



GCE Sustainability Report

GOLD CIRCUIT ELECTRONICS LTD

20
23



About the Report

This is the 12th Sustainability Report of Gold Circuit Electronics Ltd. (hereinafter referred to as GCE) since its first publication in 2013. The Report discloses issues related to environmental protection (E), social responsibility (S), and corporate governance (G), as well as the management policies and achievements regarding material topics. It also explicates the communication with stakeholders and responses to their expectations, and identifies the impact of environmental protection (E), social responsibility (S), and corporate governance (G) across the value chain.

Structure of the Report

The information disclosed in this Report follows the requirements of the new version of the GRI Standards (2021) and adopts the sustainability accounting standards from the Sustainability Accounting Standards Board (SASB) and the Task Force on Climate-Related Financial Disclosures (TCFD) framework.

Reporting Period and Cycle

The scope of information and data disclosed in this Report is from January 1, 2023 to December 31, 2023.

- The last issue was published in June 2023.
- The current issue is released in June 2024 in both English and Chinese versions, which can be downloaded from the GCE' s official website.
- The next issue is expected to be published in June 2025 (regular annual publication).

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Reporting Boundaries and Quality

Category	Main disclosure	Differences from the scope of disclosure in the Financial Statement	External Assurance/ Verification
(E)(S)(G) Information	GCE Taiwan plants and China plants	It only discloses information in Taiwan plants and China plants	Verification of the contents of this report is conducted by the British Standards Institution (BSI) in accordance with AA1000AS v3 for Type I Medium Level of Assurance.
Financial Information	GCE	None	Financial Reporting [Deloitte & Touche]

The Deloitte & Touche and the BSI are not the Company's equity holders nor members of the management, and they are only entrusted with external assurance or verification of the Financial Statement and Sustainability Report.

Message from the Chairman

Over the past year, Gold Circuit Electronics has made substantial progress in the environmental protection, social responsibility, and corporate governance, by incorporating ESG as the foundation of our operations to ensure sustainable business.

In response to global sustainability challenges, Gold Circuit Electronics has established a Sustainable Development Committee and formulated its organizational charter to oversee company-related sustainability issues and effectively advance sustainability goals. This demonstrates our commitment and sense of responsibility towards sustainable development objectives.

The company continues to participate in the Carbon Disclosure Project (CDP). In August 2023, we submitted a near-term commitment to the Science Based Targets initiative (SBTi), aligning with the 1.5°C reduction pathway and moving towards net-zero carbon emissions by 2050. In addition, we continue to actively promote equipment replacement projects (compressors, motors, etc.) this year. We seek to effectively reduce energy consumption and greenhouse gas emissions whilst we maintain production capacities. We will continue to optimize our production processes to contribute to sustainable development goals.

Our company philosophy holds that employees are our most valuable asset. We are dedicated to creating an open, transparent, and friendly work environment, to ensure that every employee's voice is heard and valued. To promote effective communication, we provide multiple channels for complaints and suggestions, allowing employees to easily express opinions and ideas. Moreover, we offer comprehensive training mechanisms, regularly organizing relevant education and training to enhance employees' "hard skills" for their roles. This is complemented by common competency courses to improve "soft power". We hope to cultivate employees' smart skills at workplace through a series of courses, to build a solid foundation for the company's long-term development.

In the future, we will continue to uphold the spirit of "Financial integrity, proactive advancement, steadiness and pragmatism, and sustainable operation".

We will shoulder the responsibility of caring for our colleagues and fulfilling our social responsibilities. With an attitude of "integrity, responsibility, professionalism, and innovation", we are accountable to our customers, the market, and the environment. We continuously optimize and improve corporate governance and environmental protection. With the collective efforts of all employees and the support from all parties of the society, we will surely create greater value.

Finally, I sincerely thank everyone who has supported and paid attention to Gold Circuit Electronics. Let us move forward together, steadily advancing towards sustainable development and co-creating the future.

Chairman Yang Cheng-Tse

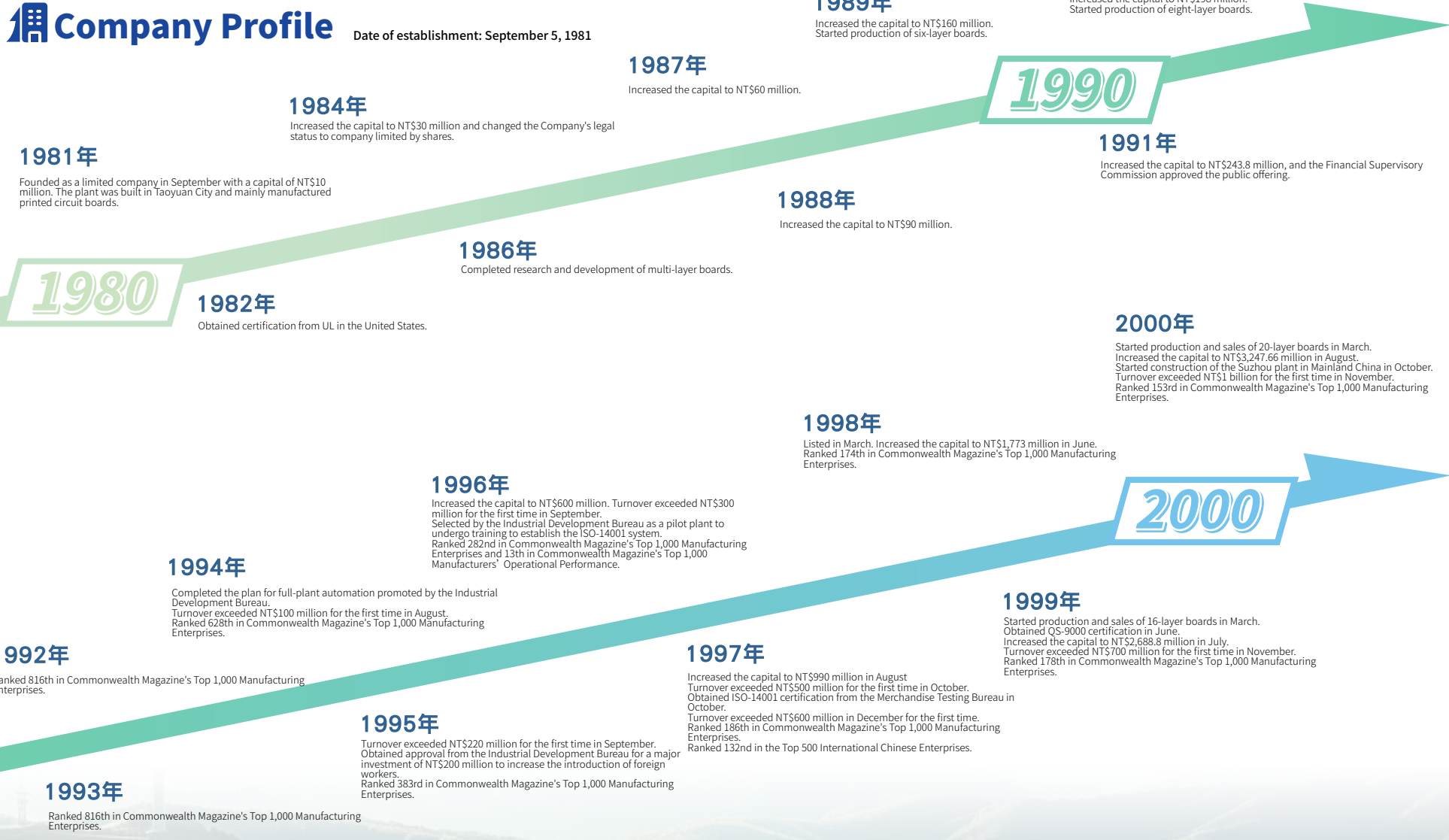


Company Profile

Date of establishment: September 5, 1981

About the Report

- Contents
- Message from the Chairman
- Company Overview
- Sustainable Development Strategy and Management
- Robust Governance and Transparency
- Confronting Climate Change
- Green Strategy and Implementation
- Shared and Inclusive Pathway
- Innovation Breakthroughs and Results
- Sustainable Supply Chain
- Appendix



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About the Report

- Contents
- Message from the Chairman
- Company Overview
- Sustainable Development Strategy and Management
- Robust Governance and Transparency
- Confronting Climate Change
- Green Strategy and Implementation
- Shared and Inclusive Pathway
- Innovation Breakthroughs and Results
- Sustainable Supply Chain
- Appendix

2001年

Obtained TL-9000 certification in August.
Increased the capital to NT\$3,908.7 million in August.

2003年

Suzhou GCE's 10-layer board products received customer endorsement in the second quarter.
Introduced the ORACLE ERP system successfully in September.

2005年

Increased the capital to NT\$4,889,168,110 in November.
The Company's profit after tax exceeded NT\$1 billion for the first time.
Ranked 193rd in Commonwealth Magazine's Top 1,000 Manufacturing Enterprises.

2007年

Ranked 157th in Commonwealth Magazine's Top 1,000 Manufacturing Enterprises.

2008年

Increased the capital to NT\$5,527,528,550 in July.
Ranked 163rd in Commonwealth Magazine's Top 1,000 Manufacturing Enterprises.

2006年

Increased the capital to NT\$5,118,080,990 in June.
Ranked 169th in Commonwealth Magazine's Top 1,000 Manufacturing Enterprises.

2004年

Issued convertible corporate bonds of NT\$600 million in April.
Increased the capital to NT\$4,437,475 million in July.
Ranked 182nd in Commonwealth Magazine's Top 1,000 Manufacturing Enterprises.

2000

2002年

Increased the capital to NT\$4,104.135 million in October.

2015年

Successfully developed copper coin-embedded PCB.
Ranked 174th in Commonwealth Magazine's Top 2,000 Manufacturing Enterprises.

2013年

Ranked 201st in Commonwealth Magazine's Top 2,000 High ROE Enterprises.

2011年

Ranked 210th in Commonwealth Magazine's Top 1,000 Manufacturing Enterprises.

2016年

Decreased the capital to NT\$5,522,468,410 by cancelling 12,666 thousand shares of treasury stock in August.
Ranked 172nd in Commonwealth Magazine's Top 2,000 Manufacturing Enterprises.

2009年

Increased the capital to NT\$5,691,758,410 in October.
Ranked 188th in Commonwealth Magazine's Top 1,000 Manufacturing Enterprises.

2014年

Consolidated revenue for the whole year exceeded NT\$20 billion for the first time.
Ranked 177th in Commonwealth Magazine's Top 2,000 High ROE Enterprises.
Ranked top 10 in average salary growth among listed companies in 2014 and won "Remuneration Progress Award" from the Stock Exchange.

2012年

Ranked 219th in Commonwealth Magazine's Top 1,000 Manufacturing Enterprises.

2010

2010年

Ranked 219th in Commonwealth Magazine's Top 1,000 Manufacturing Enterprises.

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About the Report

- Contents
- Message from the Chairman
- Company Overview
- Sustainable Development Strategy and Management
- Robust Governance and Transparency
- Confronting Climate Change
- Green Strategy and Implementation
- Shared and Inclusive Pathway
- Innovation Breakthroughs and Results
- Sustainable Supply Chain
- Appendix

2017年

Established the Audit Committee and Compensation Committee in June. Ranked 181st in Commonwealth Magazine's Top 2,000 Manufacturing Enterprises.

2018年

Ranked 173rd in Commonwealth Magazine's Top 2,000 Manufacturing Enterprises.

2019年

Consolidated revenue in December exceeded NT\$ 2 billion one more time since 2014. Ranked 177th in Commonwealth Magazine's Top 2,000 Manufacturing Enterprises.

2020

2020年

Consolidated revenue in April hit a new monthly high of NT\$2.23 billion. Ranked 146th in Commonwealth Magazine's Top 2,000 Manufacturing Enterprises.

2021年

Consolidated revenue exceeded NT\$2.5 billion for the first time in November. Annual consolidated revenue hit a record high of NT\$26.6 billion. Ranked 159th in Commonwealth Magazine's Top 2,000 Manufacturing Enterprises.

2022年

Consolidated revenue exceeded NT\$3 billion for the first time in May. Decreased the capital to NT\$4,918,390,570 by capital reduction of 54,648,784 shares in July. Annual consolidated revenue hit a record high of NT\$32.8 billion. Ranked 130th in Commonwealth Magazine's Top 2,000 Manufacturing Enterprises. Honored as one of the Top 100 Enterprises by foreign investors.

2023年

Commenced the construction of the factory in Thailand in December. Ranked 22nd among Top 50 AI companies by Commonwealth Magazine's. Ranked 132nd in Commonwealth Magazine's Top 2,000 Manufacturing Enterprises.



Contents

About the Report	1
Contents	7
Message from the Chairman	3
1. Company Overview	
1.1 Core of Business Development	9
1.2 Value Chain Connectivity	10
1.3 Business Development	11
1.4 List of Associations/Organizations	12
2. Sustainable Development Strategy and Management	
2.1 Sustainable Development Organization	14
2.2 Material Topics: Analytical Methods and Results	16
2.3 Material Topics and Corresponding Standards	20
2.4 Sustainable Development Achievements and Future Plan	21
3. Robust Governance and Transparency	
3.1 Corporate Governance	28
3.2 Risk Management	37
3.3 Integrity Management	42
3.4 Business Continuity	45
3.5 Information Security and Trade Secrets	46

4. Confronting Climate Change	
4.1 GCE's Climate Governance	53
4.2 GCE Strategy and Risk Management	55
4.3 Climate Change Metrics and Targets	61

5. Green Strategy and Implementation	
5.1 Energy Usage	64
5.2 Greenhouse Gas Emissions	67
5.3 Low Carbon Strategy and Action Plans	69
5.4 Water Resources Management	72
5.5 Air Pollution Control	76
5.6 Waste Management	77

6. Shared and Inclusive Pathway	
6.1 Diverse and Inclusive Human Resources Strategy	83
6.2 Employee Development and Training	90
6.3 Health and Safety	100
6.4 Employee Compensation and Benefits	106
6.5 Employee Engagement and Feedback	111
6.6 Social Investment and Development	112

7. Innovation Breakthroughs and Results	
7.1 Innovation Breakthroughs and Achievements	117
7.2 Improve Customer Relations	121
7.3 Special Report on Chemicals and Hazardous Substances	124

8. Sustainable Supply Chain	
8.1 Sustainable Supply Chain Strategy	129
8.2 Sustainable Supply Chain Management and Practice	130

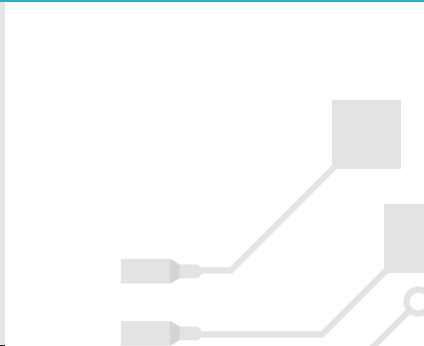
9. Appendix	
GRI Content Index	137
Sustainability Disclosure Indicators	143
Appendix of the "Rules Governing the Preparation and Filing of Sustainability Reports by TWSE Listed Companies"	144
Independent Assurance Statement	147



20
23



1. Company Overview



1.1 Core of Business Development

GCE was established in 1981 and the main business is a professional manufacturer of printed circuit boards. The head office is located in Zhongli Industrial Zone, Taoyuan City, Taiwan, and the Company also has manufacturing plants in Suzhou and Changshu in China. We are currently investing in the construction of manufacturing facilities in Thailand. Since customers are all over the world, there are offices in the United States, Europe, Japan, South Korea, Malaysia, Singapore, Thailand and Shenzhen to provide products and services to customers in real time.

Since inception, we have consistently upheld the spirit of “Financial integrity, proactive advancement, steadiness and pragmatism, and sustainable operation”. We shoulder the responsibility of caring for our colleagues and fulfilling our social responsibilities, so that we move steadily towards sustainable development together. Meanwhile, we maintain an attitude of “integrity, responsibility, professionalism, and innovation” towards our customers, by providing more high-performance and innovative electronic products.

Segment	2022 (Consolidated)		2023 (Consolidated)	
	Sales	%	Sales	%
Printed circuit board	32,785,064	100.00%	30,043,950	100.00%
Total	32,785,064	100.00%	30,043,950	100.00%

Unit: NT\$1,000

We focus on communication and computer-related products such as servers, networking boards, laptop motherboards, base stations, smartphones, and tablets. In recent years, our business strategy has gradually shifted towards high-end products, such as servers for AI and cloud computing, networking boards, low-orbit satellite antenna boards, storage device boards, and boards for connected Internet devices. We also produce high value-added products for consumer use, ranging from laptop motherboards to automotive boards.

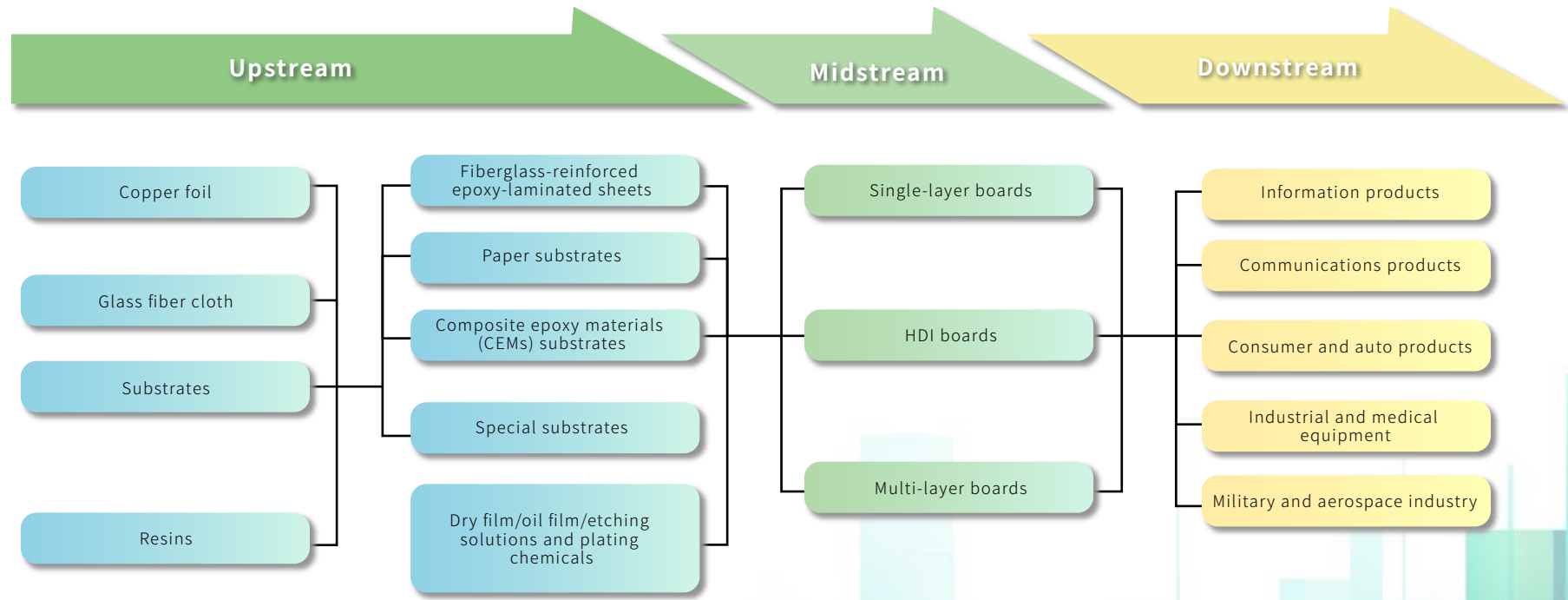
Item \ Year	2022	2023
R&D expenses (consolidated)	718,228	802,580
Revenue (consolidated)	32,785,064	30,043,950
R&D expense as % of revenue	2.19%	2.67%

Unit: NT\$1,000

Meanwhile, in response to customer's quality requirements and environmental protection requirements, the Company continued its investments to improve the manufacturing process in 2023, maintain international standard certifications of ISO-9001, ISO-14001, ISO 45001, IECQ QC 080000, IATF 16949 and ISO 27001, and established a sound mechanism for quality management and risk management to ensure the fulfillment of customers’ needs.

1.2 Value Chain Connectivity

We are primarily engaged in manufacturing and marketing of double-sided and multi-layer printed circuit boards (PCBs). These products play a crucial role in component mounting and signal transmission. Information technology, communications, and consumer products rely on printed circuit boards to support electronic components and connect circuits. PCBs are essential and fundamental components in electronic products. Our main raw materials include substrates, film, copper foil, dry film, oil film, etching solutions and other chemical materials from the petrochemicals, metals, and electronic component industries.



1.3 Business Development

Centered on our competitive advantage, strengths in production technology and R&D, brand and business acumen, we maintain good long-term cooperative relationships with our customers, and continue to solidify our market position. During recent years, we have been driving division of labor around the world. We strive for flexibility in production and management coordination. Notably, we invested in the construction of a factory in Thailand in 2023 and plan to ramp up production in the first half of 2025, to meet customers’ requirement for supply chain diversification. Our overarching strategy is to integrate the value chain and sustain high competitiveness. Furthermore, we maintain cooperation with world-renowned manufacturers in the information, communications and electronics industry to ob

Below is a list of risks related to market expectations and business development. We have put in place corresponding measures as follows:

Market and business risks	Responding measures
Greenhouse gas emission reduction becomes more and more important. The increasingly stringent environmental requirements boost management costs.	● Phaseout of energy-intensive equipment; introduction of low-carbon technology and manufacturing process improvement; and strict control over waste water ● Support of the circular economy by recycling and reuse of wastes
Heavy capital expenditures, high depreciation and hence slow returns on investment	● Outsourcing to fill in the temporary output shortfalls ● Sale of idle equipment to lower fixed depreciation
Rising labor costs and labor shortage	● Introduction of automation production ● Moving towards smart factories ● Quality reliability and management efficiency enhancement
Price cuts and competition from peers	● Higher on-time delivery rates to meet customers’ needs ● Lower scrap factors ● Technology improvement to manufacture and market high value-added products
Growth slowing down in the end market	● Development of new applications ● Entrance into niche markets

At the same time, we will launch **eight** initiatives as our future operational plan to continue driving our business development:

-
- 1 Continuously improve our technological development
 - 2 Increase on-time delivery rate
 - 3 Improve process yield and reduce scrapes
 - 4 Lower operating costs by developing new suppliers or new materials, etc.
 - 5 Build automated and environmentally friendly smart factories
 - 6 Sell high value-added products
 - 7 Advance into markets such as AI, low-orbit satellites, and cloud computing
 - 8 Increase customer satisfaction

Note: Please refer to 2023 Annual Report for details.

1.4 List of Associations/Organizations

No.	Association/Organization	Country/region
1	Taiwan Circuit Board Association	Taiwan
2	Taoyuan City Nurses Association	Taiwan
3	Zhongli Industrial Park Development Association	Taiwan
4	Zhongli Industrial Park Joint Defense Organization	Taiwan
5	Police Friends Association of Taoyuan City	Taiwan
6	Taoyuan Enterprise Chamber	Taiwan
7	Association of Pioneer Quality Control Research	Taiwan
8	IPC-Association Connecting Electronics Industries	Taiwan



20
23



2. Sustainable Development Strategy and Management



2.1 Sustainable Development Organization

GCE adheres to the spirit of “Financial integrity, proactive advancement, steadiness and pragmatism, and sustainable operation” to shoulder the care of employees and social responsibilities and to move steadily towards sustainable development. With the attitude of "integrity, accountability, professionalism, and innovation", we are duty-bound for customers, the market and the environment, and continue to optimize and improve corporate governance and environmental protection.



Functional groups						
Environmental and health safety	Energy management	Green supply chain	Innovation management	Corporate Governance	Human rights and public welfare	Information Security
● Environmental protection ● Management of exhaust gas, wastewater, and waste ● Circular economy ● Workplace safety ● Health promotion	● Energy assessment ● Green energy assessment ● Greenhouse gases ● Energy-saving and carbon-reduction	● Supply chain management and sustainability issues ● Green procurement ● Responsible minerals	● Product innovation ● R&D technology ● Product quality and service management ● Green product ● Customer relations	● Governance structure ● Information transparency and disclosure ● Economic benefits ● Business risk assessment ● Communication with stakeholders	● Labor rights ● Labor-management relations ● Employee relations ● Learning development ● Integrity management ● Public Welfare Participation	● Information security promotion ● Information security defense ● Information security monitoring and ● Information security protection ● Technology enhancement

2.1.1 Formation and Responsibility of Governance Organization

GCE has put in place the Charter for Sustainable Development Committee and the Sustainable Development Committee to supervise the company's sustainability related issues and drive towards the target for sustainable development.

