deep education and local promotion

After years of hard work, the conservation center has collected abundant species. These species will be the materials for the future reconstruction of ecosystems, as well as for scholars studying biological kinships. Materials for researching and developing new drugs and cultivating new strains of horticulture have been widely used by the academic community, and seen publication in many domestic and foreign journal articles.

In addition, the conservation center started in 2018 and signed a cooperation plan with the Nuclear Energy Back-end Operations Department of Taiwan Power Company to regenerate four special rare orchids in the Lanyu area of Taiwan. The introduction, seed collection and establishment of aseptic seeding and meristem propagation systems was completed at the end of 2019. For subsequent conservation and rehabilitation, we look forward to cooperating with Taipower, the Lanyu Township Office, and local schools to bring orchid seedlings back to the land of Lanyu, rediscovering its original appearance.

5-2-3 Expanding overseas seed conservation activities

Since 2018, the conservation center has started plant surveys in Vietnam together with the National Museum of Natural Science and the Forestry Research Institute. Based on the successful experience of botanical surveys in the Solomon Islands, it has cooperated with the Southern Institute of Ecology of the Vietnamese Academy of Sciences and the local Bidoup Nui Ba National Park to organize a plant survey mission. The plant survey team has launched three research operations. A wealth of specimens and living plants has been collected in the jungles of the southern plateau of Vietnam, and several new species of orchids and ferns have been discovered.

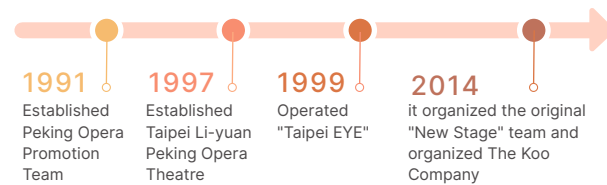
In December 2018, the "Taiwan-Vietnam Joint Plant Conservation Research Center" was officially established in Bidoup Nui Ba National Park. The conservation center will continue to cooperate with plant researchers in Vietnam to promote the research and conservation of precious plants.

More information about the conservation center ▶▶▶

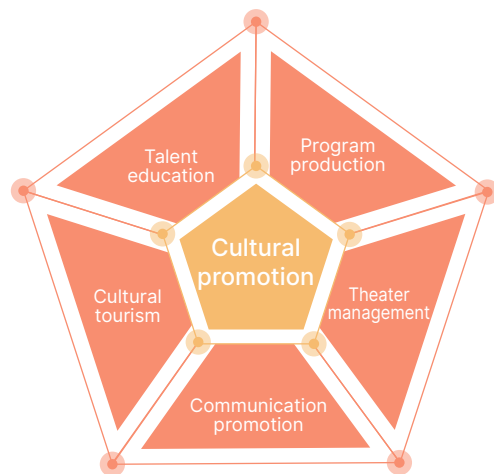


5-3 Cultural Promotion ▶

The C.F. Koo Foundation was initiated in 1988 by Mr. Koo Chen-Fu (Koo Kung-Liang), Chairman of the Koo Group. CSRC and Taiwan Cement Group jointly donated and established the Foundation through the exchange and promotion of activities between domestic and foreign academic institutions and private enterprise groups. Its purpose is to promote the management of Taiwanese industrial and commercial enterprises through international exchange activities (including cross-strait exchanges). It also encompasses medical Research, art and literature, and related activities. In 2019, CSRC provided NT\$4 million in funding toward cultural promotions through practical activities.



The Foundation continues to engage in five aspects of cultural promotion, namely: program production, theater management, cultural tourism, communication promotion, and talent education.



5-3-1 Program production

The foundation regularly invites famous Peking opera performing artists like Li Baochun and elites in Peking opera circles, launching many exquisite classics. Furthermore, it has organized groups to perform in Europe, America, Japan and other countries, promoting traditional Chinese culture internationally. In addition, the Foundation also cooperates with various arts and cultural units to promote diversified program content from time to time, advancing programs and art exchanges.