The Sustainable Development Committee consists of a Committee Director and a Sustainable Development Coordinator, as well as functional groups, such as the Environment and Health Safety group, Energy Management group, Green Supply Chain group, Innovation Management group, Corporate Governance group, Human Rights and Public Welfare group, and Information Security group, and will adjust or add groups based on the needs in the future.

The Committee Director of the Sustainable Development Committee is Vice President, Lin Sheng-Hsien, designated by the Chairman. The committee members consist of the head executives from each department. The committee is responsible for reviewing, formulating, and promoting action strategies and risk management measures. It collectively resolves short-, medium- and long-term plans and manages the results of performance evaluations for subsequent reporting to the Chairman and the Board of Directors. The coordination of sustainable development is overseen by Director, Hsu Ying-Shun, who is responsible for coordinating planning and promoting sustainability-related issues while communicating and coordinating with various functional groups.

Functional groups refer to the designation of dedicated supervisors and members (including personnel from various operational departments to interact with sustainable development). They collect information on sustainable development trends from the government, customers, industry peers, and international sources. They also promote initiatives according to the board's instructions and the resolutions of the Sustainable Development Committee. The risks and opportunities identified by each unit are reviewed through the company's risk management and

2.1.2 Refinement of Meeting Convening Procedures

The coordinating personnel of the Sustainable Development Committee regularly convene meetings with the functional groups to consolidate information on the impact of sustainability-related issues, the progress of various initiatives, the implementation of short-term, medium-term, and long-term plans, and the formulation of adjustment or improvement measures. This information is subsequently reported to the Sustainable Development Committee.

The Committee Director of the Sustainable Development Committee convenes regular meetings. In 2023, committee members actively participated in these meetings and reported a 100% attendance rate. Functional groups presented information on sustainable development, impacts and progress of various initiatives. Rolling adjustments are made for strategies, management approaches, and short-term, medium-term, and long-term plans, according to adjustments or improvement measures proposed by functional groups.

Implementation reports are made to the Board of Directors at least once a year. On March 9, 2023, a report was presented to the Board on sustainable development strategies, action plans, and relevant issues, including overall strategic directions, goal setting and progress, status of major initiatives, greenhouse gas inventories, and green electricity procurement. This enabled the Board to fully supervise the progress and achievement rates of environmental protection, social responsibility, and corporate governance objectives. It also ensured that the Board is actively involved in sustainable development efforts and assumes its role as the ultimate risk bearer. This highlights the Board's position as the highest governance and risk management body of GCE. The Board of Directors also reviews, discusses, and examines the content of the sustainability report in the form of discussion items and confirms the content of sustainable development strategies and action plans. Throughout this process, the Board maintains a supportive and proactive attitude, participating directly or assigning colleagues to complete tasks. The sustainability report is publicly issued after the resolution is passed. The sustainability report is publicly issued after the resolution is passed. This year's sustainability report is expected to be released following discussion and resolution by the Board of Directors on August 7, 2024.

GCE has established a comprehensive and complete sustainability governance organization and operational process, with the collective efforts of the Sustainable Development Committee and functional groups. This not only demonstrates the company's firm commitment to sustainable development but also lays a solid foundation for achieving long-term sustainability goals. It further strengthens the company's ability to meet challenges in environmental protection, social responsibility, and corporate governance, so as to fulfill stakeholder expectations and become an exemplar for sustainable development in the industry.

2.2 Material Topics: Analytical Methods and Results

Relevant sustainability issues are gathered on the basis of stakeholder opinions, global trends, industry characteristics, internal and external businesses and activities and in accordance with international standards such as GRI (Global Reporting Initiative), TCFD (Task Force on Climate-related Financial Disclosures), and SASB (Sustainability Accounting Standards Board).



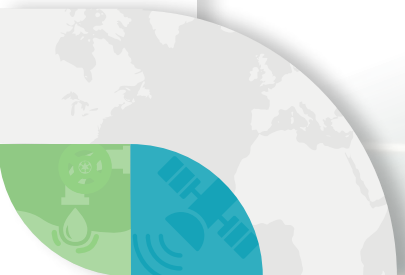
2.2.1 Achievements in Stakeholder Communication

We have identified employees, customers, investors, suppliers, and government agencies as stakeholder groups based on the five principles of the AA1000 Stakeholder Engagement Standard (2015)



And with reference to stakeholders listed by peers in the industry. To become a role model in sustainable development and to respect the rights and interests of stakeholders, we collect feedback and important reference sources from various communication channels. This serves as an indispensable basis for the Company to continuously adjust its sustainable development goals and action plans.

- About the Report
- Contents
- Message from the Chairman
- Company Overview
- Sustainable Development Strategy and Management**
- Robust Governance and Transparency
- Confronting Climate Change
- Green Strategy and Implementation
- Shared and Inclusive Pathway
- Innovation Breakthroughs and Results
- Sustainable Supply Chain
- Appendix



Stakeholders	Definition	Issues of concern	Communication method	Communication frequency	Engagement results
Employees	All employees	Operational performance Ethical management Occupation safety and employee health	Employee Welfare Committee meetings	Ad-hoc	Chapter 6: Path to Co-prosperity
			Labor-management meetings	Quarterly	
			Letterboxes for employee opinions and whistleblowing	Anytime	
			Training and education	Ad-hoc	
Customers	Customers with a business relationship	Product quality and customer satisfaction Chemicals and hazardous substances management GHG emissions management Information security	Company websites	Anytime	Chapter 7: Innovation, Breakthrough and Outcome
			Customer visits and meetings	Anytime	
			Sales contact persons	Anytime	
			Senior executives visiting each other	Anytime	
			Phone calls, emails or other contact methods	Anytime	
Investors	Shareholders/other investors	Operational performance Ethical management GHG emissions management Information security Business continuity	Market Observation Post System	Anytime	Chapter 2: Sustainable Development Strategy and Management Chapter 3: Robust Governance and Transparency Company' s 2023 Annual Report
			Capital market day/ analyst meetings	At least four times a year	
			Stakeholder section on the company website	Anytime	
			Shareholders' meetings	At least once a year	
			Phone calls, emails or other contact methods	Anytime	

2.2.1 Achievements in Stakeholder Communication

Stakeholders	Definition	Issues of concern	Communication method	Communication frequency	Engagement results
Suppliers	Suppliers of raw materials, equipment and services	Chemicals and hazardous substances management GHG emissions management Supplier managements Ethical management	Procurement/ business units	Anytime	Chapter 8: Sustainable Supply Chain
			Stakeholder section on the company website	Anytime	
			Visits, self-assessments or inspections	At least once a year	
			Ethical management practice (Letterbox for whistleblowers)	Anytime	
Government agencies	Local government agencies or regulatory authorities	GHG emissions management Chemicals and hazardous substances management Occupation safety and employee health Ethical management Information security	Official documents	Ad-hoc	Chapter 1: Company Overview Company' s 2023 Annual Report
			Seminars held by competent authorities	Ad-hoc	
			Trade association discussions	Ad-hoc	
			Company website	Anytime	

2.2.2 Identification and Assessment of Material Topics

After the consolidation of 22 issues of concern, questionnaires were distributed in 2023 to CEO and senior executives of each unit to evaluate the "positive/negative impact" and "actual/potential impact (likelihood of occurrence)" of each issue. After the integration of stakeholders' feedback, the ranking of material topics from 2022, and opinions from expert advisors, a report was compiled based on the analysis and sequence of the most significant impacts. This was then presented to the Sustainable Development Committee.

2.2.3 Ranking and Confirmation of Material Topics

After the consolidation of 22 issues of concern, questionnaires were distributed in 2023 to CEO and senior executives of each unit to evaluate the "positive/negative impact" and "actual/potential impact (likelihood of occurrence)" of each issue. After the integration of stakeholders' feedback, the ranking of material topics from 2022, and opinions from expert advisors, a report was compiled based on the analysis and sequence of the most significant impacts. This was then presented to the Sustainable Development Committee.

2022 Ranking	2023 Ranking	Material topic	Positive/negative impact	Actual/potential impact	Total
1	1	GHG emissions management	87 (Negative)	75	162
9	2	Information security	87 (Negative)	75	162
2	3	Energy management	82 (Positive)	78	160
10	4	Operational performance	83 (Positive)	76	160
5	5	Service quality and customer satisfaction	80 (Positive)	79	159
3	6	Chemicals and hazardous substances management	86 (Negative)	72	158
14	7	Operational continuity	83 (Positive)	75	158
4	8	Occupational safety and labor health	81 (Positive)	75	156
6	9	Climate change risks and opportunities	83 (Negative)	72	155
17	10	Ethical management	84 (Positive)	69	153
15	11	Supplier management	77 (Positive)	71	148
13	12	Resource management and circular economy	72 (Positive)	70	142

2.3 Material Topics and Corresponding Standards

Below is the list of materials topics ranked according to significance and the corresponding topics/chapters in GRI (Global Reporting Initiative), TCFD (Task Force on Climate-related Financial Disclosures), and SASB (Sustainability Accounting Standards Board).

Item	Corresponding GRI topic	Supply chain impact					Impact			Other indicators	Corresponding chapter
		Internal	External								
		Employees	Customers	Investors	Suppliers	Government agencies	E	S	G		
GHG emissions management	GRI 305	▲	■	▲	■	▲	Actual				Chapter 5
Information security	Self-defined topic	■	■	▲	■	▲		Potential			Chapter 3
Energy management	GRI 302	▲	●	▲	—	▲	Actual				Chapter 5
Operational performance	GRI 201	■	—	■	—	▲			Actual		Chapter 1
Service quality and customer satisfaction	Self-defined topic	—	■	—	●	—		Actual			Chapter 7
Chemicals and hazardous substances	GRI 416	—	●	▲	■	▲		Actual			Chapter 7
Operational continuity	Self-defined topic	■	▲	▲	■	▲			Potential		Chapter 3
Occupational safety and labor health	GRI 403	■	●	—	●	▲		Actual			Chapter 6
Climate change risks and opportunities	Self-defined topic	▲	●	▲		▲	Potential		Potential	TCFD	Chapter 4
Ethical management	GRI 205	▲	▲	■	■	▲			Potential		Chapter 3
Supplier management	GRI 308 GRI 414	—	▲	—	■	—	Actual	Actual	Actual	SASB Supply chain management	Chapter 8
Resource management and circular economy	GRI 303 GRI 306	—	●	—	▲	—	Actual				Chapter 5 Chapter 7

■ Direct

▲ Indirect

● Business

Note 1: Assessment was conducted on “positive/negative impact” and “actual/potential impact” for GRI topics in adherence to the GRI Standard.

Note 2: According to the GRI Standard, there are three levels of linkage between the GRI “topic Boundary” and the assessing stakeholders: impacts they cause directly, indirect impacts they contribute to with other groups, or impacts that are directly linked to them through their business relationships

2.4 Sustainable Development Achievements and Future Plan

Material Topics	Description of impact	2023 Goals	Achievements in 2023	Medium-term Goals (2025)	Long-term Goals (2030)
GHG emissions management	Only by driving in full force for carbon reduction can we meet stakeholders' expectations, given the regulatory push and the ambition from the government and the industry.	GHG emissions down by 8% from base year (2019)	GHG emissions down by 23.39% from base year (2019)	1. GHG emissions down by 35.1% from base year (2019) 2. Carbon reduction by 2% year-on-year (Scope 1 and Scope 2)	1. GHG emissions down by 46.8% from base year (2019) 2. Carbon reduction by 2% year-on-year (Scope 1 and Scope 2)
Information security	Trade secrets and customer data are the foundation of operations. Information security is essential in responding to impacts.	1. Maintenance of ISO 27001 certificate validity and completion of version update 2. Zero information security event	100% achieved	1. Maintenance of ISO 27001 certificate validity and completion of version update 2. Zero information security event	1. Maintenance of ISO 27001 certificate validity and completion of version update 2. Zero information security event
Energy management	Energy saving and carbon reduction can only be achieved with proactive energy management and information integrity and accuracy.	1. Green energy consumption reaches 8%. 2. Annual electricity saving rate reaches 1%. 3. Energy intensity increase is reduced by 2% each year.	• Consumption of green energy: 16.2% (target met) • Annual electricity saving rate: 4.72% (target met) • Annual increase of energy intensity: 2.92% (target not met)	1. Green energy consumption reaches 21%. 2. Annual electricity saving rate reaches 1%. 3. Energy intensity increase is reduced by 2% each year.	1. Green energy consumption reaches 42%. Annual electricity saving rate reaches 1%. 2. Energy intensity increase is reduced by 2% each year.
Operational performance	Continued drive towards operating performance target and enhancement of the financial structure to create an image of forward-looking stability. Push for sustainable development and business transition of the company.	Maintenance of operating profits	100% achieved	Maintenance of operating profits	Maintenance of operating profits
Service quality and customer satisfaction	Corporate operations and development depend on the quality of products and services offered to customers and satisfaction of customer needs. Hence, it is necessary to carefully handle the impact on satisfaction.	1. Complaints about product quality < 10 2. 100% completion of handling customer complaints	100% achieved	1. Complaints about product quality < 8 2. 100% completion of handling customer complaints 3. A score of 9 points in term of customer satisfaction with absence of hazardous substances 4. Two proposals from each unit a year for innovation and management	1. Complaints about product quality < 5 2. 100% completion of handling customer complaints 3. A score of 9 points in term of customer satisfaction with absence of hazardous substances 4. Two proposals from each unit a year for innovation and management

2.4 Sustainable Development Achievements and Future Plan

Material Topics	Description of impact	2023 Goals	Achievements in 2023	Medium-term Goals (2025)	Long-term Goals (2030)
Chemicals and hazardous substances management	The strong regulatory push and requirements from government agencies and customers have a significant impact on corporate operations and development. As a result, it is necessary to strictly manage chemicals and hazardous substances.	1. Event caused by abnormality of air pollution control equipment < 1 2. Zero breach of rules governing chemicals. 3. Zero incident caused by use of hazardous substances for products 4. Zero leakage of chemicals or hazardous substances	100% achieved	1. Event caused by abnormality of air pollution control equipment < 1 2. Zero breach of rules governing chemicals. 3. Zero incident caused by use of hazardous substances for products 4. Zero leakage of chemicals or hazardous substances	1. Event caused by abnormality of air pollution control equipment < 1 2. Zero breach of rules governing chemicals. 3. Zero incident caused by use of hazardous substances for products 4. Zero leakage of chemicals or hazardous substances
Operational continuity	A robust emergency response system is in place to address the impact of any accident, in order to stabilize and continue operations and protect customers' rights.	1. Two drills on recovery from operational disruptions 2. Zero breaching of maximum tolerable downtime during the year	100% achieved	1. Two drills on recovery from operational disruptions 2. Zero breaching of maximum tolerable downtime during the year	1. Two drills on recovery from operational disruptions 2. Zero breaching of maximum tolerable downtime during the year
Occupational safety and labor health	Support from colleagues is essential to the company. We create a friendly workplace to ensure the physical and mental health of colleagues so that they can feel assured at work.	1. Zero occupational accident/injury 2. At least one drill for emergency evacuation each year 3. 95% completion rate of safety and health training 4. Over 90% attendance rate for employee health checks	25 occupational accidents/injuries (target not met)	1. Zero occupational accident/injury 2. At least one drill for emergency evacuation each year 3. 95% completion rate of safety and health training 4. Over 90% attendance rate for employee health checks	1. Zero occupational accident/injury 2. At least one drill for emergency evacuation each year 3. 95% completion rate of safety and health training 4. Over 90% attendance rate for employee health checks
Climate change risks and opportunities	Climate change is a pressing issue. It is at the center of the agenda for lawmakers and government agencies. Only by analyzing climate change, measuring financial impacts and capturing transition opportunities can we be effectively in addressing the impact associated with sustainable development.	Identification of climate change risks and opportunities and projection of financial impacts	100% achieved	Identification of climate change risks and opportunities and projection of financial impacts	Identification of climate change risks and opportunities and projection of financial impacts
Ethical management	Integrity, ethics, code of conduct, and a robust management mechanism sit at the center of corporate operations. This is essential to maintain a trusting relationship with customers and reputation in the marketplace.	1. Zero issuance of a fine by a local government for an amount higher than NT\$1 million 2. Zero deficiency identified by RBA priority audits 3. 95% completion rate of business ethics training in key departments	100% achieved	1. Zero issuance of a fine by a local government 2. Zero deficiency identified by RBA priority audits 3. 100% completion rate of business ethics training (including contractors) 4. 98% completion rate of business	1. Zero issuance of a fine by a local government 2. Zero deficiency identified by RBA priority audits 3. 100% completion rate of business ethics training (including contractors) 4. 100% completion rate of business

2.4 Sustainable Development Achievements and Future Plan

Material Topics	Description of impact	2023 Goals	Achievements in 2023	Medium-term Goals (2025)	Long-term Goals (2030)
Supplier management	All of the Company's sustainable development issues are underpinned by supply chain support and cooperation. Sustainable management is the only way to respond to impacts effectively.	100% RBA Commitment Statement signing rate among top 30 suppliers 100% achievement rate of greenhouse gas inventories and verifications among Type 1 Suppliers 100% achievement rate of greenhouse inventories among secondary suppliers 100% achievement rate of greenhouse inventory plans provided by Type 3 Suppliers 100% compliance rate among refiners in terms of conflict minerals	- Type 1 Suppliers: 62.50% (target not met) - Type 2 Suppliers: 65.71% (target not met) - Type 3 Suppliers: 57.78% (target not met)	100% RBA Commitment Statement signing rate among top 50 suppliers 100% compliance rate among top 40 refiners in terms of conflict minerals 100% signing rate among top 40 suppliers for gifts and hospitality declarations, recruitment and cooperation 80% achievement rate of greenhouse inventories and verifications among Type 1 Suppliers 70% achievement rate of greenhouse inventories among Type 2 Suppliers 40% achievement rate of greenhouse inventories and verifications among Type 2 Suppliers 50% achievement rate of greenhouse inventory plans provided by Type 3 Suppliers 20% achievement rate of greenhouse inventories and verifications among Type 3 Suppliers	100% RBA Commitment Statement signing rate among top 50 suppliers 100% compliance rate among top 40 refiners in terms of conflict minerals 100% signing rate among top 40 suppliers for gifts and hospitality declarations, recruitment and cooperation 80% achievement rate of greenhouse inventories and verifications among Type 1 Suppliers 70% achievement rate of greenhouse inventories among Type 2 Suppliers 40% achievement rate of greenhouse inventories and verifications among Type 2 Suppliers 50% achievement rate of greenhouse inventory plans provided by Type 3 Suppliers 20% achievement rate of greenhouse inventories and verifications among Type 3 Suppliers
Resource management and circular economy	In view of resource constraints in the future and the trend for recycling and reuse of products and resources, the Company is urged to assess its management mechanism and use innovative technology for recycling and reuse in order to address relevant impacts.	12% water saving rate - Water consumption intensity reduced by 50% from base year (2019) 95% waste conversion rate - Scum weight reduction at 50%	- Water saving rate: 11.46% (target not met) - Water consumption intensity reduced by 36.1% (target not met) - Waste conversion rate: 93.54% (target not met) - Scum weight reduction at 50% (target met)	15% water saving rate - Water consumption intensity reduced by 55% from the prior year 91% waste conversion rate	18% water saving rate - Water consumption intensity reduced by 60% from the prior year 91% waste conversion rate

Note 1: Please refer to the responses provided in each chapter of this report or the 2023 Annual Report regarding the circumstances where the targets were not met and the measures taken.

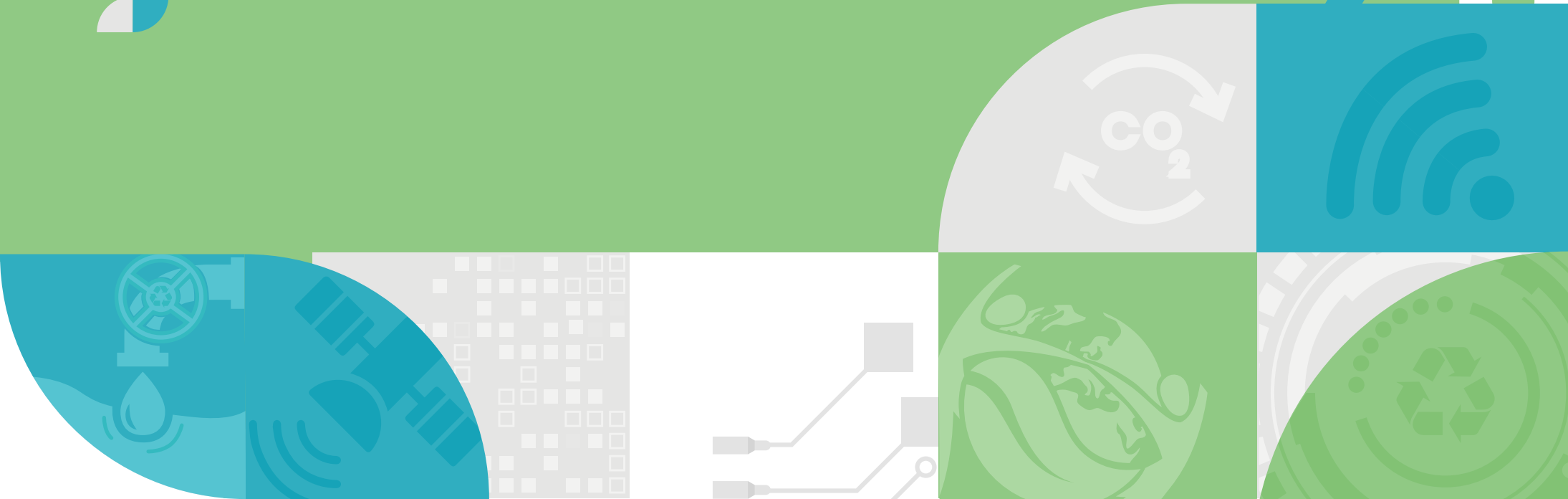
Note 2: Type 1, Type 2 and Type 3 Suppliers are based on factors such as annual procurement amounts, importance of raw materials and suppliers to the Company.



20
23



3. Robust Governance and Transparency



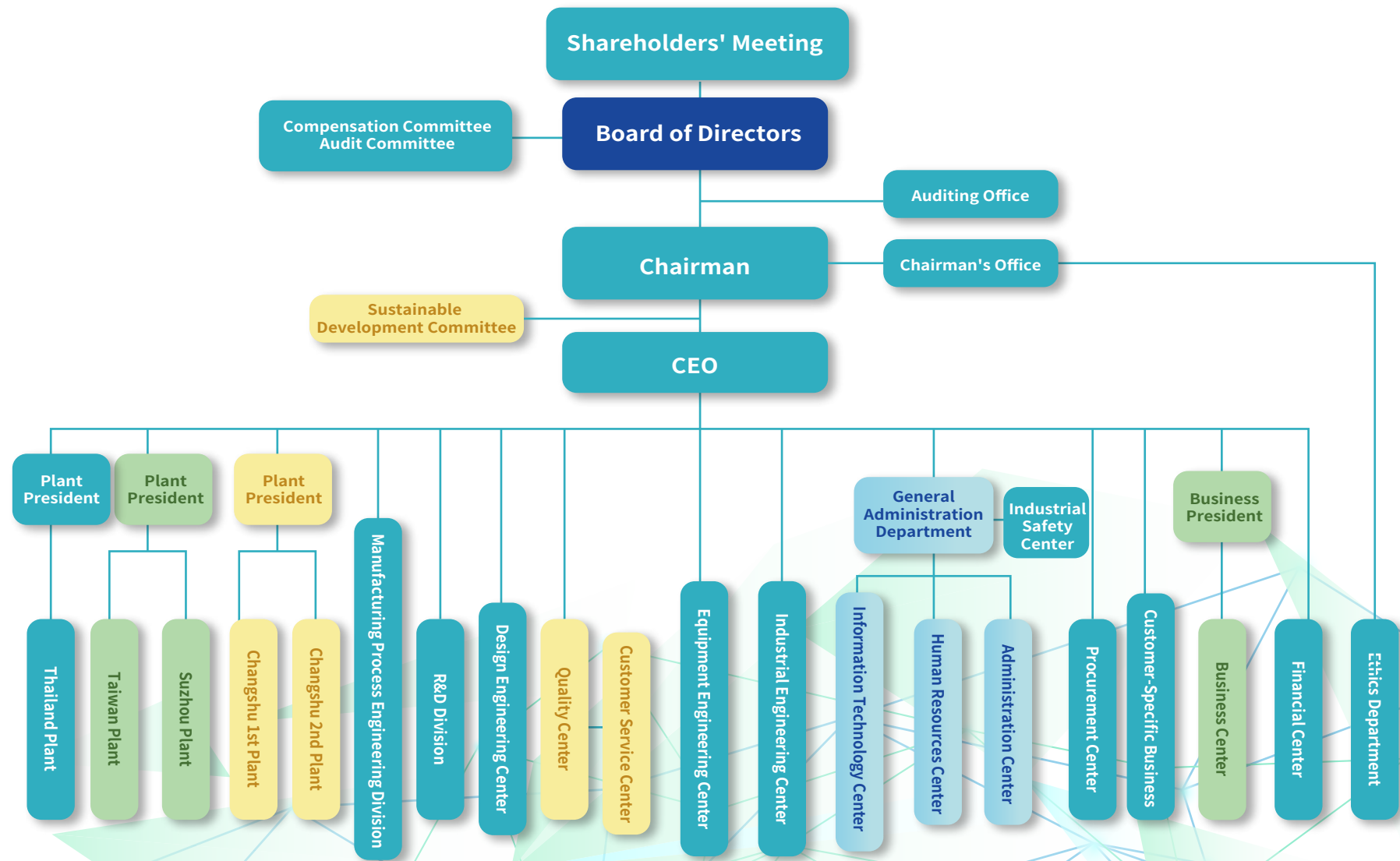
Robust Governance and Transparency

GCE adheres to the principle of integrity and has established a management mechanism to identify and control risks. We proactively respond to impacts, strictly comply with legal requirements, and protect the security of our own and customers' confidential information. This ensures the Company's business continuity and performance growth, continuously strengthens corporate governance, meets the expectations of various stakeholders, and moves towards the goal of sustainable operations.

No.	Item	Key achievement
1	Maintaining of operating profits	In profit
2	No. of fines issued by local governments for breach of laws and at an amount over NT\$1 million	0 incidence
3	No. of deficiencies identified by RBA Priority audits	0 incidence
4	No. of confirmed complaints about violation of business ethics	0 incidence
5	Completion of training and education on business ethics	100%
6	Email phishing and social engineering drills for employees	2 times
7	Drills on information security and disaster recovery	20 times

Note: NT\$1 million threshold in No. 2 is based on financial materiality.

GCE Organization Chart



Department	Main functions
Shareholders' Meeting	■ The highest decision-making body of the Company ■ Exercise the authority and power in accordance with the provisions of the Company Act and other relevant laws and regulations
Audit Committee	■ Review the Company's accounting system, financial status, financial reporting procedures and handling procedures for major financial business activities. ■ Review whether the compilation of the Company's financial statement is truthful, complete and transparent. ■ Review whether asset acquisition or disposal, engagement in derivatives trading, loan to others, endorsements and guarantees, and mergers, demergers, acquisitions or transfer of shares, comply with laws, administrative rules and the internal regulations of the Company ■ Other duties in accordance with the articles of association, corporate governance code or resolutions of the Board of Directors
Compensation Committee	■ Formulate and regularly review policies, systems, standards and structures for performance evaluation and remuneration of directors, supervisors and managers ■ Regularly assess and determine the remuneration of directors, supervisors and managers
Auditing office	■ Inspect and evaluate the internal control system and provide advice in response to the analysis and evaluation.
Taiwan Plant	■ In charge of PCB production and quality, production line management, production planning, and equipment maintenance
Suzhou Plant	■ In charge of PCB production and quality, production line management, production planning, and equipment maintenance
Changshu 1st Plant	■ In charge of PCB production and quality, production line management, production planning, and equipment maintenance
Changshu 2nd Plant	■ In charge of PCB production and quality, production line management, production planning, and equipment maintenance
Thailand Plant	■ Expected to manufacture printed circuit boards and manage quality, production lines, production plans and equipment maintenance
Quality Center	■ Implement the plan for the quality control target and comprehensively manage the quality system operation, quality management related matters and customer service.
General Administration Division	■ Plan and implement various human resources management systems ■ Integrate and plan information systems. ■ Plan and supervise various environmental protection and industrial safety matters of the Company and maintain a positive work environment and personal safety of employees.
Procurement Center	■ Procure high-quality, low-cost raw materials that meet market needs
Business Center	■ Manage the Company's product marketing and customer development comprehensively.
Financial Center	■ In charge of financial operation and planning, fund management and various financial matters such as accounting and tax affairs.

3.1 Corporate Governance

The election of directors and independent directors adopts a candidate nomination system. Based on legal regulations and the company bylaws such as Article 14-2 of the Securities and Exchange Act, the Regulations Governing Appointment of Independent Directors and Compliance Matters for Public Companies, the company’s Articles of Incorporation, the Procedures for Election of Directors, and the Corporate Governance Best Practice Principles, nominations are submitted to the Board of Directors. After the evaluation of educational backgrounds, work and industry experience, and professional capabilities of the nominees, the Board proposes a list of candidates to the shareholders' meeting. The election is then conducted through an open and fair process.

In addition, any shareholder owning at least 1% of the Company’s issued shares may submit a list of directorate candidates according to the Company Act.

3.1.1 Governance Structure of Board of Directors

Our company currently has the 10th Board, consisting of 10 directors: 6 directors and 4 independent directors. Their term of office is 3 years (from July 20, 2021 to July 19, 2024). The election for Chairman requires the attendance of more than two-thirds of the directors and the approval of more than half of the attending directors. The current Chairman is Mr. Yang Cheng-Tse, who has gradually worked his way up from the entry level and is familiar with the company's products and business operations. Mr. Yang possesses the leadership, management, and communication skills across various departments. The Company has been growing steadily under his helm. In the future, he will continue to build on extensive experience, maintain smooth communication and cooperation with directors and company executives, accurately and effectively respond to customer needs, and promote environmental protection, social responsibility, and corporate governance with a broad vision. He will proactively move towards sustainable development goals and meet the expectations of stakeholders.

Please visit Sustainability section on our corporate website for more information.

Composition of Governance Structure:

- 40% of the directors are employees.
- 40% of the directors are independent.
- 30% of the directors are female.

According to the Corporate Governance Best Practice Principles and the Rules of Procedure of Board Meetings, the Board of Directors convenes regular meetings and includes attendance rates of board members (excluding attendance in proxy) into the performance assessment of board members. A total of eight board meetings were held in 2023, with an average attendance rate of 97.6%.

Committee	Members	Director	Independent directors	External members	No. of meetings	Avg. attendance rate
Audit Committee	4	-	4	-	8	96.88%
Remuneration Committee	3	-	3	-	3	100%
Sustainable Development Committee	-	1	-	-	1	100%

Note: Please visit Stakeholders section of our corporate website for more information.

3.1.2 Board Independence and Avoidance of Conflicts of Interest

Independence and transparency are essential requirements of the Board of Directors, and the Directors and Independent Directors exercise their duties and powers independently. Moreover, each Functional Committee would also oversee their independence, assisting the Board of Directors in supervising accounting, auditing, financial reporting processes, financial controls, internal controls and legal compliance, and the quality and integrity of decision-making for investments to enhance the performance of corporate governance.

The Company currently has 10 directors, including four independent directors (or approximately 40% of the Board). All independent directors have met the requirements set by the Regulations Governing Appointment of Independent Directors and Compliance Matters for Public Companies. No director can serve more than three consecutive terms or sit on the boards of more than three public companies.

The Board of Directors convened eight meetings during the year. The average attendance rate of independent directors was 97.0%, indicating the full participation and expression of opinions from independent directors on all proposals.

Furthermore, the Company manages the conflicts of interest between itself and directors and among directors, in accordance with the Corporate Governance Best Practice Principles and the Rules for Election of Directors.

- No more than half of the seats on the Board of Directors can be occupied by individuals who have spousal relationships or are relatives within two degrees with another board member.
- The director shall recuse from an agenda item at the board meeting if a personal conflict of interest is involved.
- The director shall also recuse if the legal person the director represents has a conflict of interest. The director cannot join the discussion or the voting or exercise voting rights on behalf of another director.
- Directors should exercise self-discipline and may not back up each other in an inappropriate way.
- The board meeting minutes should record the names of the directors who have conflicts of interest with agenda items and the specific reasons for their recusal or non-recusal.

3.1.3 Board Diversity

About the Report

Contents

Message from
the Chairman

Company
Overview

Sustainable Development
Strategy and Management

Robust Governance
and Transparency

Confronting Climate Change

Green Strategy and
Implementation

Shared and Inclusive Pathway

Innovation Breakthroughs
and Results

Sustainable Supply Chain

Appendix

Currently, the Company has ten directors, including three female directors (or 30% of the Board). Two directors are between 51 and 60 years old, three between 61 and 70 years old, four between 71 and 80 years old age and one between 81 and 90 years old.

Moreover, the Corporate Governance Best Practice Principles require the Board of Directors to formulate appropriate diversity guidelines for its own operation. The board should be diverse, including but not limited to gender, age, culture, educational background, and professional experience. Board members must possess the necessary knowledge, skills, and qualities to perform duties.

Meanwhile, board composition and structure are included in the board performance evaluation criteria. The push for board diversity continues through annual self-assessment of board performance and feedback from stakeholders.

Analysis on board diversity												
Director	Title	Sex	Nationality	Age (Range)	Professional experience							
					Management	Industry experience	Accounting & finance	Crisis management	International perspectives	Law	Environmental engineering	Social domain
Yang Cheng-Tse	Chairman/ CEO	Male	Taiwan, R.O.C.	51-60	✓	✓		✓	✓		✓	✓
Yang Chang-Chi	Director	Male	Taiwan, R.O.C.	71-80	✓	✓		✓	✓		✓	✓
Yang Chang-Ching	Director and Special Assistant	Male	Taiwan, R.O.C.	61-70	✓	✓	✓	✓	✓		✓	✓
Yang Cheng-Jung	Director and Division Head	Female	Taiwan, R.O.C.	51-60	✓	✓		✓	✓	✓	✓	✓
Tsai Jung-Tung	Director on behalf of a legal-person shareholder	Male	Taiwan, R.O.C.	71-80	✓	✓	✓	✓	✓		✓	✓
Lin Lien-Mei	Director	Female	Taiwan, R.O.C.	71-80		✓			✓		✓	✓
Hsieh Cheng-Chou	Independent Director	Male	Taiwan, R.O.C.	71-80	✓	✓		✓	✓		✓	✓
Chiang Wen-Shih	Independent Director	Male	Taiwan, R.O.C.	81-90		✓	✓	✓	✓		✓	✓
Lin Tzu-Ying	Independent Director	Female	Taiwan, R.O.C.	61-70		✓		✓	✓	✓	✓	✓
Chen Shih-Chih	Independent Director	Male	Taiwan, R.O.C.	61-70	✓	✓		✓	✓		✓	✓

Note: In November 2017, Mr. Yang Cheng-Tse took over as the Company's CEO. He has been with the Company for nearly 30 years and has rotated through different departments. Although the Chairman and CEO are the same person, The Directors believe this is the best arrangement for the Company because he is the largest shareholder and possesses leadership, management, and communication skills across various departments. Moreover, the Company has been profitable every year, with revenue and profits reaching historical highs since his appointment. In 2023, the Company added one more independent director, in compliance with the legal requirement of at least four independent directors.

3.1.4 Board performance assessment and remuneration

The remuneration for directors (including independent directors) consists of two parts. First, there's a travel allowance to cover expenses for visiting the company or conducting business negotiations on behalf of the Company. Second, there's compensation. According to the Articles of Incorporation, if the Company makes a profit in a given year, the Board of Directors will resolve to allocate no more than 1% of the profit as directors' compensation.

Our company calculates individual directors' compensation and performance evaluations according to the Board of Directors and Functional Committees Performance Assessment Guidelines. The compensation to independent directors is also based on industry standards, attendance rates, individual performance, and the company's operational performance. The compensation for both types of directors is reviewed by Remuneration Committee before it is submitted to the Board of Directors for approval.

Our company conducts an annual performance evaluation of the Board of Directors, individual board members, and functional committees for the current year. The performance evaluation indicators are also reviewed and modified in a timely manner and as required by the Company's operations and changes in internal and external environments. Finally, the results of the performance evaluations are reported to the Board of Directors as a basis for improvement of board functioning, as well as for evaluation of the performance, compensation, and renomination of individual board members and functional committees.

In addition, our company engages an external independent institution or external experts and scholars to assess the board performance once every three years. We continue to strengthen the Board's governance mechanism by formulating improvement plans based on external advice. For more information, please refer to our corporate website or the 2023 Annual Shareholders' Meeting Report.

Performance evaluation	Board of Directors	Board members	Functional committees
Metrics	· Level of participation in company operations · Enhancement of board decision quality · Board composition and structure · Director election/appointment and continuing education · Internal control	· Understanding of company goals and missions · Comprehension of directorate duties and responsibilities · Level of participation in company operations · Management and communication of internal relationships · Directorate expertise and continuing education · Internal control	· Level of participation in company operations · Comprehension of committee duties and responsibilities · Enhancement of committee decision quality · Committee composition and structure · Internal control
Annual assessment results	Score: 94 The overall board functioning is robust, in line with the spirit of corporate governance.	Score: 94 Each director received positive feedback on the efficiency and effectiveness of all performance metrics.	Audit Committee: 95 Remuneration Committee: 94 Each functional committee received positive feedback on the efficiency and effectiveness of all performance metrics.

Note: The full score is 100.

3.1.5 Continuing Education

In accordance with the Directions for the Implementation of Continuing Education for Directors and Supervisors of TWSE Listed and TPEX Listed Companies, our company assisted all directors in continuing education in 2023 on the following topics (shown in the table below). The total training hours verified by internal and external institutions amounted to 108 hours for all directors. For more information, please refer to the Market Observation Post System. Additionally, our company subscribed to publications from the Taiwan Corporate Governance Association or participated in symposiums to acquire relevant new knowledge and help directors enhance various competencies.

Title	Name	Organizer	Curriculum	Hours
Chairman/ CEO	Yang Cheng-Tse	Taiwan Corporate Governance Association	The AI Explosion: Technological Development and Business Opportunities Associated with ChatGPT	3
		Taiwan Corporate Governance Association	Big Data Analytics and Fraud Prevention	3
Director	Yang Chang-Chi	Securities & Futures Institute (SFI)	Financial Crimes Empowered by Technology and Anti-Money Laundering for Companies	3
		Securities & Futures Institute (SFI)	Frequently Seen Violations of the Securities & Exchange Act	3
Director and Special Assistant	Yang Chang-Ching	Taiwan Corporate Governance Association	Information Security Governance: Concepts and Practices	3
		Taiwan Corporate Governance Association	Patent Strategy and Litigation: In Practice	3
		Taiwan Corporate Governance Association	Net Zero Talent Development	9
		Securities & Futures Institute (SFI)	2023 Advocacy Seminar: Compliance Issues on Equity Transactions of Insiders	3
Director and Division Head	Yang Cheng-Jung	Taiwan Corporate Governance Association	Patent Strategy and Litigation: In Practice	3
		Taiwan Corporate Governance Association	How to Enhance Influence, Drive SDGs and Increase Firm Value	3
Director	Lin Lien-Mei	Securities & Futures Institute (SFI)	2023 Advocacy Seminar: Prevention of Insider Trading	3
		Taiwan Corporate Governance Association	Experience Sharing: Board Performance Assessments	3

3.1.5 Continuing Education

About the Report

Contents

Message from the Chairman

Company Overview

Sustainable Development Strategy and Management

Robust Governance and Transparency

Confronting Climate Change

Green Strategy and Implementation

Shared and Inclusive Pathway

Innovation Breakthroughs and Results

Sustainable Supply Chain

Appendix

Title	Name	Organizer	Curriculum	Hours
Director on behalf of a legal-person shareholder	Tsai Jung-Tung	Taiwan Institute of Directors	Net Zero Business Opportunities and Challenges	3
		Taiwan Insurance Institute	International Practices in Anti-Money Laundering and Protection of Anti-Bribery and Whistleblowers	3
Independent Director	Hsieh Cheng-Chou	Taiwan Corporate Governance Association	Annual Reports Key Information and Accountability: From the Perspectives of Directors and Supervisors	3
		Taiwan Corporate Governance Association	Net Zero Talent Development	9
Independent Director	Chiang Wen-Shih	Securities & Futures Institute (SFI)	How Directors and Supervisors Monitor Company Establishment and Drive a Robust Risk Management System	3
		Taiwan Corporate Governance Association	How Audit Committee Interprets and Use Audit Quality Indicators (AQIs)	3
Independent Director	Lin Tzu-Ying	Securities & Futures Institute (SFI)	Concepts, Practices and Tools of Group Tax Governance	3
		Taiwan Corporate Governance Association	Carbon Fees, Carbon Taxes, Carbon Credits and Carbon Trading	3
Independent Director	Chen Shih-Chih	Securities & Futures Institute (SFI)	Shareholders’ Meetings, Management and Ownership Strategies	3
		Taiwan Project Management Association	Financial Statement Analysis and Financial Accounting Trends	3
		The Institute of Internal Auditors-Chinese	Interpretation of Financial Analysis Indicators and Prevention of Business Risks	6
Total hours				108

3.1.6 Monitoring of Sustainable Development Issues

- About the Report
- Contents
- Message from the Chairman
- Company Overview
- Sustainable Development Strategy and Management
- Robust Governance and Transparency**
- Confronting Climate Change
- Green Strategy and Implementation
- Shared and Inclusive Pathway
- Innovation Breakthroughs and Results
- Sustainable Supply Chain
- Appendix

The Board of Directors serves as the highest governance and risk management unit, overseeing the Company's development strategies, supervising the management, and being accountable to the Company and shareholders. It ensures the proper functioning of all operational processes and internal controls within the corporate governance system, in accordance with laws, the Articles of Incorporation, or resolutions of the Shareholders' Meeting. In addition, the Board of Directors also reviews and approves the annual and quarterly financial reports, evaluates the effectiveness of internal control systems, and approves resolutions from each functional committee.

Regarding issues of sustainable development, the Board of Directors holds regular and nonscheduled meetings to review action plans and risk management measures related to operational activities and sustainability issues. This ensures the accuracy of reporting, identifies implementation obstacles and performance outcomes, and effectively supervises progress and resource allocation. The Board of Directors authorizes the President and the Sustainable Development Committee for handling operational activities (including suppliers) and sustainability issues, respectively. They formulate and promote climate action strategies and risk management measures, establish short-, medium-, and long-term plans, assess performance outcomes, and report to the Board of Directors on significant issues regularly or as needed. All relevant decisions are recorded in meeting minutes and followed up on subsequent progress accordingly.

The Board of Directors also, in the form of discussion items, confirmed the content of the sustainability report, the sustainability development strategy and action plans through review, discussion, and examination. During the process, the Board of Directors maintained a supportive and proactive attitude, participating or assigning colleagues to complete tasks. The sustainability report will be publicly issued after the discussion and resolution are passed. This year's sustainability report is expected to be released following discussion and resolution by the Board of Directors on August 7, 2024.



3.1.7 Hierarchical Structure and Responsibility of Senior Management

The President and top management team of GCE are the operational and supervisory units in accordance with the Company's internal rules and regulations. In operations, the integration of issues related to sustainability with the Company's operational activities is gradually established. Regular monthly meetings are held to report operational status, progress on issues related to sustainability, and performance outcomes to the members of the Board of Directors through written and oral presentations.

The roles and responsibilities of the members of the top management team concerning operational activities and sustainability issues are outlined in the following table:

Title	Name	Experience and Education	Competences that can influence the Company
Sales President	Huang Hsi-Kuei	Graduated from National Tsing Hua University GCE Senior Vice President	Operations, Products, Service quality and customer satisfaction
Plant President	Tsai Chin-Sung	Department of Chemical Engineering, Yuan Ze University GCE Manager, Director, Assistant Manager	Operations, Products, Occupational safety and health, Water resources, Waste and hazardous substance management, Energy and resource management, Greenhouse gas emissions
Senior Vice President	Yang Te-Ming	MBA, University of Leicester / Bull Will Group COO GCE Suzhou President	Operations, Products, Occupational safety and health, Water resources, Waste and hazardous substance management, Energy and resource management, Greenhouse gas emissions
Senior Vice President	Lung Chung-Chih	Department of Industrial and Systems Engineering, Chung Yuan Christian University Tripod Technology Quality Assurance Vice President Compeq Electronics Quality Assurance Assistant Manager	Operations, Quality Assurance, Service quality and customer satisfaction
Vice President	Liu Min-Cheng	Datong College of Engineering GCE Manager, Director, Assistant Manager	Operations, Sustainable Development Planning
Vice President	Yang Chang-Chin	Department of Accounting, Tamkang University GCE Manager, Director, Assistant Manager	Operations, Operational performance, Finance, Legal compliance
Vice President	Lin Sheng-Hsien	GCE Manager, Director, Assistant Manager	Operations, Human Resources, Human Rights Assessment, Climate change impacts, Occupational safety and labor health, Information security
Assistant Manager	Li Shun-Chien	Department of Business Administration, Chung Yuan Christian University GCE Manager, Director	Engineering, Energy and resource management, Greenhouse gas emissions
Assistant Manager	Li Sung-Ying	U. of Missouri-Columbia, USA, Chemical Engineering, Ph.D. GCE Manager, Director	Quality Assurance, Service quality, customer satisfaction
Assistant Manager	Yang Ta-Kun	Department of Industrial Management, Chung Hua University EMBA, National Chiao Tung University GCE Manager, Director / GCE Changshu 2nd Plant Manager	Procurement, Sustainable Supplier Management
Assistant Manager	Chung Cheng-Hsuan	Department of Business Administration, Fu Jen Catholic University GCE Manager, Director	Products, Service quality, customer satisfaction
Assistant Manager	Li Jui-Pin	Chien Hsin University of Science and Technology GCE Manager, Director	Operations, Occupational safety and health, Water resources, Waste and hazardous substance management, Energy and resource management, Greenhouse gas emissions
Assistant Manager	Hu Chih-Kung	Chien Hsin University of Science and Technology GCE Manager, Director	Operations, Sustainable Development Planning
Auditor General	Wu Ming-Yuan	National Chin-Yi University of Technology GCE Manager, Vice Director	Audit, Sustainable Development Planning

- About the Report
- Contents
- Message from the Chairman
- Company Overview
- Sustainable Development Strategy and Management
- Robust Governance and Transparency**
- Confronting Climate Change
- Green Strategy and Implementation
- Shared and Inclusive Pathway
- Innovation Breakthroughs and Results
- Sustainable Supply Chain
- Appendix

3.1.8 Operational performance

- About the Report
- Contents
- Message from the Chairman
- Company Overview
- Sustainable Development Strategy and Management
- Robust Governance and Transparency**
- Confronting Climate Change
- Green Strategy and Implementation
- Shared and Inclusive Pathway
- Innovation Breakthroughs and Results
- Sustainable Supply Chain
- Appendix

Our management approach to operational performance is underpinned by continued adaptation to market changes, observation of product trends, investment in research and development of innovative products, and constant breakthroughs in operational performance in order to identify and respond to relevant impacts. In face of constantly changing market conditions, our company recognizes operational challenges such as professional talent cultivation and market price competition. To overcome these adverse factors, we focus on deep resource integration, develop professional diversity, continue to drive sustainable development and green transformation, proactively utilize AI technology and strive for breakthroughs and innovations, so that we can foster trusting relationships with customers, enhance market competitiveness and gain market advantages.

Meanwhile, we worked collectively to address trends and markets such as AI and low-orbit satellites so that the Company's operational performance in 2023 has steadily moved forward.

Unit: NT\$1000

Item	2021	2022	2023
Direct Economic Value (A)			
Gross Profit	6,371,040	88,728,088	7,723,796
Non-operating net income	29,700	77,395	209,844
Distributed Economic Value (B)			
Operating expenses	1,065,632	1,329,986	1,165,725
Non-operating net income	1,180,068	1,375,306	1,458,856
Community investment	3,740	4,737	7,140
Payments to funders	892,244	1,730,446	1,818,824
Business with the government	1,121,664	1,820,458	1,689,315
Retained Economic Value (A)-(B)	2,137,392	2,544,550	1,793,780

Note 2: All financial numbers are expressed in the New Taiwan dollars, the functional currency of the financial statements and in the unit of NT\$1,000. All numbers are audited. Relevant statistics are calculated in accordance with internationally accepted standards and indicators.
 Note 2: Please visit our corporate website or Market Observation Post System (<http://mops.twse.com.tw>) for consolidated financial statements.