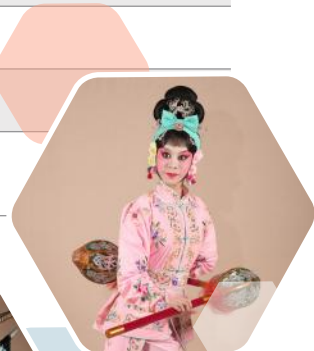
Name	Session	Description
Taipei Li-yuan Peking Opera Theatre "Youth Performance: Twinkle, Twinkle!"	2	The annual performance of young Peking opera actors, performed in the parent-child theater, including: "Tao Sanchun", "Luhua River", "Exploring the Valley," and so on to describe the beautiful night blooming cereus, in addition to the stories of Tao Sanchun, Fan Lihua, and Mu Guiying.
The new Beijing-Kunming drama "Ching Hui Lang Zhao" and the new/old drama "The Orphan of the Zhao Family"	18	Performances in Changsha, Wuhan, Beijing, Shanghai, Yantai, Weifang, Tianjin, Bazhou, Shijiazhuang, and other places
New large-scale Beijing operas "Xiang Yu and Two Women" and "She and Her Man"	2	Co-organized with the Taipei City Arts Promotion Office to perform on the city stage, the playbill includes "Xiang Yu and Two Women" and "She and Her Man," majestic movements newly arranged for Chinese and Western orchestras to giving opera music a new artistic face
Koo Theater	4	Young Performing Artist Series, performed in the Shimin Hall of the Taiwan Cement Building
Shanghai Pingtan Group and Suzhou Pingtan Group "Yijiangnan" Pingtan Classic Book Club	3	Led by Sheng Xiaoyun, the queen of Pingtan, performed in the Parent-Child Theater
2019 European Tour, "Monkey King Creates Havoc in the Heavenly Palace"	25	Performed in major cities in Germany, Austria, France, and Switzerland
Akram Khan's last solo dance, "XENOS"	5	Co-organized with the National Performing Arts Center, performing at the Taipei National Theater and Taichung Opera House



"Xiang Yu and Two Women"



Taipei Li-yuan Peking Opera Theatre Company March 2019 Youth Gala, "Exploring the Valley"



Taipei Li-yuan Peking Opera Theatre Company March 2019 Youth Gala, "Tao Sanchun"



"The Female General of the Yang Family"



Taipei EYE - pre-show activities



Taipei EYE - pre-show activities



Taipei EYE - pre-show activities

5-3-2 Theater Management

The Foundation believes that theater management is an important cultural and creative service: artists and audiences are its main service targets. For artists: It tries to provide a professional creation and performance environment so that they are respected and willing to grow. For audiences: It provides high-quality, distinctive performances and services to make them popular and enjoyable.

In 2019, the Foundation undertook the front and backstage technology and service management project of Taipei Parent-Child Theater. It also undertook the far-reaching education and theater technology and front-end and back-office management project of Yui Theater in Taipei City, assisting the Taipei City Government in managing the theater with the Foundation team's rich theater management experience. By serving audiences and performing arts groups it could make the venue more usable, in addition to increasing the utilization rate. It also allows artists and audiences to enjoy a high-quality theater experience.

5-3-3 Cultural Tourism

"Taipei EYE" has accumulated more than 15 years of operating energy, and adjusted the scene according to the taste of the audience. In 2019, it launched more martial arts, dance and stunt repertoires such as "The Eight Immortals Cross the Sea", "The Legend of the White Snake" and "The Leopard." It also paired with puppet theater, acrobatics, lion dance, and aboriginal singing and dancing that are rarely seen by foreign tourists. A total of 207 performances were performed throughout the year, attracting an audience of nearly 43,000, making it the biggest highlight of Taiwan's cultural tourism landscape that year.