3.2 Risk Management

The Board of Directors, managers at every level and employees all participate in, comply with, and promote the risk management system to effectively manage operational risks. Through this risk management system, we implement operational procedures for identifying, measuring, monitoring, responding to, and reporting of potential risks. We disclose risks in an accurate, complete, reliable, analytical and appropriate manner so that our operational performance achieves steady growth, protect stakeholders' interests, and attain sustainable development goals within an acceptable level of risks.

3.2.1 Risk Management Policy

To address risks arising from internal and external factors, GCE has established risk management policies and procedures with a systematic methodology and continues to enhance our risk management capabilities. In terms of implementation mechanism, the Board of Directors serves as the highest risk management unit, oversees the degree of major risk impacts and response measures, ensures the investment of effective resources and manpower for execution of annual plans and control of various potential risks. We have also put in place a management mechanism for business continuity and an emergency response system, in event of major risks, in order to immediately mitigate disasters and resume normal operation in event of major risks.



3.2.2 Risk Management System

- About the Report
- Contents
- Message from the Chairman
- Company Overview
- Sustainable Development Strategy and Management
- Robust Governance and Transparency**
- Confronting Climate Change
- Green Strategy and Implementation
- Shared and Inclusive Pathway
- Innovation Breakthroughs and Results
- Sustainable Supply Chain
- Appendix

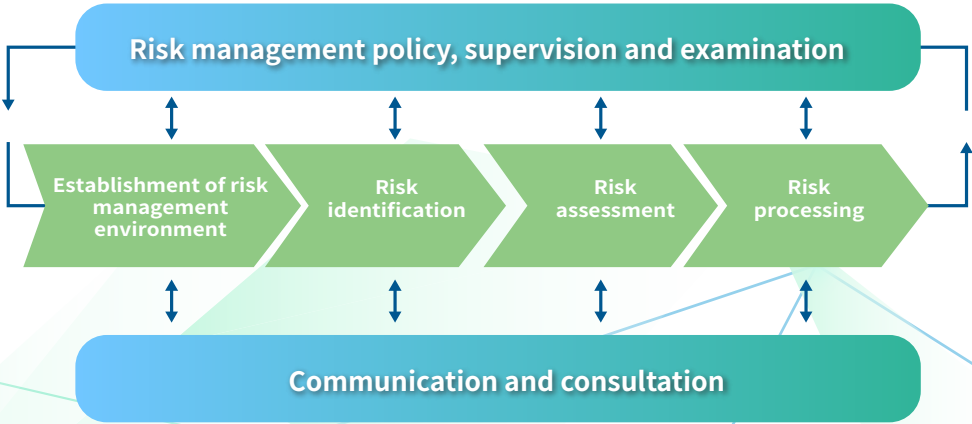
Our company ensures that risks are controlled within acceptable limits through a hierarchical structure of organization, personnel, technologies and techniques, operational procedures, and management measures. This is supplemented by regular/ad-hoc and qualitative/quantitative identification, evaluation, and monitoring mechanisms.

Level	Responsibility
Board of Directors	- The Board of Directors, as the highest-level risk management unit, reviews the annual audit reports and ensures the effective functioning of the risk management system and the control of all risks. - The Board of Directors receives reports from senior management at performance meetings on a regular basis and from time to time or discusses and resolves on significant risk issues.
Management	- Management formulates strategies and action plans and implement these initiatives by following the guidance from the Board of Directors. - Senior management instructs the business unit and reviews the level of risk impacts, strategies, actions plans, performance achievement, and improvement/preventive measures.
Business unit	- Identification of the level of risk impacts, strategies and actions plans - Development of risk management goals and action plans - Cross-functional discussions and implementations
Audit Room	- Assessment of the effectiveness of risk management mechanisms and measures - Conducting of audits and regular reporting of risk management results to Audit Committee and the Board of Directors - Follow-ups by the audit unit to ensure that the business unit has properly implemented improvement plans
Human Resources Department	Compilation of the risk assessment results from the previous year (risk score = frequency of occurrence * severity). This is followed with regular tracking of improvement results and modification of operating procedures in line with the determined risk control levels.

Furthermore, the risk management system established with a systematic methodology, along with its relevant regulations and operational procedures, serves as the mechanism for governance, organization, strategies and measures, risk identification, assessment methods, target measurement, monitoring, and reporting as the basis and the controls for daily risk management.

The management and various business units disclose the degree of risk impacts and monitoring results in an accurate, complete, reliable, and analytical manner. The potential financial impact of risks is assessed. Management measures for risk avoidance, reduction, sharing, and acceptance are suggested. The implementation and effectiveness of risk management measures are periodically reviewed and reported to senior management and the Board of Directors, to assist in the decision-making regarding risk treatment plans and action strategies. This enables the Company to stay on top of risks and opportunities, achieve reasonable allocation and an acceptable level of risks, and protect stakeholders' interests.

Risk management process diagram



3.2.3 Company Risk Identification and Responses

To address operational risks, the regulations and operational procedures are in place for assessment and handling of financial risks, environmental and occupational safety and health hazards, labor issues and ethical risks. This enables the evaluation of risk levels, establishment of control measures and annual improvement targets. The primary risks the Company encounters include market risks, operational risks, interest and exchange rate risks, credit risks, climate risks, technology risks, information security risks and legal risks, etc.

Risk type	Impact	Risk mitigation strategy
Market risk	Loss limit is breached as a result of market changes exceeding expectations due to domestic/overseas issues or realization of potential risks.	Monitoring items for business activities and operations are in place to define risk tolerance levels, and assess potential financial impacts of risks. We adopt recommended management measures for risk avoidance, reduction, sharing, and acceptance. The implementation and effectiveness of risk management measures are regularly
Operational risk	Economic losses due to realization of potential risks as a result of conflicts of interest and failure to adhere to the internal control system or operational procedures.	- Establishment of operational procedures and control points for the internal control system. - The audit unit conducts audits according to the audit cycles and issues audit reports. After the response from the business unit regarding improvement plans, the reports are submitted to Audit Committee and the Board of
Credit risk	The Company' s accounts receivable are mainly from a global clientele. Most of the receivables are not secured or credit guaranteed. Although monitoring and management procedures are in place, it is not possible to completely avoid economic loss risks associated with credit risks.	- The monitoring and management procedures are in place to reduce the credit risk associated with receivables. - The Company continued to monitor the accounts receivable from top ten customers. As of the end of 2023, top ten customers accounted for 81% of the Company' s total receivables. The credit risk concentration of the remaining
Interest and exchange rate risks	- A number of subsidiaries are engaged in sales and purchases denominated in foreign currencies. As a result, the consolidated company is exposed to exchange rate risks. - There is interest rate exposure as some entities within the consolidated company borrow at fixed and floating rates.	- Approximately 99.21% of the consolidated company' s sales were conducted not in the functional currency of the entities for the transactions concerned. Approximately 98.25% of the costs were denominated not in the functional currency of the entities for the transactions concerned. - The consolidated company manages the exposure to exchange rate risks with forward currency contracts with the policy limit. - The consolidated company manages interest rate risks by maintaining a portfolio of appropriate fixed and floating interest rates.
Legal risk	Penalty issued by competent authorities due to failure in regulatory compliance in the company' s businesses, activities or operations.	- The business unit inspects and monitors the compliance of its businesses, activities and operations, formulates relevant regulations and operational procedures and continues to enhance the internal control system. - Audit Room is responsible for carrying out audits, to ensure that relevant departments are in adherence with all rules set by regulators. - Review of the legality of all contracts to protect the Company' s interest. - Training and education is provided to all personnel regarding the most recent regulatory amendments in order to enhance compliance discipline and reduce the risks of rule breaking.

- About the Report
- Contents
- Message from the Chairman
- Company Overview
- Sustainable Development Strategy and Management
- Robust Governance and Transparency
- Confronting Climate Change
- Green Strategy and Implementation
- Shared and Inclusive Pathway
- Innovation Breakthroughs and Results
- Sustainable Supply Chain
- Appendix

3.2.3 Company Risk Identification and Responses

- About the Report
- Contents
- Message from the Chairman
- Company Overview
- Sustainable Development Strategy and Management
- Robust Governance and Transparency**
- Confronting Climate Change
- Green Strategy and Implementation
- Shared and Inclusive Pathway
- Innovation Breakthroughs and Results
- Sustainable Supply Chain
- Appendix

Risk type	Impact	Risk mitigation strategy
Climate risk	● Climate Change Response Act ● Taiwan’ s Pathway to Net-Zero Emissions in 2050 ● Green Finance Action Plan 3.0 ● Sustainable Development Roadmap ● Practical Guidelines on Climate Risk ● Response to Climate Risk Impacts ● Guidelines on Preparation and Filing of Sustainable Reports by Listed Companies ● Regulations Governing Information to be Published in Annual Reports of Public Companies ● Other regulations associated with sustainable development	● We have put in place “Practical Guidelines on Sustainable Development” and other regulations or directives on sustainable development. ● Potential financial impacts of climate change risks are disclosed on a regular basis by gradual adoption of the TCFD (Task Force on Climate-related Financial Disclosures) framework. ● Both transition risks and physical risks are assessed in accordance with the international carbon emissions agreement for net zero, Taiwan’ s Pathway to Net-Zero Emissions in 2050, Green Finance Action Plan 3.0, the Climate Change Response Act and Practical Guidelines on Climate Risk. Responding strategies are formulated to address the financial impact caused by climate change. ● Enhancement of the personnel’ s awareness and professional competence in climate change and sustainable development; collection of climate risk data; monitoring of risks and refinement of qualitative/quantitative methodologies.
Technology risk	Technology changes to keep up with new raw materials and products required by customers and to meet environmental protection regulations or new market trends and to keep up the demand from customers and markets.	● To respond to technological evolution and stay on top of market changes, GCE obtains industry information from the Internet and by participating in conferences and industry meetings organized by trade bodies and associations. ● Enhancement of R&D in technology and competitive advantages; business expansion; and keeping up to date with industry information to create better performance in the future.
Information security risk	Cyberattacks; inadequate awareness or understanding about internal information security; usual activities or disruption of core IT systems due to threat from malicious software, viruses and spyware; and data theft or malicious damage.	● Information Security Promotion Organization is responsible for the establishment and advocacy of the information security system. ● Adherence to the Company’ s information security management requirements and relevant government regulations. Information security policies as the highest guiding principle. Establishment of relevant information security management organization and structure, standards, and operating procedures. Regular information security meetings convened by management each year to review the Company’s existing information security measures and formulate improvement plans. ● In addition to enhanced protection of servers, the Company issues internal memos on information security and organizes information security drills from time to time, to defend against high-risk cybersecurity techniques and enhance information security awareness among employees. ● Establishment of multi-layer defence and detection mechanisms. Installation of anti-virus software on all internal computers. Control of mobile devices and storage. Central controlling of monitoring and protection, to mitigate the risks of infections caused by and attacks from malicious programs. ● Deployment of necessary protection measures e.g., network segmentation, access authorization control, firewalls and attack detection, ● Vulnerability scans and penetration testing on important servers on a regular basis and from time to time. Periodical inspections of cyber vulnerabilities, reporting and repair to minimize the likelihood of vulnerabilities and attacks. ● Establishment of offsite data centers to place important servers for critical operational services and data. Daily onsite/offsite backups and regular drills for recovery to ensure that in case of major operational system or database damage or interruption, operations can be resumed within the specified time limits for different services.



3.2.4 Legal Compliance

In order to achieve operational control and implementation of laws and regulations, GCE not only requires the relevant cases within its business of scope involving legal compliance to be autonomously audited by its individual business units, but also utilizes the resources of its department of legal affairs to conduct legal compliance audits internally.

Components	Laws and regulations to be followed	Audit units
Business operation and marketing	Fair Trade Act, Trademark Act, Copyright Act and Antitrust Laws	Business, finance, R&D and legal affairs units
Financial and organizational planning	Company Act, Securities and Exchange Act, Money Laundering Control Act and related laws and regulations, as well as the Company’s “Procedure for the Prevention of Insider Trading”	Financial ethics and legal affairs units
Protection of the Company’s internal and customer information	Trade Secrets Act and Personal Data Protection Act, Guidelines on Information Security Control of TWSE/TPEx-Listed Companies	Information, human resources and legal affairs units
Personnel policy and administration	Labor Standards Act, as well as related laws and regulations	Legal affairs and human resources units
Safety, health and environment	Occupational Safety and Health Act Regulations Governing Occupational Safety and Health	Occupational safety unit
Environmental protection	Water Pollution Control Act, Waste Disposal Act Air Pollution Control Act and Air Pollution Control Act Enforcement Rules	Environmental safety unit

The violation of laws in 2023 is listed below. The fine was paid before the deadline and the improvement was completed.

On May 24, 2023, we were issued a fine for NT\$100,000 due to extended work hours in breach of Paragraph 2, Article 32 of the Labor Standards Act. Going forward, we will continue to expand workforce to facilitate job arrangements.

3.2.5 Training and Education

Our company plans risk education and training from top down. Laws, regulations, systems, and case studies are shared on a regular basis to help all personnel recognize risk types and management measures, and incorporate risk management concepts in businesses, operations, activities, or tasks. We especially emphasize that if potential risks are discovered, procedures for identification, assessment, monitoring, and response should be implemented. Department heads should report these to General Manager, and regularly reporting to Audit Committee and the Board of Directors is required.

Training and education for directors on risk management and internal control: **100%** participation rate.

3.3 Integrity Management

We have made business ethics our corporate culture. We continuously promote integrity management measures, to ensure that integrity and ethical values are incorporated into the company's business strategies. We also establish relevant anti-fraud measures in accordance with legal regulations to ensure integrity in our operations. Regular reports are submitted to the Board of Directors for effective monitoring of the implementation of integrity management.

3.3.1 Business Ethics Policy and Framework

To implement integrity management and promote sustainable development, GCE has established the Code of Business Conduct, the Ethical Risk Assessment and Handling Procedures, and the Corporate Ethics Guidelines. These regulations specify operating procedures, behavioural guidelines, disciplinary measures for violations, and the whistleblowing and complaint system and relevant preventive measures. The purpose is to ensure that directors, managers, and employees do not directly or indirectly offer, promise, request, or receive any improper benefits during business activities. Both the Board of Directors and management are committed to implementing these management policies.

Meanwhile, the Chairman's Office as part of the Board of Directors is the Company's dedicated integrity management unit. It advocates corporate integrity management and ethical standards by executing the following tasks, developing preventive measures, and reporting regularly to the Board of Directors each year:

- ◆ Assistance in the integration of integrity management and ethical values into business strategies; formulation and documentation of information such as integrity management policies, compliance declarations, implementation commitments and status.
- ◆ Establishment of anti-fraud measures to ensure integrity management in accordance with the regulatory regime.
- ◆ Planning of the internal organization, structure and responsibilities for the check and balance mechanism governing the business activities within the scope of operations exposing to relatively high risks of unethical behaviour.
- ◆ Regular identification of risks of unethical within the scope of operations; formulation of programs to prevent dishonest conduct; and establishment of business-related standard operating procedures and behavioral guidelines for each program.
- ◆ Promotion and coordination of the integrity policy advocacy and training.
- ◆ Planning of the whistleblowing and complaint system to ensure their effectiveness.
- ◆ Assistance to the Board of Directors and senior management in the review and evaluation of the effectiveness of integrity management and preventive measures. Preparation of compliance assessment reports on a regular basis regarding relevant business processes and submission of such reports to higher levels.

3.3.2 Whistleblowing and complaint system

- About the Report
- Contents
- Message from the Chairman
- Company Overview
- Sustainable Development Strategy and Management
- Robust Governance and Transparency**
- Confronting Climate Change
- Green Strategy and Implementation
- Shared and Inclusive Pathway
- Innovation Breakthroughs and Results
- Sustainable Supply Chain
- Appendix

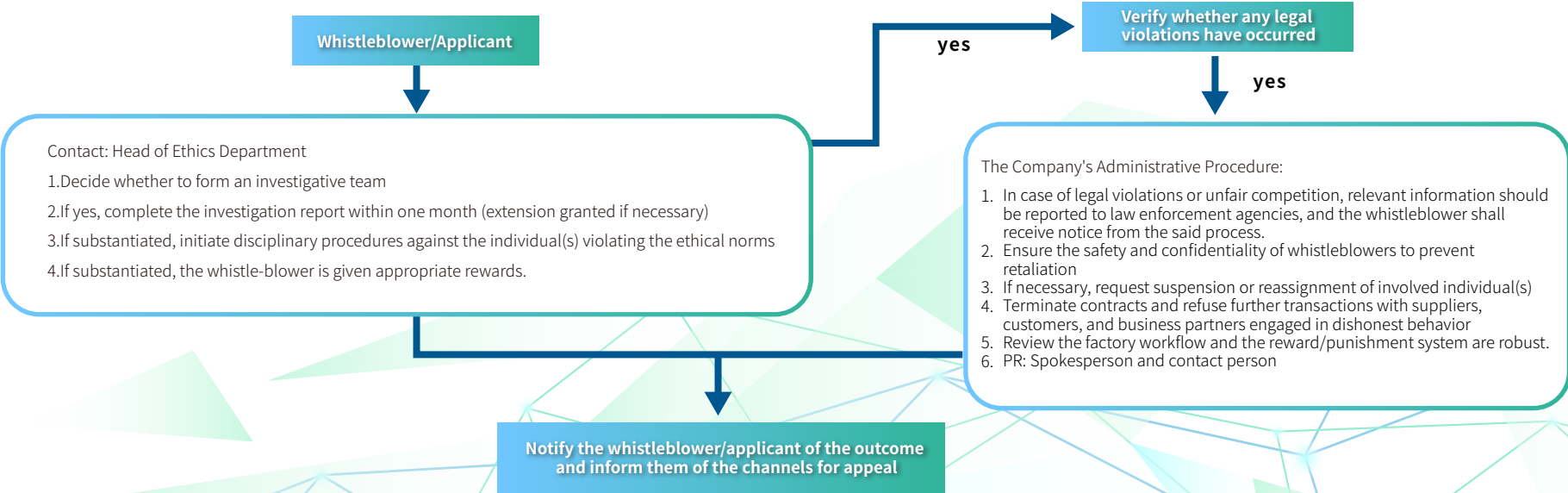
Our company has established "Whistleblowing Procedures and Protection Measures" for our whistleblowing and complaint system. The purpose is to prevent unethical behavior by encouraging both internal and external individuals to report dishonest or improper conduct.

We also have a protection system for whistleblowers and complainants. The identity of the whistleblower and the content of the reporting are kept strictly confidential. We do not disclose any information that could identify the whistleblower. Furthermore, we do not dismiss, discharge, demote or detriment the whistleblower or reduce the whistleblower's salary due to their reporting or reduce the whistleblower's rights entitled according to laws, contracts or customs, or impose any other unfavorable treatment on the whistleblower.

We provide a hotline, email box and letterbox to receive reporting from whistleblowers and make the whistleblowing and complaint channels publicly available. Please visit our corporate website for Business Ethics Policy under ESG & Sustainable Development section.

Telephone: (03)4612541-21211
Email for whistleblowers: hr@gce.com.tw
Postal address: Vice President Lin
No. 113, Xiyuan Road, Zhongli District, Taoyuan City

Flowchart for investigation of ethical violations (including alleged cases):



Whistleblowing Procedures and Protection Measures for Whistleblowers

- 1 Stakeholders can report to our company regarding any of the following situations:
 - Knowledge or discovery of any behavior or activity that may violate the Responsible Business Alliance (RBA) Code of Conduct or related regulations.
 - Retaliation for refusing to participate in activities that violate business ethics policies or ethical behavior standards.
 - Retaliation for refusing to express or voluntarily disclose their own decisions.
- 2 Any individual may report anonymously. Please provide the following information to allow the Company to appropriately handle subsequent matters:
 - Sufficient information or concrete evidence
 - Detailed explanation of the relevant people, events, times, places, and objects involved.
- 3 Our company guarantees absolute confidentiality for whistleblowers. The written report, investigation records, evidence, or any other materials that could identify the whistleblower are all subject to confidentiality procedures and management measures and retained by a dedicated unit. No one is allowed to access these records without permission from the responsible supervisor. Anyone who violates the Company's confidentiality regulations will be disciplined according to the Company's employee work rules.
- 4 Our company protects the safety of whistleblowers and ensures that they will not suffer any form of retaliation (or threats of retaliation). Serious discipline is imposed on threats, intimidation, or other illegal actions. If a whistleblower experiences retaliation (or threats or harassment), he/she can seek assistance from our company. We provide appropriate measures to help protect the whistleblower. If necessary, we refer the matter to local judicial authorities for further action.

3.3.3 Effectiveness of Integrity Management

- Integrity behavior clauses are included in our corporate ethics guidelines, procurement policies, and employee work rules.
- The Chairman's Office reports to the Board of Directors about the operational status of the integrity management system, risk assessment results, compliance evaluation reports, and response measures.
- In 2023, a labor and corporate ethics risk assessment was conducted, with results indicating low risks.
- In 2023, the number of reports received from the whistleblowing channels was 0; the number of reports related to violations of corporate ethics and integrity management was 0.
- The Human Resources Department regularly conducts ethics-related training courses such as anti-corruption, RBA (Responsible Business Alliance), and code of conduct for all employees (in facilities in Taiwan and in China). The total training time was 15,606 person-hours, with a 100% completion rate.



3.4 Business Continuity

The resilience of corporate organization and operations has become key to sustainable business development. Regular assessments are conducted each year to ensure that the Company has established response measures and preventive actions for natural disasters, capital management issues, international environment changes, labor shortages, infectious diseases, information system incidents, or human-caused accidents. In the event of an incident, services can be resumed within the targeted recovery time, in order to mitigate impact and maintain continuous operations.

In particular, the issue of climate change in recent years may lead to temperature rise and flooding due to short-term heavy rainfall. Moreover, with the advent of the post-epidemic era, how to establish relevant countermeasures even further manifests that the Company should urgently and completely maintain an operational continuity mechanism.

Therefore, each of our company's plants has established a business continuity plan and emergency control procedures. Response measures are ready for various scenarios, e.g., product shipment interruptions due to fire; supply interruptions of raw materials, outsourced parts, and purchased components; critical and major equipment failures; public utility failures (such as power/gas outages); insufficient human resources; transportation failures; large-scale customer returns; production line stoppages due to quality issues; abnormalities in in-house testing or experimental equipment; information system deficiencies and other scenarios (such as physical risks from climate change). Regular scenario drills are conducted to ensure that emergency measures are appropriate, adequate, and effective, with the capacity for continuous improvement and in alignment with the Company's current operational systems.

A total of 24 business interruption and recovery drills were conducted in 2023 at the factory in Taiwan, to address likely operational risks during the year. Review meetings were held after each drill. These measures are designed to respond to sudden operational interruptions or emergencies, reduce the impact, protect personnel safety, ensure legal compliance, safeguard customer interests, maintain the company's reputation, and protect company assets.



3.5 Information Security and Trade Secrets

To ensure the security of information, data, systems, equipment, and network communications, GCE has established an information security management system in order to effectively mitigate the risks of information assets being stolen, misused, leaked, tampered with, or damaged due to human error, intentional acts, or natural disasters.

GCE has formulated its information security policy for the following purposes:

- ✓ Ensure the confidentiality, integrity, availability and legality of all information assets collected, processed and used.
- ✓ Maintain uninterrupted operation of information technology processes for core business functions and the effectiveness of the information security management system to improve the quality of information services both internally and externally.

3.5.1 Management Architecture of Information and Communications Security Risks

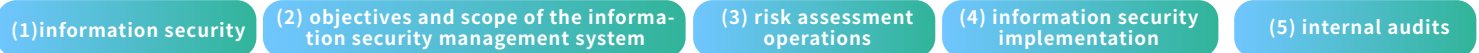
A top-down management system has been established, with reporting, review, and responsibility escalating to the next level up. This system properly protects operational confidentiality and customer data and prevents the breach of confidentiality, integrity, accuracy, and availability.

- The Board of Directors is the highest-level supervisory unit for information security and personal data protection.
- A Chief Information Security Officer (CISO) has been appointed to coordinate and advocate information security policies and resource allocations, and to report to the Board of Directors each year on the status of information security.
- Functional groups have been set up under the Information Security Committee to execute tasks related to information operation and maintenance, risk management, information security incident reporting and response, and regular internal information security audits.



3.5.1 Management Architecture of Information and Communications Security Risks

Meanwhile, we have implemented the ISO 27001 Information Security Management System (ISMS) and by using the PDCA (Plan-Do-Check-Act) cycle of quality management framework, we have established:



Moreover, we have established a risk assessment methodology. Information asset inventory and risk assessments are thoroughly conducted within the implementation scope of the information security management system. Management measures and risk protection plans are devised. Management review meetings are convened regularly by the Information Security Committee to discuss the effectiveness of risk management, the extent of risk reduction attained by risk protection plans and to evaluate the achievement of expected objectives.

At the same time, the objectives of the information security management system are defined based on the information security policy. Statistical reports are signed off on each objective annually to confirm the achievement of these goals:

- Ensure the protection and preservation of company and customer data, preventing intentional or unlawful acts.
- Comply with legal requirements, regulatory decrees from competent authorities, customer contracts, and responsibilities and duties of the professional.
- Ensure the accuracy and completeness of information provided.
- Respond appropriately and manage information security incidents that lead to harm to stakeholders' interests.
- Ensure the continuity and timeliness of service provided.



3.5.2 Information Security Management Measures

Dimension	Management measures
Cyber Security	● Provision of real-time trend analysis of important host alarm systems and abnormal behaviors ● Reinforcement of network firewalls and network controls to prevent the spread of computer viruses across machines and factories ● Augmentation of authentication to enhance information security ● Annual information security exposure survey and analysis, and continuously strengthen management of possible attacks
Device Security	● Establishment of endpoint anti-virus measures according to computer types to strengthen malware behavior detection ● Installation of a virus-scanning mechanism for machines entering the factory to prevent machines containing malicious software from entering the Company
Application Security	● Introduction of the secure software development life cycle (SSDLC) to reduce security vulnerabilities ● Regular monthly vulnerability sweeping and annual outsourced penetration testing ● Persistent enhancement of the Company's application security control mechanism by integrating development processes and platforms
Data Security Protection Technology Enhancements	● Implementation of the trade secret management system to ensure the protection of trade secrets and confidential data. ● Enforcement of document classification and data encryption controls and effective tracking ● Carrying out mail outbound controls, a mail audit mechanism, mail backups and advanced mail defenses ● Enhancement of the remote back-up mechanism and phaseout of old and tired equipment
Education, Training and Promotion	● Strengthening employees' awareness of email social engineering attacks, and implementing phishing email defense detection ● Regularly holding courses related to trade secrets and information security awareness promotion, at least two hours per year ● Ad hoc dissemination of information security risk warning notices and information security awareness mailings ● Strengthening of the internal control system and regular training and education to cultivate talents for internal audits

Social Engineering Drills

To enhance the information security awareness of all employees and to prevent malicious programs from infiltrating through social engineering methods, we conduct regular social engineering drills for all employees each year. Unscheduled drills are initiated when necessary by sending mock phishing emails to employee inboxes.

In 2023, all employees of our company completed social engineering drills, achieving a 100% completion rate. For employees who did not pass the test, their department heads were notified. We further strengthened the information security education and training courses and performance tests for these employees, who will be prioritized in the next round of testing.

Security Event Response Mechanism

Our company has put in place the regulations for reporting and handling of information security incidents. An emergency response mechanism has been set up to address the impact levels of security incidents. Upon the receipt of a security incident report, we follow specified operational procedures, activate the emergency response organization, formulate emergency response measures, and discuss and implement subsequent corrections and preventions. We learn from these experiences in order to avoid future security incidents.

3.5.3 Trade Secrets Protection

To stay competitive in the marketplace, our company places emphasis on the development and enhancement of products and services, as well as on trade secrets. Hence, we have established a trade secret management system and relevant regulations and we validate its appropriateness and effectiveness through continuous operation of relevant management systems.

Trade Secrets Management Goals

GCE operates a trade secret management system, to ensure the trade secrets of our customers are well protected and to achieve the following goals:

- The scope of trade secrets is defined. The Company's intellectual property and the moral rights of employees are protected.
- Provide appropriate security measures for trade secrets to fulfill the Company's duty of good management
- Fostering of a culture where employees protect the Company's trade secrets via systems and full communication and training.
- Legal and reasonable deployment of a retention and management mechanism of electronic records for trade secrets in order to monitor the use of data.
- Appropriate response and handling if the rights of a stakeholder are damaged by infringement of a trade secret.

Trade Secrets Management Organization

The Chairman of our Company serves as the chief management officer and oversees project management representatives and project management teams. Under this structure are functional groups, such as Audit Group and Emergency Response Team for Infringement Incidents. This organization aims to clearly define responsibilities, ensure effective implementation, and maintain supervision of the management system.

Trade Secrets Management System

We continue to improve and strengthen the information security management system, measures, and performance by using the PDCA (Plan-Do-Check-Act) cycle of quality management framework. Future plans are developed accordingly.



1 Plan and establishment (Plan)

We continue to improve and strengthen the information security management system, measures, and performance by using the PDCA (Plan-Do-Check-Act) cycle of quality management framework. Future plans are developed accordingly.

- The Intellectual Property Management Rules and relevant operating procedures, documents and forms are in place, to cover inventory processes, regulations on personnel, trade secrets and confidentiality, and risk assessments, etc.
- Trade secret files are categorized and labelled according to levels of importance and for confidentiality.
- The Personnel Trade Secret and Confidentiality Operation Guidelines have been established to strictly enforce confidentiality requirements for secrets known to personnel regarding technology and business operations, as well as matters that must be kept confidential on behalf of third parties under contractual agreements. Without proper authorization, such information will not be disclosed to third parties.
- GCE incorporates trade secrets protection as a mandatory course in the annual education and training programs, aiming to enhance employees' awareness of trade secrets and confidential information protection.
- GCE advocates for clutter-free workspaces and desktops on computers, and encourages employees to securely store sensitive data to prevent the risk of leaking confidential information.
- Colleagues are required to safekeep account passwords. Information security awareness is advocated.
- Social engineering hazards are communicated to colleagues.
- The Operational Procedures on Third Party Confidentiality and Security Management are in place, to control the visits from third party personnel, technology exchanges, price quotations from factories and quotations management.
- The Customer Complaints Handling Procedures are in place to address customer complaints or feedback.
- Suppliers and other third parties directly or indirectly involved in the production and services for customers shall sign "Supplier Commitment to Confidentiality and Integrity" and a personal confidentiality agreement.
- When the operation involved trade secrets is outsourced, the project owner must communicate and consult with the highest-level supervisor of IT Department before project commencement in order to ensure the confidentiality of trade secret data during the period of outsourcing.

2 Implementation and operation (Do)

A security control mechanism is established or modified based on assessments and planning outcomes.

- Inventory of trade secrets and confidential information
- Control of file transmission security
- Security control measures during the file retention period
- Continued enhancement of information security management in information, systems, equipment and networks

3 Oversight and audits (Check)

Internal audits on trade secrets are conducted as part of GCE's existing audit system, to monitor the implementation of operations within the management system and to verify the effectiveness of the management system. Additionally, regular meetings are held to review policies, maintain the management system and measures, track performance and progress, examine audit results and improvement updates, and drive and control related activities.

4 Maintenance and improvement (Act)

Respective units are asked to carry out corrective and preventive measures based on the supervisory and audit outcomes and suggestions. The purpose is to adjust and improve deficiencies, implement the security control mechanism as required, and maintain the functioning of the management system.

3.5.4 Key Achievements

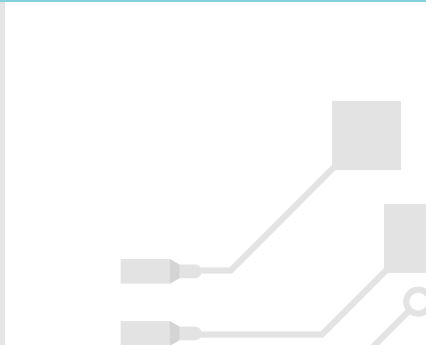
Dimension	Description
Management system	- Continued ISO/IEC 27001 certification in information security. 25 management regulations on information security management. - Information Security Committee established and Chief Information Security Officer (CISO) appointed. 10 regulations on trade secrets management 7 regulations on intellectual property management
Training and advocacy	2 training courses to promote awareness about trade secrets and information security 2 phishing emails and social engineering drills on employees 11 warnings and advocacy emails on information security risks 1 drill on responding to trade secret infringement events 24 information security disaster and recovery drills 5 advanced classes on ISMS for IT personnel
Information security incident	- No major information security incident occurred in 2023. - No leakage of trade secrets occurred in 2023. - Resumed operation of core or main systems in 2023 with the required recovery times



20
23



4 Confronting Climate Change



Climate change has become a global issue, particularly raising the correspondent active changes in domestic regulations and markets. It now has become a systemic risk that the Company cannot avoid. With significant impacts on ecological environment, human society, and the Company's survival, the Company also faces inevitable challenges in developing appropriate response strategies.

As a manufacturer in the electronic components industry, it is inevitable that GCE's operations and products would have high emissions of greenhouse gases. Therefore, the Company proactively identifies, formulates, and implements actions to mitigate climate change. Meanwhile, we also strive to leverage our position as a benchmark company to promote collaboration across the value chain, aiming to address climate change risks and opportunities while enhancing overall organizational resilience.

Thus, GCE adopted the "Task Force on Climate-related Financial Disclosures" (TCFD) as the methodology for climate change mitigation actions. The Board of Directors and senior management lead operational strategies and measures to address identified climate change risks and opportunities, continuously monitoring progress toward set targets. Moreover, the Company enhances its transparency from disclosures of information related to climate governance, actively responds and interacts with various sectors and industries to foster sustainable practices.

4.1 GCE's Climate Governance

Climate change has become a material topic impacting the Company's sustainable development. In response to this, a prudent governance structure has been established, comprising three levels, and each level is responsible for different duties. This structure facilitates effective leadership and supervision from top to bottom, ensuring the implementation and reporting of progress and obstacles for achieving a continuous improvement management cycle.

Organization	Chair/Convener	Meeting frequency	Climate governance role
Board of Directors	Chairman	At least once a quarter Additional meetings as required	Highest level decision-maker in climate governance, with ultimate responsibility for climate risk and governance
Sustainable Development Committee	Committee Director	At least once a year Additional meetings as required	Core unit for driving and implementation the corporate strategy for sustainable strategy. Periodic tracking of the implementation effectiveness of climate risk projects and reporting to the Board of Directors
Sustainable Development Coordinator	N/A	As needed	Assistance in assigning colleagues to implement TCFD (Task Force on Climate-related Financial Disclosures), gradually roll out quantitative methods (scenario analysis, stress testing), compile information on climate risks and opportunities, and regularly report to the Sustainable Development Committee.
Environment and Health Safety Group; Energy Management	Team leader	From time to time	- Environment and Health Safety Group: responsible for the company's environmental protection - Energy Management Group: responsible for energy management, water resource utilization and greenhouse gas emissions

Board of Directors

As the highest governing unit, the Board of Directors recognizes climate change as a material risk and a potential opportunity for future business development, integrating climate change into the Company's risk management mechanism. The Board of Directors regularly receives reports on climate change action strategies and risk management measures, confirming the content, progress, implementation obstacles, and performance outcomes to effectively supervise progress and resource allocation.

For instance, regarding the issue of greenhouse gas emissions, the Board of Directors receives quarterly progress reports and performance outcomes, demonstrating effective supervision and control.

Sustainable Development Committee

Given that climate change is a material topic of the Company, it shall be included in the discussion of the Sustainable Development Committee. The committee director holds regular meetings with head executives from various departments as the committee members and appoints a coordinator.

In terms of operation, the coordinator regularly consolidates climate environmental trends raised by functional groups and presents the identified climate change risks and opportunities.

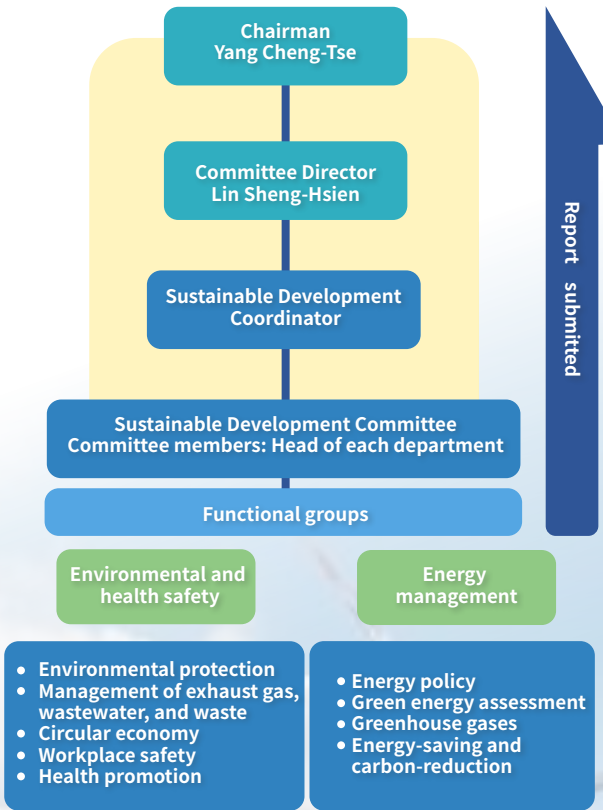
The committee then reviews, formulates, and promotes climate change action strategies and risk management measures, developing short-, medium-, and long-term plans, assessing performance, and subsequently reporting to the Chairman and the Board of Directors.

"Environmental and Health Safety Group" and "Energy Management Group"

The Sustainable Development Committee has set up Environmental and Health Safety Group and Energy Management Group. The former is responsible for environmental protection, while the latter oversees energy management, water resource utilization, and greenhouse gas emissions.

Meanwhile, the two groups work together to collect information on climate environmental trends from the government, customers, peers, and international sources. The risks and opportunities identified by each unit are reviewed through the company's risk management and performance evaluation mechanisms, to track the progress, obstacles and outcomes of responding measures.

The coordinator of the Sustainable Development Committee regularly convenes meetings for both functional groups, the "Environmental and Health Safety Group" and the "Energy Management Group." These meetings discuss and plan the impacts of climate change on Company's operations, serving as references for climate change action strategies and decision-making.



4.2 GCE Strategy and Risk Management

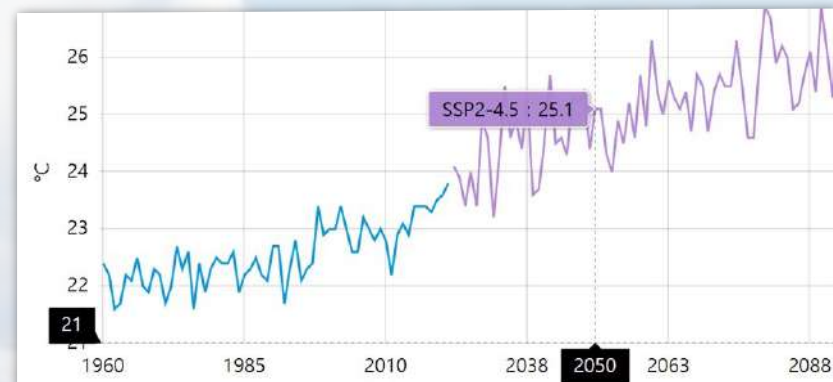
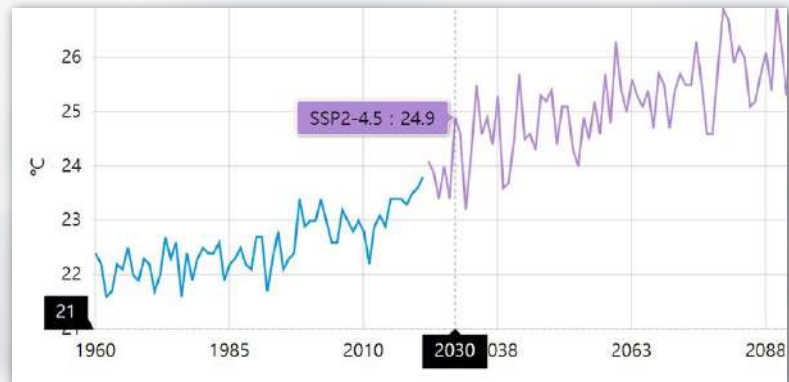
GCE adopted the Task Force on Climate-related Financial Disclosures (TCFD) framework. To address climate risks of different types and characteristics, we consider factors such as national net-zero emission policies, industry-specific developments, key initiatives and action plans in green finance, and external consultant recommendations. We also take into account our company's business development, the overall impact on the company's economic activities, and the identification results from 2023. We regularly identify climate risks and opportunities. Meanwhile, we also review traditional risks to identify potential financial impacts on the company.

4.2.1 Climate Change Strategy

Climate Scenario Background

The recently held COP28 UN Climate Change Conference reached a significant agreement in line with the 2015 Paris Agreement, in order to avoid severe impacts of climate change. However, this agreement only sets carbon reduction timelines and targets without specific descriptions on how to achieve these goals. To reach its 2050 net-zero target, Taiwan has successively amended relevant laws such as the Climate Change Response Act the Greenhouse Gas Emission Inventory Registration and Verification Management Measures, to enhance the regulatory push for carbon reduction targets, although the implementation falls short of expectations. There are discrepancies in the achievement and timing of carbon reduction policies among different countries. Whilst solutions and common grounds are gradually being identified for global issues, the process is extremely slow. For instance, the carbon fee system in Taiwan and the Carbon Border Adjustment Mechanism (CBAM) in the European Union are still not mature in terms of collection and operation. These current conditions are referred to as the background for the climate scenario.

Despite the international efforts to address climate change, reduce greenhouse gas emissions, implement carbon fees, and develop green and low-carbon technologies, there are limitations due to differences among countries with larger greenhouse gas emissions in resource allocation and consensus on climate change and greenhouse gas issues such as carbon leakage. Our company adopts the Taiwan Earth System Model version 1 (TaiESM1) climate calculation model and uses the SSP 2-4.5 middle-of-the-road scenario. This scenario sets conditions where land use and aerosol pathways are less extreme compared to other SSPs. Given the combination of medium social vulnerability and medium radiative forcing, greenhouse gas emissions are moderate, with CO2 emissions beginning to decline only by the middle of the century and unable to achieve net-zero before 2100. As a result, the temperature rises by approximately 2°C by the end of the century. The estimated temperature and rainfall trends are as follows: an average of 24.9°C and 6.3 mm/day in 2030 and 25.1°C and 5.2 mm/day in 2050.



2°C Note

Our company's climate change scenario analysis and stress testing are still based on current domestic and international trends, regulatory dynamics, environmental changes, model estimates, and customer demand projections. In 2023, we have committed to the Science Based Targets initiative (SBTi) to achieve net-zero emissions by 2050, so that the global warming does not exceed 1.5°C. This is a more aggressive climate change response strategy and measure that our company is pursuing and a significant goal we hope to achieve, in view of the aforementioned scenario.

Data: TCCIP (Taiwan Climate Change Projection Information and Adaptation Knowledge Platform)

- About the Report
- Contents
- Message from the Chairman
- Company Overview
- Sustainable Development Strategy and Management
- Robust Governance and Transparency
- Confronting Climate Change
- Green Strategy and Implementation
- Shared and Inclusive Pathway
- Innovation Breakthroughs and Results
- Sustainable Supply Chain
- Appendix

Ranking of the materiality of climate related opportunities						
Likelihood of occurrence	5 (Extremely high)					
	4 (high)				②	
	3 (Medium)			④	③	
	2 (Low)			⑤	①	
	1 (Extremely low)					
		1 (Almost none)	2 (Low)	3 (Medium)	4 (high)	5 (Severe)
Materiality assessment						

Ranking of the materiality of climate related risks						
Likelihood of occurrence	5 (Extremely high)					
	4 (high)				① ⑥	
	3 (Medium)			②	③ ④ ⑤	
	2 (Low)					
	1 (Extremely low)					
		1 (Almost none)	2 (Low)	3 (Medium)	4 (high)	5 (Severe)
Materiality assessment						

Climate opportunities level	Impact level	Climate risk level
Almost no impact (1)	2to3	Almost no impact (1)
Slight impact (2)	4to5	Slight impact (2)
Medium impact (3)	6to7	Medium impact (3)
High impact (4)	8to9	High impact (4)
Severe impact (5)	10	Severe impact (5)

Result of climate-related risks and opportunities identification for 2023: Rising prices of greenhouse gas emissions and persistent high temperatures are the risks; adoption of new technologies is an opportunity. The potential financial impacts of physical risks and transition risks are then analyzed by referencing the climate scenarios released by the United Nations Intergovernmental Panel on Climate Change (IPCC) and data from Taiwan Climate Change Projection Information and Adaptation Knowledge Platform. The findings serve as a basis for formulation of climate change strategies.

Climate related opportunities		
Resource efficiency ①	Recycling and reuse	
Energy sources ②	Adoption of new technologies	
Products and services ③	Development and/or increase of low-carbon products and services	
Market ④	Entry into a new market	
Resilience ⑤	Participation in renewable energy projects and adoption of energy efficiency measures	

Climate related risks		
Transition risks	Policy and Legal ①	Rising prices of greenhouse gas emissions
	Technology ②	Increased cost due to low-carbon product/service transition
	Market ③	Reduced demand for products/services as a result of change in customer behavior
	Reputation ④	Reduced demand for products/services as a result of stigma attached to certain industries
Physical risks	Acute ⑤	Growing severity of extreme weather events such as typhoons and storms
	Chronic ⑥	Persistent high temperatures

Results of stress test on financial impacts, responding strategies and measures

Strategically, we will endeavor to manage the current and future transition risks and physical risks by formulating responding measures based on the identification results of climate related risks. Early preparedness and efforts are in place to address transition risks due to legal or governmental requirements and stakeholders (e.g., customer) expectations. For example, adoption of new technologies is a proactive action of the transition. The business growth and the positive strategy is likely to have a full or partial impact on the Company's financials (with potential revenue increases of over NT\$10 million), or stay ahead of the market in terms of profitability for two to three years.

Transition risks - Rising prices of greenhouse gas emissions		
Period	Potential finance impacts	Responding strategies and measures
Short- and medium-term	- Greenhouse gas emissions from transportation are impacted by carbon fees expenditures and the replacement of low-carbon transportation equipment, causing the increasing cost of raw material transportation. - The calculation of greenhouse gas emissions and carbon footprint from products and processes will affect environmental tax expenses, equipment replacement, drive the trend towards low-carbon materials and impact operating costs.	- The Company actively gathers information on low-carbon technologies and engages in independent or collaborative research and development of low-carbon technologies or processes. - Continue to entrust a third-party independent organization to conduct greenhouse gas emission verification in accordance with ISO 14064-1; comprehensively consolidate the overall greenhouse gas emissions of the organization by following scientific reduction methods from the Science-Based Targets (SBT) to establish concrete and feasible targets for carbon reduction; assess the promotion of carbon footprints and continuously accumulate practical experience, along with the introduction of relevant tools. - Establish quotas for carbon fees and greenhouse gas emissions as well as carbon pricing analysis strategies; simultaneously, evaluate greenhouse gas reduction plans and strives for policy incentives. - Procure competitive renewable energy sources and purchase carbon credits as a response measure for unavoidable greenhouse gas emissions. - Initiate replacement mechanisms and allocate budgets continually for high-energy-consuming equipment and operations.
Long-term	- Due to environmental taxes (e.g., carbon border taxes) or the application of low-carbon raw materials and technologies, the cost of raw materials will continue to rise, impacting operating cost. - To be in line with the trend of achieving net-zero emissions, regulations continue to impose strong energy-saving and carbon reduction requirements. For example, products may need to meet low-carbon standards or indicate their carbon footprint, leading to ongoing impacts on the cost of raw materials and low-carbon technology research and development, as well as exposure to regulatory and market exclusion risks.	- Commit to the Science Based Targets initiative (SBTi) for net-zero emissions by 2050 in order to control global temperature rise to no more than 1.5°C. We will actively develop science-based carbon reduction plans and measures in the future to pass the carbon reduction target review and respond to climate change. - Continuously optimize the Company's quotas of carbon fees and greenhouse gas emission as well as carbon pricing analysis strategies; also improve greenhouse gas reduction plans. - Continue to procure competitive renewable energy sources and progressively increases their proportion. For the remaining unavoidable greenhouse gas emissions, acquire carbon credits as a response measure, aiming to achieve the goal of net-zero emission in the future.

Note 1: The value chain framework includes raw materials, design, and transportation.

Note 2: The timeframes are defined as follows: short-term refers the period before 2025, medium-term spans from 2026 to 2030, and long-term covers the period from 2031 to 2050.

Note 3: Our company's climate change scenario analysis and stress testing are still based on current domestic and international trends, regulatory dynamics, environmental changes, model estimates, and customer demand projections. In 2023, we have committed to the Science Based Targets initiative (SBTi) to achieve net-zero emissions by 2050, so that the global warming does not exceed 1.5°C. This is a more aggressive climate change response strategy and measure that our company is pursuing and a significant goal we hope to achieve, in view of the aforementioned scenario.