207 performances,
with 43,000 audiences

Nationality statistics of Taipei EYE audiences in 2019

Area	Total	Percentage
Japan	17,783	42%
Korea	16,785	40%
Europe and Americas	3,464	8%
Taiwan	2,338	6%
Mainland China/Hong Kong/Macau	356	1%
Southeast Asia	1,536	4%
Others	196	0%
Subtotal	42,458	100%

Number of individuals booking Taipei EYE in 2019

Date	Unit	Number of individuals
2019/3/5	Meiwa Kenoh High School	260
2019/6/13	International Team, Ministry of Justice Investigation Bureau	193
2019/10/1	Tokyo Komae High School	164
2019/11/5	Himeji High School	258
2019/11/14	International Team, Ministry of Justice Investigation Bureau	150
2019/11/19	Ashiya High School	337
2019/12/3	Tottori West High School	299
2019/12/3	Hiroshima Prefectural Miyoshi Seiryō Senior High School	88
2019/12/4	Toyama Prefecture Takaoka Commercial School	257
2019/12/5	Kyoto Prefectural Ayabe High School	226
2019/12/8	Kyoto Sangyo University	211
2019/12/10	Goshogawara High School	187
2019/12/12	Tohoku High School	80
	Total	2,710

5-3-4 Communication Promotion

On the occasion of the 30th anniversary of the Foundation in 2019, it held an international forum titled "Theater · Future Encounters" to promote international artistic exchanges. It focused on the four discussion themes of "Enhancing Viewing Experiences," "Glimpses of Modern Technology Theater,"

"Decoding Cultural Policy," and "Predicting New Performance Trends." The Foundation also actively participates in the activities of international associations and serves as a senior member of many international cultural organizations. Examples include the International Society for the Performing Arts (ISPA), the Association of Performing Arts Presenters (APAP), and the Federation for Asian Cultural Promotion (FACP). Since winning the right to host the ISPA 2020 Taipei Annual Conference, the Foundation has actively deployed venues, hotels, theme settings and other matters. At the beginning of 2019, an international forum titled "Theater · Future Encounters" was held in commemoration of the 30th anniversary of the Foundation. It invited individuals from Taiwan and across the world with profound experience in performing arts to serve as speakers or seminar participants. It featured three days of wonderful sharing and discussion that benefited the participants, especially the managers and students of the Taiwanese arts and culture industry.

In addition to international exchanges, the foundation has been committed to holding various promotion seminars to comprehensively expand the audience for opera. Activities include lectures, workshops, demonstration performances, etc., mainly targeting campus teachers and students. In 2019, we performed 29 events in all over Taiwan and the mainland, and made more than 5,000 new friends.

5-3-5 Talent cultivation

In addition, the stage technical team of the Foundation is well-known in the industry for the production, management, and consulting for performances and events. It has won special awards, gold awards, and silver awards in the "Wen Xin Award" category bestowed by the Ministry of Culture for many years, and it has repeatedly won recognition as the best theater service team in Taipei City by online voting. In recent years, it has become a technical consultant for 16 new theaters in Taiwan, and has also conducted theater management courses on both sides of the Strait. It is thus committed to cultivating theater management talent.



Teacher Li Baochun led a delegation to National Tsinghua University to give a bright and inspiring lecture



Leading a lecture at National Taichung Theater



More information about the C.F. Koo Foundation

C.F. Koo Foundation Facebook

6-1 GRI Index Table ▶

GRI Topics	Disclosure	Reference	Page Number
	102-1 Name of the organization	1-1 About CSRC	22
	102-2 Activities, brands, products, and services	1-1 About CSRC 2-1 R&D and innovation 2-2 Circular economy and "green gold" business opportunities	22, 37-43
	102-3 Location of headquarters	1-1 About CSRC	22
	102-4 Location of operations	1-2-2 Distribution of global operations	24
	102-5 Ownership and legal form	1-1 About CSRC	22
	102-6 Markets served	1-2-2 Distribution of global operations 1-3 Operating Performance	24-25
	102-7 Scale of the organization	1-1 About CSRC 1-3 Operating Performance	22, 25
	102-8 Information on employees and other workers	1-1 About CSRC 4-1-1 Personnel Structure	71
	102-9 Supply chain	2-4 Supply Chain Management	48
	102-10 Significant changes to the organization and its supply chain	NA (No Significant changes to the organization and its supply chain)	NA
	102-11 Precautionary Principle or approach	1-6 Risk management	31-33
	102-12 External initiatives	NA (No Signing External initiatives)	NA
	102-13 Membership of associations	1-1 About CSRC	23
	102-14 Statement from senior decision-maker	Message from Chairman/ Director of Corporate Sustainability Committee	5
	102-16 Values, principles, standards, and norms of behavior	Message from Chairman/ Director of Corporate Sustainability Committee Promotion of Sustainable Management 1-2 Brand Value 1-4 Corporate Governance 1-5 Regulatory Compliance	5, 10, 24, 26-30