The assessment of physical risks is primarily based on the conditions in Taiwan, where our headquarters are located. Reduced spring rainfall was the main cause of several drought events in the past. The 2021 drought was a result of the short plum rain season in Taiwan in 2020 and the lack of typhoons making landfall or approaching during the typhoon season. The two most important water collection seasons for reservoirs in the western half of Taiwan both experienced low rainfalls. Previously it was hoped that the spring rains from February to April would alleviate the drought conditions, but due to factors such as La Niña, the plum rain front moved north and resulted in high temperatures and low rainfall in May. Reservoir water levels continued to drop, with no prospect of replenishment.

Meanwhile, high temperatures drive up the demand for electricity, including renewables such as hydropower and solar power. The mountainous terrain is high and steep in Taiwan, with short and rapid rivers, leading to significant variations in river flow and difficulty in water retention. Global climate change in recent years has further widened the gap between wet and dry seasons. Droughts cause insufficient water supply, and the power generation of hydro plants falls short. In addition, both the Chinshan Nuclear Power Plant and the Kuosheng Nuclear Power Plant have entered their decommissioning stage. It remains uncertain whether the Maanshan Nuclear Power Plants will have its operational life extended. If nuclear power is completely phased out, droughts will severely affect the stability and reliability of energy supply. For instance, **during the severe drought in 2021**, prolonged dry conditions indirectly led to rolling blackouts in Taiwan. Extreme climate and droughts lead to insufficient energy supply, which in turn disrupt operations onsite. Assuming rolling blackouts and temporary power outages of four to five days per month throughout the summer of five to six months, it is estimated that the financial impact would range between NT\$10 million and NT\$100 million. This level of impact is absorbable given the Company's financial capacity.

during the severe drought in 2021 The spring rainfall in 2021 was the lowest on record since official records began. Rolling blackouts were implemented on May 13 and May 17, 2021 (according to the historical record of power rationing by Taiwan Power Company).

Physical risks - Persistent high temperatures			
Period	Potential finance impacts		Responding strategies and measures
Short- and medium-term	Climate models indicate significant fluctuations in temperature and rainfall and estimates the interconnection between carbon peaking and the ecosystem. The business, strategic and financial impacts may increase but remain controllable: ● During summer and autumn, high temperatures become common. With insufficient availability of renewable energy, it would lead to electricity shortages and the possibility of power rationing. ● Summer temperatures repeatedly hit new highs, with summer arriving earlier. This increases the electrical load and escalates the likelihood of power outages, which leads to production line stoppages and higher scrap rates. ● The increased load of air conditioning systems and the earlier starting of chiller significantly increase electricity consumption. ● Sustained high temperatures for five to six months affect the temperature of process water and the stability of electricity consumption. This in turn affects the company's product output and yield stability. As a result, scrap rates may increase, costs may rise, and the expenses for raw materials and spare parts may go up. ● The continuous high temperatures within the plant premises can affect labor safety, leading to an increase in the occurrence or severity of occupational injuries due to heatstroke, lack of concentration, and fatigue among staff. ● Increase in delay rates of inventory or replenishment of raw materials. ● Delay in the estimated lead time for product delivery.		● Initiate replacement mechanisms and allocate budgets continually for high-energy-consuming equipment and operations. ● Plan for energy storage facilities or uninterrupted power supply systems to cope with the electricity shortage during power rationing periods. ● Discuss insurance coverage and underwriting conditions with insurance companies, or even explore new insurance products to cope with risks.
Long-term	With stable control of greenhouse gas emissions, temperature and rainfall simulations stabilize to a state similar to the long-term average. The likelihood and the impact of floods are predictable, and the effects of raw materials, design and transportation to the manufacturing process and operation are controllable. Hence, stability is expected for businesses, strategies and financials.		● Start to embrace the concept of green buildings and adopt green building materials or natural air conditioning equipment. ● Continuously plan for energy storage facilities or uninterrupted power supply systems to cope with electricity shortages during power rationing periods. Develop plans for the proportion of renewable energy sources to reduce or avoid disruptions in production lines caused by power shortages. ● The Company collaborates and shares risk warning, monitoring data, and communications with strategic alliances or academic institutions. ● Regularly hold drills to train employees in emergency response mechanisms.

Note 1: The value chain framework includes raw materials, design, and transportation.
Note 2: The timeframes are defined as follows: short-term refers the period before 2025, medium-term spans from 2026 to 2030, and long-term covers the period from 2031 to 2050.

Results of stress test on financial impacts, responding strategies and measures

Strategically, we will endeavor to invest resources for business opportunities and formulate responding measures based on the identification results of climate related opportunities.

- About the Report
- Contents
- Message from the Chairman
- Company Overview
- Sustainable Development Strategy and Management
- Robust Governance and Transparency
- Confronting Climate Change**
- Green Strategy and Implementation
- Shared and Inclusive Pathway
- Innovation Breakthroughs and Results
- Sustainable Supply Chain
- Appendix

Climate opportunities - Adoption of new technologies		
Period	Potential finance impacts	Responding strategies and measures
Short- and medium-term	● Actively assess, research and develop the application of low-carbon materials. ● Develop and design low carbon technologies and processes specifically for low carbon materials. ● Conduct carbon footprint assessments specifically for certain products. ● Seek low-carbon energy sources or transportation methods with lower greenhouse gas emissions.	● The Company actively collects information on low-carbon raw materials and technologies and promotes independent and collaborative research and development of designs and processes. Meanwhile, the Company will increase the proportion of renewable energy to reduce greenhouse gas emissions, mitigating the impact of government-imposed carbon fees and electricity prices to reduce cost and to expand the budget space for research or the purchase of low-carbon raw materials, technologies, or processes. ● Adopt "Net Zero Emissions" as a brand strategy, with short-term goals focusing on preparation and strategic planning. For the medium-term goals, the objective is to focus on providing low-carbon technology in the market, while the long-term goal is to introduce products that achieve net zero emissions.
Long-term	● Continuously assess, research and develop the application of low-carbon materials. ● Continuously develop and design low carbon technologies and processes for low carbon materials to expand brand strategy and awareness. ● Develop new design and manufacturing processes to compete for policy incentives to obtain greenhouse gas emission credits or net-zero emission credits. ● Conduct carbon footprint assessments specifically for all products.	

Note 1: The value chain framework includes raw materials, design, and transportation.
Note 2: The timeframes are defined as follows: short-term refers the period before 2025, medium-term spans from 2026 to 2030, and long-term covers the period from 2031 to 2050.

4.2.2 Risk Management of Climate Change

- About the Report
- Contents
- Message from the Chairman
- Company Overview
- Sustainable Development Strategy and Management
- Robust Governance and Transparency
- Confronting Climate Change**
- Green Strategy and Implementation
- Shared and Inclusive Pathway
- Innovation Breakthroughs and Results
- Sustainable Supply Chain
- Appendix

We address climate change risks and issues and manage climate change risks with a detailed process of risk management. Each unit identifies the materiality of climate change risks, management measures, obstacles, and performance outcomes. This information is then consolidated and presented to the coordinator of Sustainable Development Committee and the meetings of the "Environmental and Health Safety Group" and the "Energy Management Group." Subsequently, the content of the discussion, the proposed strategies and risk management measures will be submitted to the Sustainable Development Committee to review, formulate and promote climate change action strategies and risk management measures, confirm the short-, medium- and long-term plans, and manage the results of the performance evaluation. Finally, the Board of Directors, as the highest governing unit, oversees the implementation and results of the climate change action strategies and risk management measures through risk management reports, audit reports, and quarterly performance evaluations to ensure effective management of material climate change risks.

The abovementioned risk management process consists of measures for risk identification, risk measurement, risk monitoring, risk reporting and risk responses.

- 1.Risk identification** Climate risk management should identify relationships with other risks (such as market risks and operational risks). Differentiated risk management measures should be adopted based on the level or riskiness of identified or assessed climate risks.
- 2.Risk measurement** Assessment and scenario analysis are conducted based on the identified climate risks. Potential financial impacts of physical risks and transition risks are evaluated and disclosed.
- 3.Risk monitoring** Measurable and executable indicators and targets for climate risks and opportunities are established in line with the nature of the business. Regularly monitoring is conducted on exposure and changes.
- 4.Risk reporting** Measurable and executable indicators and targets for climate risks and opportunities are established in line with the nature of the business. Regularly monitoring is conducted on exposure and changes.
- 5.Risk response** Appropriate response measures are adopted to address identified and measured climate risks. This includes the introduction of technologies and energy storage equipment, and establishment of future low-carbon transition plans and other relevant mitigation measures.

In the current year, the major climate risks identified, such as "rising prices of greenhouse gas emissions" and "persistent high temperatures," have undergone the abovementioned process. Through the trend assessments from internal expertise, resources and manpower, a comprehensive consideration of practical experiences and market dynamics as well as the external experts, the Company will confirm the operations and impacts on a rolling basis, and risk management measures for material climate change risk issues will be adjusted to respond to the risks. With a comprehensive system in place for business continuity management system, an emergency response mechanism is established for crises related to operations, plants, markets, etc. This ensures that the company can effectively respond to climate risks and continuously evaluate decisions to initiate risk treatment, transfer, or acceptance.

4.3 Climate Change Metrics and Targets

In response to the transformation opportunities and brand strategies arising from climate change, the Company will increase resource investment in renewable energy and energy-saving measures in the market. We will actively collect information on low-carbon raw materials, continuously develop low-carbon processes and technologies to mitigate the impact of climate change. Simultaneously, we will initiate carbon footprint assessments and adopt relevant tools to accumulate practical experiences and improve our practices.

Key Achievements CDP questionnaire score has been significantly improved to B from C- in 2022.

Based on the evaluation of scenario analysis and impacts to the value chain, GCE has formulated short-, medium-, and long-term goals in the table below to respond to climate change risks and opportunities. By implementing the comprehensive response strategies and risk management measures mentioned above, the Company aims to achieve its established targets and objectives. With the rolling adjustment mechanism, the Sustainable Development Committee and functional groups will regularly assess performance, incorporate climate change-related risks and opportunities, review climate change action strategies, risk management measures, and optimize short-, medium-, and long-term plans. Later, the results will be reported to the Board of Directors to ensure the Company's commitment to climate change and sustainable development goals.

Please refer to Chapter 5 Green Strategy and Implementation for details of greenhouse gas emissions in 2023.

Climate Risks	Climate Opportunities	Targets	2023	Achievement	2025 (medium-term)	2030 (long-term)
Rising prices of greenhouse gas emissions	Adoption of new technologies	The headquarters' greenhouse GHG management from base year (2019)	Greenhouse gas emissions (Scope 1 and Scope 2) , down by 8% from base year (2019)	GHG emissions (Scope 1 and Scope 2), down by 23.39% from base year (2019)	GHG emissions (Scope 1 and Scope 2), down by 35.1% from base year (2019)	GHG emissions (Scope 1 and Scope 2), down by 46.8% from base year (2019)
Persistent high temperatures						
Rising prices of greenhouse gas emissions	Adoption of new technologies	The headquarters' use of renewable energy	Use of renewable energy 8%/year	16.2% target met	Use of renewable energy 21%/year	Use of renewable energy 42%/year
Persistent high temperatures						

Note: The green electricity market in Taiwan is not fully developed. We will seek to cooperate with renewable energy power plants for multi-year procurement contracts.

20
23



5. Green Strategy and Implementation



Green Strategy and Implementation

Aiming to achieve net-zero emissions for the organization by energy conservation, support of green energy, control of water resource usage, and reduction of process waste. These are the strategies and action plans to reduce greenhouse gases and the activities to identify and respond to related impacts.

#	Item	Key achievements
1	Energy intensity compared to the prior year	Increased by 2.92%
2	Renewable energy utilization rate within the Group	Reaching 16.20%
3	Renewable energy utilization rate at the headquarters	Reaching 6.41%
4	Reduction of greenhouse emissions (Scope 1 and Scope 2) from the base year	Reduced by 23.39%
5	Greenhouse emission intensity compared to the prior year	Increased by 2.27%
6	Water conservation rate	11.46%
7	No. of fines exceeding NT\$1 million issued by local governments based on environmental regulations	0 incidence
8	CDP water security questionnaire	Increased to B

Note 1: Energy intensity was affected by a substantial increase in diesel and gasoline usage during the year, in response to process adjustments and electricity supply and demand. Future improvements will include manufacturing process adjustments and a significant increase in the use of renewable energy to reduce dependence on diesel and gasoline.

Note 2: The water conservation rate failed to reach the 11.67% target but did not deviate much from the 2022 water conservation rate of 12%. The main reason is that the water-saving projects implemented this year have not yet shown significant results. The assessment of project effectiveness will be enhanced in the future, to boost the water conservation rate.

5.1 Energy Usage

Regarding environmental protection issues, the environmental and health safety group and the energy management group of the Sustainable Development Committee collaboratively lead and guide various units in implementing action plans and risk management measures.

5.1.1 Strategy of Energy Management

GCE has introduced the ISO 50001 energy management system, which has been certified by a third party, SGS (Certificate No. TW21/10568), to grasp the Company's energy usage. By utilizing the P-D-C-A cycle of improvement and management methodology, the Company optimizes the management mechanism and efficiency of its usage by taking the "smart plant" and "energy conservation" as the main strategies, and at the same time introduces the use of green alternative energy sources, which is expected to achieve the goal of reducing greenhouse gas emissions, and to move towards sustainable operation.

5.1.2 Governance Structure

GCE has established the Sustainable Development Committee with a dedicated cross-functional "energy management group." This group is responsible for energy policies, enhancing energy usage efficiency, implementing energy-saving measures, and evaluating the use of renewable energy. The group also formulates various action plans, creates short-, medium-, and long-term plans, and promotes plant management measures. The coordinator of Sustainable Development Committee regularly convenes meetings to review the implementation progress, discuss impacts to the Company and trends, assess performance outcomes, and monitor goal achievements.

Both the coordinator of Sustainable Development Committee and the "energy management group" regularly report the implementation progress, impacts to the Company and trends, performance outcomes, and goal achievements to the Sustainable Development Committee. During these meetings, action strategies and risk management measures are reviewed, and the progress and outcomes of the plans are confirmed. Finally, the summary of meeting content is reported to the Chairman and the Board of Directors, facilitating their effective supervision of progress and resource allocation.



5.1.3 Status of Energy Use

The main energy use of the Company is purchased electricity used in the business service process of each business location; and other uses are in a small amount.

Energy Use Analysis over the Years					
Energy type	Unit	Region	2021	2022	2023
Purchased electricity	MWh	Taiwan	173,861.00	174,625.60	165,973.37
		China	347,465.00	321,012.00	253,323.65
		Total	521,325.00	495,637.60	419,297.02
Diesel fuel	Liter	Taiwan	798,738.00	975,378.53	1,132,876.30
		China	30,896.00	53,136.47	18,327.14
		Total	829,634.00	1,028,515.00	1,151,203.44
Gasoline	Liter	Taiwan	23,510.00	24,690.77	27,220.90
		China	-	17,199.00	30,177.95
		Total	23,510.00	41,889.77	57,398.85
Gas	Liter	Taiwan	23,504.00	22,312.00	46,325.60
		China	-	-	-
		Total	23,504.00	22,312.00	46,325.60

Energy type	Unit	Region	2021	2022	2023
Natural gas	Cubic meter	Taiwan	-	-	-
		China	2,695,121.00	2,555,985.00	1,965,355.00
		Total	2,695,121.00	2,555,985.00	1,965,355.00
Non-renewables	Megajoule	Taiwan	655,085,475.23	664,050,270.76	639,202,036.84
		China	1,357,908,122.40	1,258,895,041.63	991,139,105.14
		Total	2,012,993,597.63	1,922,945,312.39	1,630,341,141.98
Renewables	MWh	Taiwan	-	-	11,373.00
		China	-	36,516.00	69,700.00
		Total	-	36,516.00	81,073.00
	Megajoule	Taiwan	-	-	40,922,783.52
		China	-	131,527,127.92	251,052,711.59
		Total	-	131,527,127.92	291,975,495.11
Energy consumption	Megajoule	Taiwan	655,085,475.23	664,050,270.76	680,124,820.36
		China	1,357,908,122.40	1,390,422,169.56	1,242,191,816.72
		Total	2,012,993,597.63	2,054,472,440.32	1,922,316,637.09
Energy intensity	Megajoule/ million revenue	Taiwan + China	75,465.07	62,664.89	63,931.53
Change in energy intensity year-on-year				(17.17%)	2.02%

Note 1: Converted from the “Heat Content of Energy Products in the Energy Statistics Handbook 2021 published by the Energy Administration, Ministry of Economic Affairs. For example, electricity is 860 kcal/kWh, diesel fuel is 8,400 kcal/L, gasoline is 7,800 kcal/L, and natural gas is 9,000 kcal/L. Calorific value in China based on the national standard of the People’s Republic of China.

Note 2: Intensity is calculated using the total operating revenue (in NTD) reported in the 2023 annual report as the denominator.

Note 3: We purchase renewable energy certificates for our plants in Taiwan and China.

Note 4: The above energy consumption intensity is measured within the organization.

5.2 Greenhouse Gas Emissions

5.2.1 Greenhouse Gas Emissions Policy

GCE recognizes that climate, environment, and ecology are impacted by greenhouse gas. In fulfilling our responsibility to protect the environment, we are committed to conducting the greenhouse gas inventory, accurately monitoring greenhouse gas emissions, establishing a database, proposing greenhouse gas reduction action plans, and developing short-, medium-, and long-term plans. Greenhouse gas pledge and dedicate ourselves to four key objectives: (I) Continuously promote greenhouse gas reduction measures; (II) Actively assess and utilize renewable energy; (III) Comply with environmental laws and regulations and international requirements; (IV) Respond to the goal of achieving net-zero emissions.

5.2.2 Governance Structure

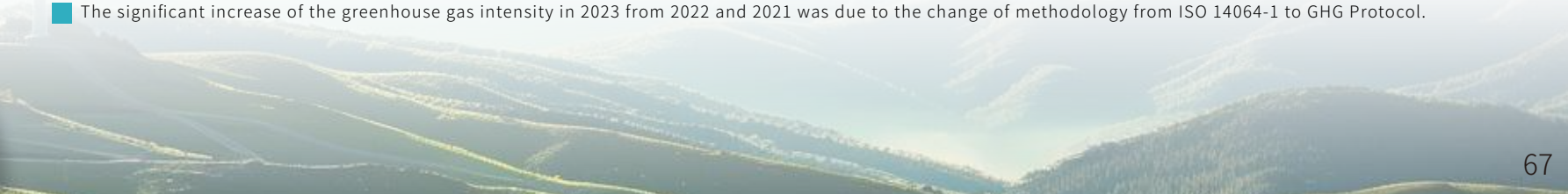
GCE has established the Sustainable Development Committee, which includes the cross-functional groups of "the environmental and health safety group" and "energy management group." These groups integrate environmental protection, greenhouse gas inventory, greenhouse gas emissions control, and greenhouse gas reduction measures to formulate various action plans, creates short-, medium-, and long-term plans, and promotes plant management measures. The coordinator of Sustainable Development Committee regularly convenes meetings to review the implementation progress, discuss impacts to the Company and trends, assess performance outcomes, and monitor goal achievements.

5.2.3 Greenhouse Gas Inventory Analysis

In response to Sustainable Development Roadmap, GCE continues to promote the ISO 14064-1 greenhouse gas inventory activities and has commissioned an independent third party to perform verification. The database has been gradually established year on year, to effectively manage the company's overall greenhouse gas emissions and strengthen information management as an important basis for future planning and adjustment of greenhouse gas reduction action plans. In August 2023, GCE submitted a near-term commitment to the Science Based Targets initiative (SBTi). To this end, a greenhouse gas inventory was conducted in 2023 according to the GHG Protocol.

The greenhouse gas inventory is as follows:

- Scope of inventory: All plants in Taiwan and China.
- Base year: 2019.
- Types and quantities of energy use, including purchased electricity, natural gas, diesel, gasoline, and gas, with their respective greenhouse gas emissions.
- The significant increase of the greenhouse gas intensity in 2023 from 2022 and 2021 was due to the change of methodology from ISO 14064-1 to GHG Protocol.



5.2.3溫室氣體盤查分析

- Note 1: The aggregation of GHG: GHG emissions = energy use x GHG emission coefficient x GWP value.
- Note 2: The emission coefficient is based on the "Greenhouse Gas Emission Coefficient Management Table (Version 6.0.4)" published by the Environmental Protection Bureau, Executive Yuan
- Note 3: The GWP values are based on the IPCC 2021 Sixth Assessment Report (AR6) The electricity coefficient (0.495 kgCO₂e/kWh) is based on the electricity
- Note 4: emission coefficient released by the Energy Administration, Ministry of Economic Affairs in 2023, and the electricity coefficient (0.5703 kgCO₂e/k-Wh) released by the Ministry of Ecology and Environment of the People's Republic of China in 2022.
- GHG emission intensity (tCO₂e/million revenue) is calculated to the
- Note 5: second decimal place.
- The methodology was changed in 2023 from ISO 14064-1 to GHG Protocol.
- Note 6: All group data has been verified by a third party and the verification was completed in May 2024.

Unit: tCO₂e

Analysis of Greenhouse Gas Emissions				
Scope	Region	2021	2022	2023
—	Taiwan	25,056.00	19,134.00	20,081.32
	China	20,247.00	20,196.00	29,748.85
	Subtotal	45,303.00	39,330.00	49,830.17
—	Taiwan	87,278.00	88,884.00	82,156.82
	China	275,227.00	180,222.00	144,470.48
	Subtotal	362,505.00	269,106.00	226,627.30
—	Taiwan	17,379.00	17,111.23	158,759.48
	China	16,293.00	7,793.00	521,187.80
	Subtotal	33,672.00	24,904.23	679,947.29
GHG volume	Total	441,480.00	333,340.23	956,404.75
GHG emission(Scope 1&2) intensity (tCO ₂ e/million revenue)	Taiwan and China	15.33	9.41	9.19
GHG emission(Scope 1、2&3) intensity (tCO ₂ e/million revenue)	Taiwan and China	1.59	10.17	31.81
GHG emission(Scope 1&2) intensity (tCO ₂ e/million revenue) % of reduction compared with the previous year		(6.70%)	(38.62%)	(2.27%)
GHG emission(Scope 1、2&3) intensity (tCO ₂ e/million revenue) % of reduction compared with the previous year		1.00%	(38.72%)	212.84%

5.3 Low Carbon Strategy and Action Plans

GCE is dedicated to enhancing energy efficiency, implementing energy-saving measures, and evaluating the use of renewable energy in our energy management strategy and greenhouse gas emission policy. These efforts are complemented by various greenhouse gas reduction measures to achieve the goal of net-zero emissions.

Based on the results of the greenhouse gas inventory, external purchased electricity constitutes a significant portion. Therefore, the action plan is oriented towards proactive energy conservation measures, gradually advancing the future strategy of "smart plant." Meanwhile, there is a continued emphasis on promoting a mindset shift among employees, encouraging a change in behavior that aligns with the Company's values. Furthermore, various greenhouse gas reduction measures are implemented to effectively cope with the risks posed by climate change.

5.3.1 Equipment Replacement and Upgrading Project

In 2023, we continued to phase out old equipment with new equipment. The main energy-saving effect of this project is reflected in the reduction of purchased electricity, which is also manifested as a reduction of Scope 2 greenhouse gas emissions. The calculation involves a comparison of the energy consumption before and after the equipment replacement and the estimate of the energy-saving effectiveness and the reduction in greenhouse gas emissions.

Item	Location	Measure for optimization	Energy savings result (kWh/year)	Energy savings result (Megajoule /year)	GHG emission reduction (tCO2)
1	Taiwan	Air compressor replacement, a total of 8 units	8,405,332	30,244,402	4,160
2	Taiwan	Motor replacement, a total of 198 units	229,804	826,890	114

Note: The calculation of GHG emission reductions is rounded to the nearest whole number.

5.3.2 Optimization Project for Energy Efficiency and Carbon Reduction

1. Standard operating procedures for energy saving and carbon reduction included in new equipment procurement

Key achievements

Based on the analysis of instructions of energy and resource saving process equipment, it is estimated that electricity and water consumption can be reduced by approximately 5% each year.

Among the large number of process equipment units, power motor systems and heating/cooling systems are particularly energy intensive. We adopted a project-based approach during the year and incorporated energy-saving and carbon reduction into the procurement process for equipment replacement. This has been established as a standardized procedure to achieve a reduction in power consumption of process equipment.

2. Standard operating procedures for energy saving and carbon reduction included in new equipment procurement

For the same raw materials produced in different manufacturing areas, we collected information collected from raw material suppliers and conducted an analysis based on locations and transportation methods. We promoted the procurement of raw materials from nearby sources to reduce transportation distances and hence reduce greenhouse gas emissions. In 2023, we selected specific raw materials for this project. By comparing the original procurement model, including transportation distances, vehicles, and methods, we estimated a reduction of greenhouse gas emissions by approximately 96 tCO₂e/year was achieved for a given raw material in the test program.

5.3.3 Smart Plant Project

(1) Smart monitoring system

- Monitor the electricity consumption of process equipment to ensure stability.
- Monitor faults or aging of process equipment to assess any increase in electricity consumption.
- Perform electricity consumption comparative analysis for process equipment to identify anomalies.
- Establish data collection and analysis to evaluate the configuration of process equipment.

(2) Smart control function

Our greenhouse gas emissions mainly come from electricity, primarily due to high energy consumption of process equipment such as power motor systems and heating/cooling systems. Hence, smart equipment and digital control are adopted for precise timing and quantity of electricity and water consumption.

5.3.4 Employee's Environmental Awareness and Lifestyle Response Program

- Encourage employees to minimize the use of elevator in reasonable circumstances.
- In areas with air conditioning, remind employees to keep doors and windows closed.
- Encourage employees to turn off unnecessary lighting equipment when not in use.
- Promote among all units to manually turn off electrical equipment such as rice cookers, water dispensers, computers, printers, and multi-function printer during off-duty hours, weekends, and holidays to reduce standby power consumption.
- Occasionally promote the benefits of energy-saving and environmental awareness through activities, emails, or other means.

5.3.5 Continuous Improvement Mechanism and Procurement Management Process

- Conduct regular annual reviews of contract capacity utilization to ensure progress and performance results of action plans and short-, medium-, and long-term plans.
- Assessment and effectiveness of energy saving benefits are included in the procurement process. Please refer to Chapter 8 Sustainable Supply Chain for details.



5.4 Water Resources Management

5.4.1 Water Resource Management

Owing to the nature of the industry, stable supply of water resources is critical to the continuous operation of GCE. To utilize water resources efficiently, promote circular usage, and minimize the impact on water resources while systematically practicing ESG management, the followings are GCE's commitments to sustainable water resources management:

- Establish a comprehensive water management system and organization to promote actions for water resource conservation.
- Implement effective water quality management, ensuring that water discharge is better than the regulations and continuously optimizing waste liquid reduction, recycling, and resource reutilization.
- Achieve sustainable water consumption balance, focusing on water recycling and circular use.
- Provide safe drinking water and hygiene management, pledge to protect watersheds in the vicinity of the plants, establish healthy and safe drinking water management and maintain a clean workplace.
- Preserve a healthy water environment and enhance the value chain of water resources by promoting environmental education and maintaining habitat in the corridor of the discharge area. Through value chain communication and resource sharing, enhance the downstream value chain water resource risk assessment and resilience.

5.4.2 Water Resources Management

The current water sources mainly come from tap water/municipal water supply, groundwater, and river water. Water from conservation areas and sensitive water bodies are not used. The water use information is as follows:

Taiwan

- Tap water/municipal water supply: Dahan River Basin (Taiwan Shimen Reservoir).
- Groundwater is from wells that have been approved for digging by the government.

China

- Tap water/municipal water supply: Yangtze River Basin.



5.4.2 Water Resources Management

In recent years, climate change has impacted rainfall and available water resources, causing corresponding water resource management risks. Although our plants did not experience operational impacts due to water resources in the 2023, GCE will continue to formulate water resource management action plans, monitor performance outcomes in a timely manner and adopt rolling adjustment management measures to effectively manage water resource utilization and mitigate environmental ecological impacts for ensuring the Company's continuous operation.

Action Plans for Water Resource Management

- 1 Regularly calibrate water meters to ensure the accuracy of water consumption data.
- 2 Establish a database to collect and analyze overall information of water use.
- 3 Install water-saving devices to regulate water outflow.
- 4 Continue to replace old equipment; in the new equipment procurement process, consider water-saving certifications or efficiency evaluations as mandatory evaluation criteria for selecting suppliers.
- 5 Continue to promote the recycling and reuse and process improvement projects such as the incremental use of recycled water from electroplating, reuse of RO concentrated water, downward adjustment of overflow consumption in the whole plant, and change the water use of scrubbing towers to concentrated water, etc.
- 6 Develop a long-term water resource utilization plan, such as converting process wastewater for reuse to conserve water.
- 7 Promote proper water conservation awareness by displaying water-saving slogans near water facilities and fostering water-saving habits.
- 8 Set water-saving targets with a minimum annual achievement rate of 12%.

AI-enabled smart cooling towers at our factory in China

Currently, the process involves chemical dosing, resulting in significant water consumption and wastewater discharge, which is not aligned with environmental trends. To solve this, an AI smart cooling tower has been introduced, adopting environmentally friendly physical methods for water treatment, eliminating the use of chemical dosing, and significantly reducing water use.

Key achievements

Effective water consumption reduction is estimated to be 38,520 cubic meters a year. Greenhouse gas emission reduction is estimated to reach 6 tCO₂e a year.

Note: Greenhouse gas emissions for water consumption is 0.156 kgCO₂ /m³.

Electroplating lines water saving project

The large number of electroplating equipment units and the intensive water consumption of such units make it difficult to control water resources for sustainable development. Hence, a project analysis was conducted and the water wash control model was improved to reduce water consumption.

Key achievements

Effective water consumption reduction is estimated to be 367,202 cubic meters a year. Greenhouse gas emission reduction is estimated to reach 57 tCO₂e a year.



Analysis of Historical Water Usage				
Type of water	Region	2021	2022	2023
Tap water/ municipal water supply	Taiwan	2,162.20	2,085.88	2,300.06
	China	4,510.53	4,690.65	3,986.11
Groundwater	Taiwan	732.25	898.14	646.75
	China	-	-	-
River and lake water	Taiwan	38.77	-	-
	China	-	-	-
Total water inflow	Taiwan and China	7,443.74	7,674.67	6,932.93
The total amount of effluent	Taiwan and China	6,866.66	7,033.69	6,548.80
Water consumption	Taiwan and China	577.08	640.98	384.13
Total amount of recycled water	Taiwan and China	973.93	895.86	794.54
Water saving rate	Taiwan and China	13.10%	11.67%	11.46%
Effluent saving rate	Taiwan and China	14.20%	12.74%	12.13%
Water intensity (million liters/ million revenue)	Taiwan and China	0.28	0.23	0.23
GHG emissions (t/CO2e)	Taiwan and China	1,131.45	1,235.62	1,081.54

Note 1: The water use into CO2 equivalents is 0.161 KgCO2/ton in 2021; 0.156 KgCO2/ton in 2022 and 2023. (CO2 equivalent factor based on the announcement of Taiwan Water Corporation, Ministry of Economic Affairs on August 24, 2023).

Note 2: The numbers are rounded to second decimal place.
 Note 3: Water saving rate: total amount of recycled water/total water inflow

Note 4: Effluent saving rate: total amount of recycled water/total amount of effluent.

5.4.3 Wastewater Management

All of the GCE' plants are equipped with wastewater treatment facilities, employing biological, physical, chemical, and recycling treatment methods to meet local regulatory standards. For instance, the water quality complies with national limit values for Chemical Oxygen Demand (COD) at 120mg/L and Total Suspended Solids (TSS) at 50mg/L. GCE consistently maintains ISO 14001 and HSPM/QC 080000 certification. Moreover, rainwater management and water pollution diversion are being developed, and high-performance equipment is planned and allocated to meet requirements of laws and regulations of government. The total wastewater discharge in 2023 was approximately 6,548.80 million liters, an decrease of approximately 6.89% compared with 2022, but the emission intensity was increased by approximately 4.76%. In 2023, the wastewater discharge volume of factories in Taiwan and China was about 2,978.38 million liters and 3,570.42 million liters, respectively, accounting for 45.5% and 54.5% of the total discharge.

The wastewater discharged from each operation site is treated by the local wastewater treatment facilities, and it is confirmed to be in compliance with the discharge standards, and then legally discharged to Xinjie River in Taiwan and to the Taihu Lake Basin in China. As of the reporting date, the wastewater in Taiwan and China has been treated and discharged in accordance with the regulations, and has not had a significant impact on the local water areas.

The wastewater pollution prevention and control systems of the plants are actively reviewed and optimized regularly. In addition to complying with local environmental protection laws and regulations on wastewater discharge standards, and to cope with the impact of climate change, GCE will continue to invest in the enhancement of the efficiency of wastewater treatment facilities, the reduction of pollutants at the source, and the formulation of internal wastewater discharge control standards better than regulatory standards stipulated in the laws and regulations to minimize the impact of environmental pollution.

Unit: million liters

Analysis for Historical Volume of Wastewater				
Region	Discharge destination	2021	2022	2023
Taiwan	Surface water bodies and local sewage treatment facilities	3,001.38	2,961.06	2,978.4
China	Local sewage treatment facility	3,865.28	4,072.63	3,570.4
Total		6,866.66	7,033.69	6,548.80
Total wastewater discharge intensity (million liters/million revenue)		0.26	0.21	0.22

Note: The numbers are rounded to second decimal place.

5.5 Air Pollution Control

The main air pollutants generated from the printed circuit board manufacturing process are nitrogen oxides (NOx), sulfur oxides (SOx), volatile organic compounds (VOCs), and particulate matter. Our company has established comprehensive management and operational maintenance programs, and has installed air pollution control equipment such as dust collectors to treat waste gases. In addition to regular maintenance, we also proactively optimize on-site ventilation and exhaust equipment. Meanwhile, environmental inspections are conducted to ensure that the detected levels of pollutants are below the limits set by local environmental protection regulations.

Types of pollutants	Unit	Region	2021	2022	2023
NOx	Kg	Taiwan	1,897	2,022.78	2,235.84
		China	28,625	14,295.30	28,901.02
	Kg/million revenue	Taiwan and China	1.15	0.50	1.04
SOx	Kg	Taiwan	14	15.30	16.86
		China	6,280	12,828.27	1,698.00
	Kg/million revenue	Taiwan and China	0.24	0.39	0.06
VOCs	Kg	Taiwan	10,633	10,670.20	7,251.00
		China	584	863.00	8,182.88
	Kg/million revenue	Taiwan and China	0.42	0.35	0.51
Aerosols	Kg	Taiwan	290	307.57	289.10
		China	4,661	2,162.37	4,392.64
	Kg/million revenue	Taiwan and China	0.19	0.08	0.16

Note: The numbers are rounded to second decimal place.

5.6 Waste Management

All GCE plants continue to maintain the ISO 14001 environmental management systems. Waste is categorized into two main types: general industrial waste and hazardous industrial waste. The main sources of waste are process-generated scum, copper scrap, waste aluminum plates, chemical waste liquids, and copper sludge. The remainder consists of general garbage from the plant areas, as well as waste wood and empty plastic barrels from raw material transportation.

To address the impact of waste that has already been generated, we proactively promote process adjustments and improvements to reduce chemical usage. We have also purchased equipment to process and reduce scum and implemented waste sorting and recycling to ensure compliance with local regulations and customer requirements.

Moreover, we have dedicated personnel managing and auditing waste to address the potential impact of waste (such as waste removal). Legal and qualified companies are commissioned to dispose of waste in accordance with local laws and regulations, for example, recycling and reuse, incineration and landfill and recycling. There are also strict auditing and reviewing mechanisms to prevent the waste from harming the environment.

Unit: tons

Region	Type of waste	Waste	Waste disposal	2021	2022	2023	Indicator
Taiwan	Non-hazardous waste	Scum General garbage	Incineration	706.00	807.00	1,232.14	GRI 306-4
			Landfill after incineration	-	-	-	
			Direct landfill	-	-	-	
		Empty plastic barrels	Reuse	23.65	61.12	131.61	GRI 306-5
		Copper waste, waste plastic mixtures, waste wood and others	Recycle	1,437.35	1,207.88	3,688.62	
			Other	-	-	-	

Waste Management

Region	Type of waste	Waste	Waste disposal	2021	2022	2023	Indicator
China	Non-hazardous waste	General garbage	Incineration	1,455.00	1,205.00	1,164.50	GRI 306-5
			Landfill after incineration	-	-	-	
			Direct landfill	-	-	-	
		Waste plastic mixtures	Reuse	204.36	211.00	210.97	GRI 306-4
		Waste wood, waste aluminium plates and others	Recycle	6,345.64	6,687.00	6,015.00	
			Other	-	-	-	
Total volume of non-hazardous waste				10,172.00	10,179.00	12,442.85	GRI 306-3
Taiwan	Hazardous waste	Waste solvents	Incineration	14.00	13.00	-	GRI 306-4
			Landfill after incineration	-	-	-	
			Direct landfill	-	-	-	
		Empty plastic barrels	Reuse	450.43	571.23	68.99	GRI 306-5
		Copper sludge, chemical waste liquids and others	Recycle	11,300.58	10,025.77	9,942.69	
			Other	-	-	-	

Waste Management

Region	Type of waste	Waste	Waste disposal	2021	2022	2023	Indicator
China	Hazardous waste	Scums, waste filters and others	Incineration	1,094.00	2,669.87	1,252.00	GRI 306-5
			Landfill after incineration	-	-	-	
			Direct landfill	-	-	-	
		Chemical waste liquids	Reuse	18,376.61	20,737.00	12,987.44	GRI 306-4
		Copper sludge and others	Recycle	26,444.39	23,779.00	19,768.83	
			Other	-	-	-	
Total volume of hazardous waste				57,680.00	57,795.87	44,019.96	GRI 306-3
Total volume of non-hazardous and hazardous waste				67,852.00	67,974.87	56,462.80	-

Note 1: The numbers are rounded to second decimal place.

Note 2: All waste is disposed of off-site, and in the plants, only temporary storage facilities are available for waste sorting. (GRI 306-4 d)

Note 3: All waste consists of electronic waste from the electronics industry. (GRI-306-3)

Note 4: During waste transportation, all waste is weighed on scales to confirm the weight and registered according to regulations. (GRI-306-4 e / 306-5 e)

Note 5: Waste disposal complies with regulatory requirements, and there is no open burning, deep well injection, or dumping of waste. (GRI-306-5)



20
23



6. *Shared and Inclusive Pathway*



GCE upholds labor rights in accordance with labor laws, adhering to the principles of respect, fairness, and communication. Through a sound management system and evaluation measures, GCE strives to attract and develop diverse talent, provide fair compensation evaluations, properly care for employees, and ensure workplace health and safety to identify and respond to impacts.

#	Item	Key Results
1	Human resources policy training	To 99%
2	Human rights training completion rate	100%
3	Number employment of child labor	None
4	Number of labor and migrant workers charged recruitment fee	None
5	Corporate ethics training in key departments achievement rate	To 97.75%
6	Case filed in discrimination	None
7	Female employees ratio	47.2% in Taiwan plants 36.2% in China plants
8	Female supervisor ratio	36.1% in Taiwan plants 21.2% in China plants
9	Satisfaction with the courses organized by the Company	90/100
10	Resolution rate of employee complaints filed	100%(Note 1)
11	Annual frequency of emergency response drill	1 time in Taiwan Plants 2 times for every China plant
12	Occupational health and safety training completion rate	99%
13	Number of violations of labor laws or agreements subject to local government fines exceeding NT\$1 million	None (Note 2)

Note 1: The number of employee complaints is zero.
Note 2: If the amount is less than NT\$1 million, please refer to Business Overview in 2023 Annual Report.

To support human rights and enhance labor rights, GCE has adopted the "Responsible Business Alliance (RBA)" as its framework and incorporated local labor laws to formulate the "Company's Highest Guiding Principles for Labor and Human Rights." These principles serve as the foundation for establishing regulations, executing business operations, activities, and operational guidelines.

Moreover, GCE has established the "Labor Risk Assessment and Handling Procedures," which involve conducting annual assessments of human rights risks and developing strategies and action plans for high-risk items. In terms of education and training, these principles are included in new employee training and mandatory annual courses for all employees. In 2023, the completion rate for these trainings was 100%.

Company's Highest Guiding Principles for Labor and Human Rights	
Hiring Principles	- Equal employment opportunities. - During the hiring process, ensure the applicant's willingness and autonomy, firmly prohibiting any illegal labor exploitation activities. This includes banning transportation, harboring, recruitment, transfer, or receipt through means of threat, coercion, collateral (such as debt bondage), contractual binding, suppression, abduction, or fraud, ensuring no involuntary servitude or trafficking of labor occurs. - The Company fully covers service fees for foreign workers and recruitment fees for new employees, ensuring that employees are not responsible for reimbursing these costs upon resignation or termination of their labor contracts. - Prohibition of child labor. - Diversity in workforce composition.
Prohibit Discrimination	- Support and establish a non-discriminatory corporate culture. - Commit to a non-discriminatory workplace environment, prohibiting illegal and any form of discrimination. - Encourage reporting of discriminatory behavior.
Legal Compliance	Strive to comply with local legal regulations and the requirements of the "Responsible Business
Labor Conditions	- Uphold humane treatment. - Commit to a harassment-free workplace environment, prohibiting illegal and any form of harassment. - All work must be voluntary for every employee, including interns. Personal freedom must not be restricted, and no forced labor shall occur. Reasonable break will be provided, and any additional work or hours must be agreed upon. - Employees have the right to resign or terminate their labor contract at any time with reasonable notice, without facing any form of retaliation. - Overtime shall not exceed 46 hours per month. Except in emergencies or exceptional situations, weekly working hours (including overtime) shall not exceed 60 hours, and employees must have at least one day off every week. - Wages shall be paid in accordance with wage laws, including those concerning minimum wage, overtime, and statutory benefits. - Commitment to supporting freedom of association. - Create an appropriate and friendly workplace environment for employees. - Encourage the reporting of harassment, illegal and non-compliant behavior, bullying, retaliation, or threats.

6.1 Diverse and Inclusive Human Resources Strategy

6.1.1 Diverse Team Structure

GCE has established diverse and accessible communication channels, allowing employees to raise concerns or opinions about the Company's management systems, measures, or personnel execution and make complaints either anonymously or by name. Upon receiving related cases, the Human Resources Department handles them with independence, objectivity, and confidentiality, conducting proper investigations. If there's issue after investigation, immediate feedback and communication with the stakeholders will occur, and the Company will initiate reviews, adjustments, and improvements to management systems or measures, as well as personnel adjustments and disciplinary actions, to prevent recurrence of similar cases.

In 2023, there were zero employee complaints. Additionally, human rights-related advocacy and training, such as new employee orientation and annual human rights courses for all employees (in both Taiwan and China plants), totaled 10,280 hours, with a 100% training completion rate. Regular audit activities were conducted, and through supplier management mechanisms, such as signing commitments, self-evaluations and audits, and supplier conferences, human rights awareness and requirements were extended to suppliers.

Item	2023	2022	2021
Course hour	10,280	10,561	11,673
Training completion rate	100%	100%	100%



6.1 Diverse and Inclusive Human Resources Strategy

6.1.1 Diverse Team Structure

GCE, based on a strategy of diversity and inclusion, recognizes that the employees are the cornerstone of our success. We look forward to upholding our shared values and working together towards sustainable development goals. In terms of hiring and management, GCE never discriminates in hiring or treatment on the basis of race, class, language, religion, politics, nationality, gender, age, marriage or union status...etc.

The diversity distribution of employees in 2023 is as follows. The male to female ratio of supervisors in Taiwan plants is 3:1, while the male to female ratio in China plants is 4.5:1; the male to female ratio of non-supervisors in Taiwan is about 50:50, while the male to female ratio in China plants is 1.6:1. In terms of education in general, the percentages of those below junior high school, high school (vocational) and university or above are about 1/3 each; finally, in terms of employee age, the highest percentage is 31-50 years old (inclusive), which has reached 55.86%, while the age group of under 30 years old is the second highest at 37.01%.

Special Employee Categories													
Employee Category		2023				2022				2021			
		Taiwan		China		Taiwan		China		Taiwan		China	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Other	Physical and mental impairment	9	4	0	0	11	10	0	0	13	8	0	0
	Minority	0	0	108	52	0	0	102	62	0	0	155	127
	Foreign nationality	374	295	0	0	365	285	0	0	330	283	0	0

Note 1: The number of employees as of December 31, 2023, the end date of the reporting period, is used.
Note 2: There was no significant change in the total number of employees during the reporting period.

Employees Diversity Distribution															
Employee Category		2023				Total	Ratio	2022				2021			
		Taiwan		China				Taiwan		China		Taiwan		China	
		Male	Female	Male	Female			Male	Female	Male	Female	Male	Female	Male	Female
Age	Under 30 years old	311	263	1,191	637	2,402	37.01%	309	278	1339	721	288	269	2,067	1,140
	31-50 years old (inclusive)	822	669	1,329	805	3,625	55.86%	757	614	1273	818	740	590	1,140	733
	Over 51 years old	176	238	49	0	463	7.13%	160	225	53	0	142	211	47	0
Total		1,309	1,170	2,569	1,442	6,490	100%	1,226	1,117	2,665	1,539	1,170	1,070	3,254	1,873
Education	Below junior high school	116	172	306	176	770	11.86%	99	168	1,289	750	119	170	1,515	833
	High school (vocational)	477	580	1,455	776	3,288	50.66%	441	538	804	429	402	522	1,122	657
	University	647	388	805	490	2,330	35.90%	626	391	569	360	590	353	614	382
	Master	68	30	3	0	101	1.56%	59	20	3	0	58	25	3	1
	PhD	1	0	0	0	1	0.02%	1	0	0	0	1	0	0	0
Total		1,309	1,170	2,569	1,442	6,490	100%	1,226	1,117	2,665	1,539	1,170	1,070	3,254	1,873
Position	Supervisory position	118	40	328	73	559	8.61%	114	38	332	73	112	39	314	73
	Non-supervisory positions	1,191	1,130	2,241	1,369	5,931	91.39%	1,112	1,079	2,333	1,466	1,058	1,031	2,940	1,800
Total		1,309	1,170	2,569	1,442	6,490	100%	1,226	1,117	2,665	1,539	1,170	1,070	3,254	1,873

Note 1: The number of employees as of December 31, 2023, the end date of the reporting period, is used.

Note 2: There was no significant change in the total number of employees during the reporting period.

6.1.1 Diverse Team Structure

Analysis of Employee Contract Structure									
Year Item	2023			2022			2021		
	Full-time	Dispatched	Full-time	Full-time	Dispatched	Full-time	Full-time	Dispatched	Full-time
Gender									
Male	3,675	203	3,878	3,592	299	3,891	3,415	1,009	4,424
Female	2,478	134	2,612	2,483	173	2,656	2,381	562	2,943
Country or region									
Taiwan	2,416	63	2,479	2,284	59	2,343	2,189	51	2,240
China	3,737	274	4,011	3,791	413	4,204	3,607	1,520	5,127

- Note 1: The number of employees as of December 31, 2023, the end date of the reporting period, is used.
- Note 2: There was no significant change in the total number of employees during the reporting period.
- Note 3: In 2022, the China plant will adjust its manpower policy to adopt full-time employment as the principle of employee recruitment and reduce the use of dispatched manpower to ensure the integrity of the labor rights of employees and to respond to the human rights policy.
- Note 4: Dispatched workers are non-employee workers who supply the manpower needed by the dispatching company to provide labor for the Company.
- Note 5: The Company does not employ any part-time or temporary employees.

6.1.1 Diverse Team Structure

- About the Report
- Contents
- Message from the Chairman
- Company Overview
- Sustainable Development Strategy and Management
- Robust Governance and Transparency
- Confronting Climate Change
- Green Strategy and Implementation
- Shared and Inclusive Pathway**
- Innovation Breakthroughs and Results
- Sustainable Supply Chain
- Appendix

Analysis of Non-employee Workers in 2023					
Region Item	Taiwan		China		Total
	Male	Female	Male	Female	
Dispatched employees	37	26	166	108	337
Contractors	1,503	39	2,263	18	3,823
Part-time workers	0	0	0	0	0
Cafeteria Staff/ Cleaner/Security	17	10	82	74	183
Consultants	4	1	0	0	5

Note 1: The number of employees is calculated as of December 31, 2022, the end date of the reporting period.
Note 2: There was no significant change in the total number of employees during the reporting period.

6.1.2 Analysis of New Employees and Employee Departures

Although some employees have planned to leave the team, GCE remains committed to establishing a comprehensive, smooth, robust and friendly system of compensation, care, promotion, training, communication, policies, labor conditions, and workplace environment. We continue to attract new talent to join our team and work together towards our shared vision.