GRI Topics	Disclosure	Reference	Page Number
	102-18 Governance structure	1-4 Corporate Governance	26
	102-40 List of stakeholder groups	Stakeholder Discussion and Analysis of Major Topics	14-15
	102-41 Collective bargaining agreements	NA (No signing Collective bargaining agreements)	NA
	102-42 Identifying and selecting stakeholders	Stakeholder Discussion and Analysis of Major Topics	12-13
	102-43 Approach to stakeholder engagement	Stakeholder Discussion and Analysis of Major Topics	14-15
	102-44 Key topics and concerns raised	Stakeholder Discussion and Analysis of Major Topics	14-15
	102-45 Entities included in the consolidated financial statements	Report Profile Please refer to CSRC 2019 Annual Report (http://www.csrgroup.com/investors2.html?lang=tw)	2
GRI 102: General Disclosures 2016	102-46 Defining report content and topic Boundaries	Report Profile Stakeholder Discussion and Analysis of Major Topics	2, 17-18
	102-47 List of material topics	Stakeholder Discussion and Analysis of Major Topics	17-18
	102-48 Restatements of information	3-3-1 Energy Management 3-5-1 Water Management	58, 65
	102-49 Changes in reporting	Report Profile Stakeholder Discussion and Analysis of Major Topics	2, 13
	102-50 Reporting period	Report Profile	2
	102-51 Date of most recent report	Report Profile	2
	102-52 Reporting cycle	Report Profile	2
	102-53 Contact point for questions regarding the report	Report Profile	2
	102-54 Claims of reporting in accordance with the GRI Standards	Report Profile	2
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	103-3	Evaluation of the management approach	CH1 Ethical Management	20
GRI 201: Economic Performance 2016	201-1	Direct economic value generated and distributed	1-3 Operating Performance	25
Ethical Management				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	Stakeholder Discussion and Analysis of Major Topics	17
	103-2	The management approach and its components	CH1 Ethical Management	20
	103-3	Evaluation of the management approach	CH1 Ethical Management	20
Legal Compliance				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	Stakeholder Discussion and Analysis of Major Topics	17
	103-2	The management approach and its components	CH1 Ethical Management	20
	103-3	Evaluation of the management approach	CH1 Ethical Management	20
GRI 307: Environmental Compliance 2016	307-1	Non-compliance with environmental laws and regulations	1-5 Regulatory Compliance	30
GRI 419: Socioeconomic Compliance 2016	419-1	Non-compliance with laws and regulations in the social and economic area	1-5 Regulatory Compliance	30
Risk management				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	Stakeholder Discussion and Analysis of Major Topics	17
	103-2	The management approach and its components	CH1 Ethical Management	21
	103-3	Evaluation of the management approach	CH1 Ethical Management	21

GRI Topics	Disclosure	Reference	Page Number	
R&D and innovation				
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	103-3	Evaluation of the management approach	CH2 Innovation and Service	35
GRI 416: Customer Health and Safety 2016	416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	2-3-3 Product safety labels	46
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GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	Stakeholder Discussion and Analysis of Major Topics	17
	103-2	The management approach and its components	CH2 Innovation and Service	35
	103-3	Evaluation of the management approach	CH2 Innovation and Service	35
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GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	Stakeholder Discussion and Analysis of Major Topics	18
	103-2	The management approach and its components	CH2 Innovation and Service	36
	103-3	Evaluation of the management approach	CH2 Innovation and Service	36
GRI 204: Procurement Practices 2016	204-1	Proportion of spending on local suppliers	2-4-2 Local procurement	48
GRI 301: Materials 2016	301-1	Materials used by weight or volume	2-4-1 Raw Material Supply Overview	48
GRI 308: Supplier Environmental Assessment 2016	308-1	New suppliers that were screened using environmental criteria	2-4-3 Supplier Management	48
	308-2	Negative environmental impacts in the supply chain and actions taken	2-4-3 Supplier Management	49-50
GRI 414: Supplier Social Assessment 2016	414-1	New suppliers that were screened using social criteria	2-4-3 Supplier Management	49-50

GRI Topics	Disclosure	Reference	Page Number	
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GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	Stakeholder Discussion and Analysis of Major Topics	18
	103-2	The management approach and its components	Ch3 Green Manufacturing	52
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GRI 305: Emissions 2016	305-1	Direct (Scope 1) GHG emissions	3-3-2 Greenhouse Gas Management	58-59
	305-2	Energy indirect (Scope 2) GHG emissions	3-3-2 Greenhouse Gas Management	58-59
	305-4	GHG emissions intensity	3-3-2 Greenhouse Gas Management	58-59
	305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	3-4-1 Air Pollution Statistics	60-61
Effluents and Waste				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	Stakeholder Discussion and Analysis of Major Topics	18
	103-2	The management approach and its components	Ch3 Green Manufacturing	52
	103-3	Evaluation of the management approach	Ch3 Green Manufacturing	52
GRI 306: Effluents and Waste 2016	306-1	Water discharge by quality and destination	3-5-2 Wastewater Management	66
	306-2	Waste by type and disposal method	3-6-1 Waste treatment methods	67
Occupational safety and health				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	Stakeholder Discussion and Analysis of Major Topics	18
	103-2	The management approach and its components	CH4 Forming a High-Quality Workplace	70
	103-3	Evaluation of the management approach	CH4 Forming a High-Quality Workplace	70

GRI Topics	Disclosure	Reference	Page Number	
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	403-2	Hazard identification, risk assessment, and incident investigation	4-4-2 Occupational Safety Risk management	82-83, 87-88
	403-3	Occupational health services	4-4-5 Employee Health Care	85
	403-4	Worker participation, consultation, and communication on occupational health and safety	4-4-1 Safety and health policies	81
	403-5	Worker training on occupational health and safety	4-4-4 Safety and health education and training	85
	403-6	Promotion of worker health	4-4-5 Employee Health Care	85
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	4-4-2 Occupational Safety Risk management	82-83
	403-8	Workers covered by an occupational health and safety management system	4-4-1 Safety and health policies	81
	403-9	Work-related injuries	4-4-6 Occupational injury management	86
	403-10	Work-related ill health	4-4-6 Occupational injury management	86-87
Local Community				
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary	Stakeholder Discussion and Analysis of Major Topics	18
	103-2	The management approach and its components	CH5 Promotion of Social Well-Being	91
	103-3	Evaluation of the management approach	CH5 Promotion of Social Well-Being	91
GRI 413: Local Communities 2016	413-1	Operations with local community engagement, impact assessments, and development programs	CH5 Promotion of Social Well-Being	91-99
	413-2	Operations with significant actual and potential negative impacts on local communities	CH5 Promotion of Social Well-Being	91

Other Topics

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GRI 302: Energy 2016	302-1	Energy consumption within the organization	3-3-1 Energy Management	57-58
	302-3	Energy intensity	3-3-1 Energy Management	57-58
	302-4	Reduction of energy consumption	3-2-2 Energy saving and carbon reduction	56
GRI 303: Water and Effluents 2018	303-3	Water withdrawal	3-5-1 Water Management	64-65
	303-4	Water discharge	3-5-1 Water Management	64-65
	303-5	Water consumption	3-5-1 Water Management	64-65
GRI400: Social Topics				
GRI 401: Employment 2016	401-1	New employee hires and employee turnover	4-1-1 Personnel Structure	71
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	4-3-2 Employee benefits	77
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GRI 404: Training and Education 2016	404-1	Average hours of training per year per employee	4-2-1 Functional training	73
	404-2	Programs for upgrading employee skills and transition assistance programs	4-2-1 Functional training	73
GRI 405: Diversity and Equal Opportunity 2016	404-3	Percentage of employees receiving regular performance and career development reviews	4-3-1 Performance Appraisal	76
	405-1	Diversity of governance bodies and employees	4-1-1 Personnel Structure	72

6-2 Disclosure project index table in accordance with Article 4 of Taiwan Stock Exchange Corporation Rules Governing the Preparation and Filing of Corporate Social Responsibility Reports by TWSE Listed Companies ▶

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	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities.	4-4-6 Occupational injury management	86
Second item	Operations with significant actual and potential negative impacts on local communities.	CH5 Promotion of Social Well-Being	91
	Negative environmental or social impacts in the company itself and its supply chain and actions taken.	2-4 Supplier Management	48-50
	The number of its full-time employees who are not in a managerial position, the average and medium of the salaries of the full-time employees who are not in a managerial position, and the difference of the three figures from the previous year.	4-3 Salary and benefits	76
Fourth item	Corporate governance of climate-related risks and opportunities; actual and potential climate-related impacts; how to identify, assess and manage climate-related risks; indicators and targets used to assess and manage climate-related issues.	1-6 Risk management 3-2-1 Management of Climate Risks and Opportunities	31, 55

6-3 United Nations Sustainable Development Goals (SDGs) Index Table ▶

Sustainable Development Goals (SDGs)	Targets	Reference	Page Number
	3.9 Substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination	3-4 Air pollution control 4-4 Occupational safety and health	59-63, 83
	4.1 Ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes	5-1 Social Feedback	92-95
	4.5 Eliminate disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable.	4-2 Talent cultivation	73-75
	4.7 Ensure that all learners acquire the knowledge and skills needed to promote sustainable development	5-1 Social Feedback	92-95
	6.3 Improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse rates	3-5 Water Resources Management	66
	7.2 Increase substantially the share of renewable energy in the global energy mix	2-2 Circular economy and “green gold” business opportunities 3-2 Response to Climate Change 3-3 Energy and Greenhouse Gas Management	40-43, 55-57
	7.3 Double the global rate of improvement in energy efficiency	2-2 Circular economy and “green gold” business opportunities 3-2 Response to Climate Change 3-3 Energy and Greenhouse Gas Management	40-43, 55-57
	8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation	2-1 R&D and innovation	37-39
	8.8 Protect labour rights and promote safe and secure working environments for all workers.	4-4 Occupational safety and health	81-85, 87-89
	9.5 Encourage innovation and increase the number of R&D personnel	2-1 R&D and innovation	37-39

Sustainable Development Goals (SDGs)	Targets	Reference	Page Number
	10.4 Adopt appropriate policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality	4-3 Salary and benefits	76-80
	11.4 Strengthen efforts to protect and safeguard the world’s cultural and natural heritage	5-3 Cultural Promotion	97-99
	11.6 Reduce the adverse environmental impact of cities, including by paying special attention to air quality and municipal and other waste management	3-4 Air pollution control 3-6 Waste resource management	59-63, 67-68
	12.2 Achieve the sustainable management and efficient use of natural resources	2-2 Circular economy and “green gold” business opportunities 3-5 Water Resources Management 3-6 Waste resource management	40-43, 64-68
	12.4 Achieve the environmentally sound management of chemicals and all wastes to minimize their adverse impacts on human health and the environment	2-3 Product quality and customer service 4-4 Occupational safety and health	44-47, 83
	12.5 Substantially reduce waste generation through prevention, reduction, recycling and reuse	3-6 Waste resource management	67-68
	12.6 Encourage companies to adopt sustainable practices and to integrate sustainability information into their reporting cycles.	2-2 Circular economy and “green gold” business opportunities	40-43
	13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning	1-6 Risk management 3-2 Response to Climate Change	31, 55
	15.4 Implement conservation of ecosystems, including biodiversity, to improve their ability to provide sustainable development	5-2 Ecological Preservation	96
	15.6 Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources	5-2 Ecological Preservation	96

Sustainable Development Goals (SDGs)	Targets	Reference	Page Number
	16.5 Substantially reduce corruption and bribery in all their forms	2-4 Supply Chain Management	49
	16.6 Develop effective, accountable and transparent institutions	1-4 Corporate Governance 1-6 Risk management	26-29, 31-33
	17.16 With the help of multilateral cooperation, improve global knowledge sharing as well as professional, technological and financial support to achieve the goal of sustainable development cooperation	1-3 Operating Performance 1-6 Risk management	25, 31-33

6-4 Assurance Statement

編號	標的資訊	頁碼	適用基準
1	國際中橡 2019 年自來水之取水量為 2,085,577 噸。 註：林園廠之自來水取用量為 1,488,337 噸；馬鞍山廠之自來水取用量為 597,240 噸。	64	依據自來水公司及水務公司提供之繳費憑證，林園廠及馬鞍山廠於 2019 年度的自來水用水公噸數。
2	國際中橡 2019 年非有害廢棄物總重量為 1,353.42 噸，有害廢棄物為 768.86 噸。 2019 年國際中橡廢棄物統計 (林園廠 + 馬鞍山廠)	67	依據環保署委託或共同處理查詢資料、廢棄物轉移聯單或出廠磅單，林園廠及馬鞍山廠於 2019 年度依廢棄物類別及處理方式劃分之廢棄物清運重量。
	註：林園廠產出之廢棄物包含生活垃圾、一般事業廢棄物；馬鞍山廠產出之廢棄物包含固體廢棄物、危險廢棄物、有價廢棄物。		

2019 年國際中橡廢棄物統計 (林園廠 + 馬鞍山廠)

廢棄物種類	處置方式	林園廠 (噸)	馬鞍山廠 (噸)	合計 (噸)
非有害廢棄物	焚化處理	750.16	-	
	掩埋	104.51	-	
	熱處理 (除焚化處理外)	115.86	-	1,353.42
	物理處理	232.23	-	
有害廢棄物	循環處理	-	150.86	
	焚化處理	-	607.54	768.86
	掩埋	-	161.32	
合計 (噸)		1,202.76	919.52	2,122.28

編號	標的資訊	頁碼	適用基準																																																							
3	國際中橡 2019 年度違反環境相關法規共 5 件，罰鍰金額為 272,000 元。	30	依據當年度主管機關來函 (包含但不限於裁處書、繳款書)，國際中橡於 2019 年度發生違反環境相關法規事實之項目總數及罰鍰金額。																																																							
4	國際中橡 2019 年度違反社會、經濟相關法規共 6 件，罰鍰金額為 80,000 元。	30	依據當年度主管機關來函 (包含但不限於裁處書、繳款書)，國際中橡於 2019 年度發生違反社會、經濟相關法規事實之項目總數及罰鍰金額。																																																							
5	國際中橡 2019 年度廢水排放異常共 1 件，違規使用費金額為 138,667 元。	30	依據當年度監管機關來函，國際中橡於 2019 年度發生廢水排放異常事實之項目總數及違規使用費金額。																																																							
6	「台灣及馬鞍山廠每名員工接受訓練的平均時數」中按員工類別及性別劃分之員工平均受訓時數。 台灣及馬鞍山廠每名員工接受訓練的平均時數	73	依據內部教育訓練辦法，國際中橡於 2019 年度按員工類別及性別劃分之教育訓練時數總和除以 2019 年底員工總數。																																																							
	<table border="1"> <thead> <tr> <th>員工類別</th> <th>性別</th> <th>人數</th> <th>訓練時數</th> <th>平均受訓時數</th> </tr> </thead> <tbody> <tr> <td rowspan="2">高階主管</td> <td>男</td> <td>3</td> <td>88</td> <td>29.3</td> </tr> <tr> <td>女</td> <td>2</td> <td>92</td> <td>46.0</td> </tr> <tr> <td rowspan="2">中階主管</td> <td>男</td> <td>22</td> <td>944</td> <td>42.9</td> </tr> <tr> <td>女</td> <td>7</td> <td>204</td> <td>29.1</td> </tr> <tr> <td rowspan="2">基層主管</td> <td>男</td> <td>32</td> <td>1,294.5</td> <td>40.5</td> </tr> <tr> <td>女</td> <td>10</td> <td>307</td> <td>30.7</td> </tr> <tr> <td rowspan="2">專業人員</td> <td>男</td> <td>83</td> <td>2,430.5</td> <td>29.3</td> </tr> <tr> <td>女</td> <td>54</td> <td>1,514</td> <td>28.0</td> </tr> <tr> <td rowspan="2">直接人員</td> <td>男</td> <td>201</td> <td>1,823.5</td> <td>9.1</td> </tr> <tr> <td>女</td> <td>28</td> <td>143.5</td> <td>5.1</td> </tr> <tr> <td>合計</td> <td></td> <td>442</td> <td>8,841</td> <td>20.0</td> </tr> </tbody> </table>	員工類別	性別	人數	訓練時數	平均受訓時數	高階主管	男	3	88	29.3	女	2	92	46.0	中階主管	男	22	944	42.9	女	7	204	29.1	基層主管	男	32	1,294.5	40.5	女	10	307	30.7	專業人員	男	83	2,430.5	29.3	女	54	1,514	28.0	直接人員	男	201	1,823.5	9.1	女	28	143.5	5.1	合計		442	8,841	20.0		
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6-5 Independent Auditor's Limited Assurance Report



會計師有限確信報告

資會綜字第 20002817 號

國際中橡投資控股股份有限公司 公鑒：

本事務所受國際中橡投資控股股份有限公司（以下稱「貴公司」）之委任，對 貴公司選定西元 2019 年度企業社會責任報告書所報導之績效指標執行確信程序。本會計師業已確信竣事，並依據結果出具有限確信報告。

確信標的資訊與適用基準

有關 貴公司選定西元 2019 年度企業社會責任報告書所報導之績效指標（以下稱「確信標的資訊」）及其適用基準詳列於 貴公司西元 2019 年度企業社會責任報告書第 105 至 106 頁之「確信項目彙總表」。前述確信標的資訊之報導範圍業於企業社會責任報告書第 2 頁之「報告邊界」段落述明。

管理階層之責任

貴公司管理階層之責任係依照適當基準編製企業社會責任報告書所報導之績效指標，且維持與績效指標編製有關之必要內部控制，以確保績效指標未存有導因於舞弊或錯誤之重大不實表達。

會計師之責任

本會計師係依照確信準則公報第一號「非屬歷史性財務資訊查核或核閱之確信案件」，對確信標的資訊執行確信工作，以發現前述資訊在所有重大方面是否有未依適用基準編製而須作修正之情事，並出具有限確信報告。

本會計師依照上述準則所執行之有限確信工作，包括辨認確信標的資訊可能發生重大不實表達之領域，以及針對前述領域設計及執行程序。因有限確信案件取得之確信程度明顯低於合理確信案件取得者，就有限確信案件所執行程序之性質及時間與適用於合理確信案件者不同，其範圍亦較小。

本會計師係依據所辨認之風險領域及重大性以決定實際執行確信工作之範圍，並依據本委任案件之特定情況設計及執行下列確信程序：

- 對參與編製確信標的資訊之相關人員進行訪談，以瞭解編製前述資訊之流程，以及攸關之內部控制，以辨認重大不實表達之領域。
- 基於對上述事項之瞭解及所辨認之領域，對確信標的資訊選取樣本進行包括查詢、觀察、檢查等測試，以取得有限確信之證據。



此報告不對西元 2019 年度企業社會責任報告書整體及其相關內部控制設計或執行之有效性提供任何確信。

會計師之獨立性及品質管制規範

本會計師及本事務所已遵循會計師職業道德規範中有關獨立性及其他道德規範之規定，該規範之基本原則為正直、公正客觀、專業能力及盡專業上應有之注意、保密及專業態度。

本事務所適用審計準則公報第四十六號「會計師事務所之品質管制」，因此維持完備之品質管制制度，包含與遵循職業道德規範、專業準則及所適用法令相關之書面政策及程序。

先天限制

本案諸多確信項目涉及非財務資訊，相較於財務資訊之確信受有更多先天性之限制。對於資料之相關性、重大性及正確性等之質性解釋，則更取決於個別之假設與判斷。

有限確信結論

依據所執行之程序與所獲取之證據，本會計師並未發現確信標的資訊在所有重大方面未依適用基準編製而須作修正之情事。

其它事項

貴公司網站之維護係 貴公司管理階層之責任，對於確信報告於 貴公司網站公告後任何確信標的資訊或適用基準之變更，本會計師將不負就該等資訊重新執行確信工作之責任。

資誠聯合會計師事務所

會計師 徐永堅

徐永堅



西元 2020 年 8 月 4 日

Circular Economy Green Life Sustainability



International CSRC
Investment Holdings
Company Limited



CSRC website



CSR report



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