Age Structure of New and Departed Employees in 2023						
Item		Age	Taiwan		China	
			Number of people	Ratio	Number of people	Ratio
New employees	Male	Under 30 years old	208	66.88%	771	64.74%
		31-50 years old (inclusive)	241	29.32%	471	35.44%
		Over 51 years old	17	9.66%	1	2.04%
		Subtotal	466	35.60%	1,243	48.38%
	Female	Under 30 years old	184	69.96%	480	75.35%
		31-50 years old (inclusive)	211	31.54%	299	37.14%
		Over 51 years old	13	5.46%	0	0%
		Subtotal	408	34.87%	779	54.02%
Departed employees	Male	Under 30 years old	223	71.70%	870	73.05%
		31-50 years old (inclusive)	139	16.91%	354	26.64%
		Over 51 years old	23	13.07%	2	4.08%
		Subtotal	385	29.41%	1,226	47.72%
	Female	Under 30 years old	195	74.14%	500	78.49%
		31-50 years old (inclusive)	154	23.02%	264	32.80%
		Over 51 years old	29	12.18%	4	100.00%
		Subtotal	378	32.31%	768	53.26%

Note 1: The number of employees as of December 31, 2023, the end date of the reporting period, is used.

Note 2: The subtotal is based on the number of employees in each category as the denominator, e.g., the denominator of the male departure rate is the total number of male employees, and the denominator of the new employees rate under 30 years old is the number of employees under 30 years old.

Note 3: The total is the number of all employees as the denominator.

Note 4: There is no significant change in the total number of employees during the reporting period.

Note 5: The number of resignations includes employees who retired during the year (17 in the Taiwan plants and 6 in the China plants) or those who passed away naturally.

About the Report

Contents

Message from the Chairman

Company Overview

Sustainable Development Strategy and Management

Robust Governance and Transparency

Confronting Climate Change

Green Strategy and Implementation

Shared and Inclusive Pathway

Innovation Breakthroughs and Results

Sustainable Supply Chain

Appendix

6.2 Employee Development and Training

6.2.1 Comprehensive Training Mechanism

GCE has invested significant resources to establish a comprehensive training development mechanism, actively engaging employees in discussions and planning their careers, thereby accumulating professional skills and experience. In recent years, to strengthen the Company's sustainability and green objectives, sustainable competencies have been introduced as part of the talent value development strategy.

In practice, in addition to regular functional training tailored to the different departments and job roles to enhance employees' professional capabilities, project-based initiatives such as book clubs, business reviews, and special training are also implemented. These initiatives make the training combinations more flexible, diverse, and rich in categories, providing comprehensive functional training.

Moreover, digital learning channels (My Class GCE Digital Academy), professional certification incentives, and training subsidies have been established. These initiatives aim to encourage employees to engage in diverse learning methods, thereby enhancing their willingness for self-directed learning and achieving the dual goals of competency development and personal career growth.

Core Aspects of Comprehensive Functional Training



- About the Report
- Contents
- Message from the Chairman
- Company Overview
- Sustainable Development Strategy and Management
- Robust Governance and Transparency
- Confronting Climate Change
- Green Strategy and Implementation
- Shared and Inclusive Pathway**
- Innovation Breakthroughs and Results
- Sustainable Supply Chain
- Appendix

6.2 Employee Development and Training

6.2.1 Comprehensive Training Mechanism

GCE is committed to fostering professional expertise and personal growth as its core promise. To this end, it has planned three major training systems, complemented by key annual training sessions, laying a solid foundation for the Company's future success:

General Courses

Aligned with the Company's goals and customer needs, a series of mandatory general courses are offered annually. These include RBA Code of Conduct, trade secrets, information security, corporate ethics, occupational safety and health, ESG sustainability development workshops, and fire and evacuation drills.

Professional Development Course

These courses cater to different job roles, functions, and management levels, providing various professional training to ensure continued excellence in quality and customer satisfaction. This includes basic quality courses, Quality Control Circle (QCC) activities, ISO management, R&D, engineering, manufacturing, and advanced technical training.

Management and Leadership

Focused on enhancing leadership skills among the management, these courses develop problem analysis and solving capabilities through discussions, cross-discussions, and questioning, linking these skills to work. Additionally, participation in external training and elective open courses is encouraged to share learning outcomes.



Key Results: A total of 130 participants, including middle and senior managers, frontline supervisors, and key talents, were involved in three training sessions.



Trade Secrets Course



Greenhouse Gas Verification Briefing



- About the Report
- Contents
- Message from the Chairman
- Company Overview
- Sustainable Development Strategy and Management
- Robust Governance and Transparency
- Confronting Climate Change
- Green Strategy and Implementation
- Shared and Inclusive Pathway**
- Innovation Breakthroughs and Results
- Sustainable Supply Chain
- Appendix

The continuous enhancement of team professionalism and depth relies on the exemplary behavior and capabilities of leaders, as well as the breadth of their vision and the depth of their character. Therefore, the Company has meticulously planned advanced training programs for management, focusing on two main areas this year: (1) Mid-level Managers - Team Leader Training Courses, and (2) In-depth Development Training Courses for managerial levels.

Mid-level Managers-Team Leader Training Courses

These courses target team leaders from various departments within the Company, extending even to the supervisory level. The training covers the use of new equipment, understanding new process trends, cross-disciplinary or cross-unit skill exchange and learning, autonomous maintenance and operation of equipment or facilities, and improvements and optimization suggestions in professional fields.



In-depth Development Training Courses for Managerial Levels

Regardless of whether it is in Taiwan or China plants, the Company has collaborated extensively with Harvard Business Review (HBR). The training covers five major areas: innovative thinking, proactive behavior, organizational communication, QBQ thinking logic, and the spirit of accountability. Through regular sharing of new knowledge, discussing articles, and holding seminars, the program aims to establish a common language and culture within the organization, fostering decision-making capabilities and proactiveness among management.



Key Results: Management seminars were held for middle-level and senior-level management, as well as extended to frontline supervisors and key talents within the organization. A total of four sessions were held throughout the year (in both Taiwan and China), with 241 participants and a total of 482 training hours invested. During these seminars, management positions, from top to bottom and across units, engaged in horizontal exchanges, enabling the sharing of different perspectives, cross-questioning, and discussions, thereby closely linking with business operations, reflecting, and driving change.

Key Training in 2023

- About the Report
- Contents
- Message from the Chairman
- Company Overview
- Sustainable Development Strategy and Management
- Robust Governance and Transparency
- Confronting Climate Change
- Green Strategy and Implementation
- Shared and Inclusive Pathway
- Innovation Breakthroughs and Results
- Sustainable Supply Chain
- Appendix

Key Training	Goals and Results of Key Training in 2023
New Employee Training	Objective: Provide one week of intensive training for new employees to familiarize them with Company's policies, government regulations, their own rights, and work rules. Key Results Company introduction, important notes for new employees, personnel management system, general courses, professional courses, safety and health courses, environmental courses (ROHS halogen-free standards, ISO 45001 system), 5S courses, SOP internal management standards and practical operations.
Special Training TPM, TPS	Objective: To respond to different functions by assigning supervisors or personnel for training, enabling them to fully understand and utilize equipment, enhance their knowledge of daily equipment management and maintenance, and improve equipment through exchanges, theoretical studies, practical case discussions, and simulation games. This aims to provide feedback for improvements, elevate personnel standards, and increase production efficiency. Key Results Held 30 special training in 2023, conducted 6 autonomous maintenance sessions, organized regular maintenance improvement exchange meetings, 367 participants attended basic concept training with a 100% completion rate, held 10 basic practical sessions, conducted 2 sessions on quality control and lean production.
High-Speed Digital Electrical Training	Objective: Specific department personnel to receive training on high-end product trends, high-speed system electrical specifications, and material selection skills. By combining explanations of practical cases, the aim is to promote the practical application of knowledge and enhance R&D technical capabilities. Key Results A total of 68 people received training.
DOE Experimental Design	Objective: Specific department personnel to receive training on experimental design processes and discuss practical cases to improve work efficiency. Key Results Two sessions were held, with a total of 73 participants.
AI Digital Transformation	Objective: To study the introduction of AI, engage in project brainstorming and practical application; at the same time, organize innovation activities to encourage employees to explore the implementation of digital tools, thereby improving work efficiency and quality. Key Results 15 people successfully completed the training. 44 people participated in innovation activities. 4 expert exchange seminars were held, with a total of 357 participants.



TPS Fundamentals Practical Training



AI Digital Transformation Course



TTQS Certification (Corporate Bronze Award)

GCE Book Club

By selecting a good book, designing scenarios to raise questions for discussion, and exchanging ideas on how to find solutions.

Key Results Generate good and bad questions based on work scenarios, use knowledge from the book, and foster team spirit.



Golden Statue Book Club

GCE Cinema

"Accountability and Communication," promoting "Innovation," to form an important corporate culture.

Key Results Four sessions were held, during which participants shared their insights from the films.



Thai Language Class

Common Competencies

Thai Class

Besides basic Thai, the class includes introductions to local culture and everyday communication, fostering cross-cultural communication and understanding.

English Proficiency Enhancement Program

Through interactive teaching, scenario simulations, and showcasing learning outcomes, the program significantly improves participants' English skills, with most TOEIC practice test scores reaching over 500 points.

Presentation Seminar

Through mechanisms such as presentation skills workshops, practical experience sharing, and expert evaluations, a certification mechanism was established. In 2023, a total of 68 participants were certified.



Presentation Session

Key Training in 2023

Gold Internship Program

To achieve sustainable talent development and promote industry-academia collaboration, the Company has designed a "semester-based" internship program in line with the academic system. This program offers internship opportunities in units such as production management, quality assurance, engineering, R&D, and design. By introducing company culture and systems, setting work and task goals, conducting monthly interviews, and presenting work task outcomes, students can earn academic credits while gaining early exposure to professional skills and experience. This experience encourages them to continue collaborating with the team.

This year, seven interns joined the program. The interns reported that through this internship opportunity, they discovered a gap between practical workplace skills and school education. They expressed their gratitude to department supervisors and mentors for imparting knowledge and experience. Out of the seven interns, four expressed their willingness to continue with the Company.



Interns' Reflection(1)

I'm an intern in the New Product Engineering Department, having started my internship in September 2023. Last year, after receiving my acceptance letter but before starting my internship, I had many imaginations about the workplace I was about to enter, including the work environment, job responsibilities, colleagues' personalities, and whether there would be colleagues around my age in the department. Upon starting my internship, I found that my department had a diverse age range, with many seniors as well as younger colleagues. At first, working with these seniors made me a bit nervous because I was afraid of not doing well and getting scolded by them. This made me somewhat cautious and careful in my work and interactions with them. However, after spending some time with them, I discovered that they were all very kind. Whenever I encountered any problems at work, they patiently explained things to me. During breaks, I occasionally chatted with them, sharing updates about my life or discussing academic matters. Over all, the communication barriers between different generations I was worried about did not seem to show up.

Interns' Reflection(2)

Hello everyone, I'm an overseas Chinese student from Thailand studying in Taiwan. I am very honored to have the opportunity to intern at Gold Circuit Electronics. During this internship, I gained a lot of valuable experience in translating Chinese and Thai documents, and I deeply understood the importance of accuracy and fluency. In assisting my supervisor with various tasks related to the new plant in Thailand, I learned many practical skills. I learned how to effectively organize and manage my time, how to work with people from different backgrounds and cultures, and how to flexibly handle various unexpected situations. Through participating in Chinese-Thai document translation and handling affairs related to Thailand, I discovered my strong interest in cross-cultural communication and international affairs. This internship provided me with a clearer career direction and laid a solid foundation for my future career. It was a valuable experience for me, and I learned many invaluable skills and lessons during this time. I will remember what I learned from this internship and apply them to my future career, striving to achieve my dreams and goals.

Key Training in 2023

- About the Report
- Contents
- Message from the Chairman
- Company Overview
- Sustainable Development Strategy and Management
- Robust Governance and Transparency
- Confronting Climate Change
- Green Strategy and Implementation
- Shared and Inclusive Pathway**
- Innovation Breakthroughs and Results
- Sustainable Supply Chain
- Appendix

Overall, GCE aims to design diverse, flexible, systematic, enriching, and professional training programs. These programs enable employees to systematically accumulate and continuously enhance their job skills, functions, and career development, fostering mutual cooperation and sharing the fruits of growth, thus making significant strides towards sustainable development goals.

The types, targets, regions, and total hours of training courses in 2023 are shown in the table below.

Number of Employees and Hours of Training in 2023					
Item		Taiwan		China	
		Male	Female	Male	Female
Number of training employees	Direct personnel	1,104	1,192	4,567	2,104
	Indirect personnel	349	262	423	332
	Supervisory personnel	209	86	432	92
	Subtotal employees	1,662	1,540	5,422	2,528
Number of training hours	Direct personnel	27,548.9	29,574.8	153,008.3	68,458.4
	Indirect personnel	20,597.4	12,298.4	20,847.3	16,679.7
	Supervisory personnel	11,316.5	3,695.7	24,138.3	3,979.5
	Subtotal employees	59,462.8	45,568.9	197,993.9	89,117.6
Average training hours	Direct personnel	24.95	24.81	33.50	32.54
	Indirect personnel	59.02	46.94	49.28	50.24
	Supervisory personnel	54.15	42.97	55.88	43.26
	Subtotal employees	35.78	29.59	36.52	35.25

Note: Supervisory personnel refer to team leader level and above.

6.2.1 Comprehensive Training Mechanism

Total Hours of Training Courses in 2023				
Course Type	Course Target	Region	Gender	Total Course Hours
New employee Course	New employees	Taiwan	Male	5,775.4
			Female	5,263.0
		China	Male	43,808.6
			Female	16,533.0
General knowledge Course	All employees	Taiwan	Male	21,229.40
			Female	18,490.50
		China	Male	41,792.8
			Female	20,647.5
Professional Technical Course	Assigned employees	Taiwan	Male	21,208.50
			Female	16,864.90
		China	Male	65,600.7
			Female	42,383.8
Management and Leadership Course	Supervisory level	Taiwan	Male	8,760.50
			Female	4,192.00
		China	Male	8,658.5
			Female	2,229.0
Common Skills Course	Assigned employees	Taiwan	Male	2,489.00
			Female	758.50
		China	Male	15,634.0
			Female	9,473.5

6.2.1 Comprehensive Training Mechanism

- About the Report
- Contents
- Message from the Chairman
- Company Overview
- Sustainable Development Strategy and Management
- Robust Governance and Transparency
- Confronting Climate Change
- Green Strategy and Implementation
- Shared and Inclusive Pathway**
- Innovation Breakthroughs and Results
- Sustainable Supply Chain
- Appendix

Total Hours of Mandatory Courses in 2023					
Course Type	Course Target	Region	Gender	Total Course Hours	Remark
Human rights policy related courses (RBA training)	All employees	Taiwan	Male	1,176.00	Training completion rate 100%
			Female	1,063.00	Training completion rate 100%
		China	Male	5,710.5	Training completion rate 100%
			Female	2,330.5	Training completion rate 100%
Anti-Corruption Policy Course (RBA training and ethics training)	All employees	Taiwan	Male	2,780.00	Training completion rate 100%
			Female	2,392.00	Training completion rate 100%
		China	Male	6,962.0	Training completion rate 100%
			Female	3,471.5	Training completion rate 100%
Occupational Safety and health related course	All employees	Taiwan	Male	16,392.00	Training completion rate 100%
			Female	13,947.90	Training completion rate 100%
		China	Male	28,030.5	Training completion rate 100%
			Female	11,593.0	Training completion rate 100%

6.2.2 Performance Evaluation

Performance evaluation is not only an assessment of employees' work performance by the Company but also serves as a mutual communication platform and an important moment for the Company. All personnel, regardless of employee category, such as gender, position level, or employment type, must undergo performance evaluations quarterly. These evaluations set criteria and weights, covering aspects such as job content, task objectives, common competencies, professional skills, general knowledge, and management leadership.

Through performance evaluations and communications, each employee can promptly understand the content, reasons, and results of their quarterly performance assessments. They also gain insights into the Company's business strategies, goals, and management measures, enabling timely career planning. This process allows the Company and departments to further understand employees' thoughts, ideas, obstacles, and needs, providing appropriate resources and feedback.

Of course, performance evaluation results are highly linked to promotions, salary adjustments, and bonus distributions. Therefore, the Company is committed to continuously adjusting and improving the fairness, reasonableness, and effectiveness of the performance evaluation mechanism, aiming to achieve the goals of operations, labor rights, human resources development, and sustainable development.

In 2023, all personnel, regardless of gender, position level, or employment type, underwent performance evaluations, achieving a 100% completion rate.

Special Report

In light of the global challenge of talent and labor shortages, the Company has identified the following trending issues:

- 1 The spirit of Diversity, Equity, and Inclusion (DEI), reflected in talent attraction and retention measures.
- 2 Adapting to flexible workplace trends to drive business and sustainable development.
- 3 Introducing digital technology to enhance employee experience.

In response to these issues, the Company conducted an engagement survey at the Taiwan plants in 2023 and issued a survey report. This report provides management and the board of directors with insights into employee perceptions, identifies employee issues and challenges, and informs adjustments in human resource management strategies.

Ultimately, the survey results aim to show employees that the Company values their opinions, which can improve business execution and organizational belonging, fostering mutual trust and sustainable development.

In this engagement survey, 645 employees were randomly sampled from various departments, consisting of 400 males and 245 females. The survey included 20 questions, with an effective response rate of 98.13%.

Key Results

- Results Analysis: The overall average engagement score was 3.89 out of 5.
- The top three scores indicated that employees have a consensus on the Company's goals, are fully committed to their work, and have a high willingness to stay with the Company.
- The bottom three scores indicated that routine tasks are predominant, the proportion of creative work is low, which affects employees' self-growth. Meanwhile, routine tasks are less likely to be recognized for good performance, and the degree of organizational empowerment is not very high, with decision-making authority concentrated at higher levels.

- About the Report
- Contents
- Message from the Chairman
- Company Overview
- Sustainable Development Strategy and Management
- Robust Governance and Transparency
- Confronting Climate Change
- Green Strategy and Implementation
- Shared and Inclusive Pathway**
- Innovation Breakthroughs and Results
- Sustainable Supply Chain
- Appendix

Reform Measures

After the survey and analysis, it was concluded that failing to take immediate action would result in employees not feeling the Company's commitment to reform, and they would even feel they are undervalued. This could lead to the perception that the survey and feedback were ineffective and mere formalities. As a result, the Company immediately planned to implement three reform measures in response, and instructed to conduct an employee engagement survey every two years to review and confirm the feedback from employees on their feelings towards the organizational reform and to identify the effectiveness of the implementation.

- 1 Promote AI workshops to trigger new thinking among employees, align with the smart factory goals, optimize job content, and increase efficiency.
- 2 Redesign job content in deep collaboration with Harvard Business Review to promote self-learning and uncover potential performance and added value in business, activities, and operations.
- 3 Use data analysis to cross-reference retention rates, job performance, and revenue correlations.
- 4 Always recognize and commend excellent performance without hesitation.

6.3 Health and Safety

GCE has established various management measures for occupational safety and health of employees to provide them with comprehensive protection and care.

6.3.1 Occupational Health and Safety Systems

GCE, in accordance with local laws, international standards, and the Responsible Business Alliance (RBA), has actively implemented the ISO 45001 Occupational Health and Safety Management System across its plants and obtained independent third-party certification. The occupational health and safety management system and measures, which cover all employees and all personnel entering the plants, are actively promoted across four aspects: preventing abnormal workloads, preventing human-caused engineering hazards, avoiding unlawful harm, and protecting maternity. Moreover, by utilizing the international cycle management methodology P-D-C-A (Plan-Do-Check-Act), the Company continuously reviews and improves its management system.

6.3.2 Management Structure and Responsibilities

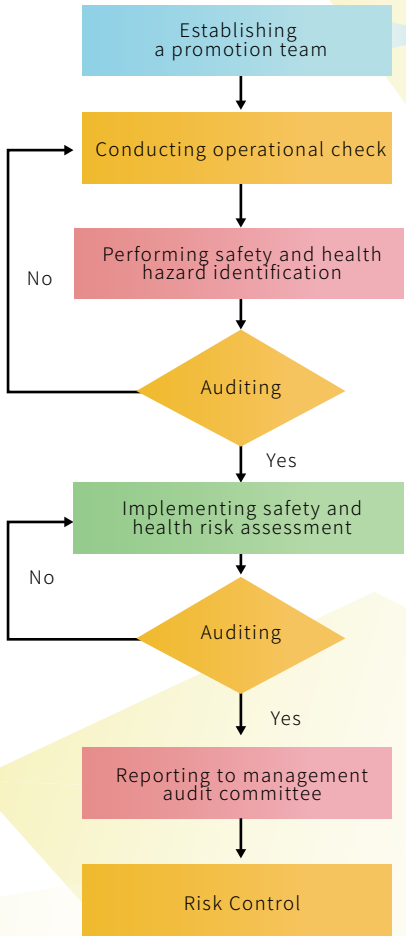
The Company has established "Occupational Health and Safety Committees" at each plant, as well as dedicated occupational health and safety management units with full-time personnel.

Occupational Safety and Health Committees	• Include more than 12 employee representatives. • Hold quarterly meetings to discuss key issues. • Facilitate communication and coordination, supervise the execution of management matters, and review performance evaluations. • Confirm risk assessment results and corresponding measures.
Occupational Safety and Health Management Units	• Comply with local occupational safety and health related laws and regulations • Occupational safety and health programs, management and implementation, risk assessment, safety and health education and training, health promotion activities, preventive measures, occupational hazard investigation and reporting, and performance evaluation.
Each Unit	• Implement occupational health and safety management tasks. • Report occupational incidents or hazards promptly. • Regularly report on designated follow-up matters.

The "Occupational Health and Safety Committee" holds quarterly meetings to discuss key issues, including occupational health and safety policies, occupational health and safety management plans, safety and health education and training, workplace environment monitoring plans, monitoring results, health promotion, safety and health proposals, self-inspections and safety and health audits, prevention measures for hazards in work areas, machinery, and equipment, occupational accident investigation reports, on-site safety and health management performance, safety and health management for contractors and all personnel entering the plants, and verification of occupational health and safety regulations, etc.

Moreover, more than 12 employee representatives would participate in the "Occupational Health and Safety Committee," exceeding half of the total committee members. The purpose is to achieve seamless communication between labor and management, serving as a bridge for both parties, conveying employee needs and improvement suggestions, promoting the Company's preventive measures and improvements, preventing or reducing occupational safety incidents, and ensuring the health and safety of all personnel.

The Company has also established the "Hazard Risk Identification, Assessment, and Control Management Procedure," which requires the occupational health and safety management unit to regularly or on a non-scheduled basis (such as during changes in operational activities or the occurrence of anomalies) conduct hazard identification and risk assessment. The relevant results are reported to the "Occupational Health and Safety Committee" and the Board of Directors. If the risk assessment results exceed the Company's acceptable risk levels, the Company will determine risk management measures such as risk transfer, mitigation, or enhanced management, and implement best practice solutions to continuously improve the workplace environment and management measures.



Special Report

Process Chemical Safety Management

- About the Report
- Contents
- Message from the Chairman
- Company Overview
- Sustainable Development Strategy and Management
- Robust Governance and Transparency
- Confronting Climate Change
- Green Strategy and Implementation
- Shared and Inclusive Pathway
- Innovation Breakthroughs and Results
- Sustainable Supply Chain
- Appendix

The Company not only conducts XRF monitoring and compliance determination for the hazardous substance (HS) content of regulated raw materials but also strictly implements 100% inventory and reporting for chemicals used in the manufacturing process that reach a certain quantity and concentration, including chemicals and substances regarded as "Priority Management Chemicals," "Public Hazardous Substances," toxic substances, regulated chemicals, and CMR substances.

Besides, for workplaces using specific chemical gases, fixed gas detectors and alarm devices are installed to ensure immediate rescue actions can be taken in the event of a leak. Regarding the occupational safety and health of employees working with chemicals, the Company adheres to spill containment capacity regulations (110%) to prevent injuries in case of leaks. Regular inspections and updates of personal protective equipment, including fit tests, are conducted to ensure that employees are not adversely affected by discomfort while wearing them. Moreover, regular monitoring of the work environment is carried out to ensure employees are working in a safe environment. The 2023 monitoring results were all below the standard values. Finally, special health examinations are conducted for employees exposed to chemicals, tracking and monitoring their health risks.

6.3.3 Measures for a Friendly Workplace

In addition to providing protective equipment, the Company's occupational safety and health personnel (referred to as safety personnel) conduct operational environment inspections every six months. These inspections include measurements of temperature/humidity, lighting, noise, toxic/hazardous substances, etc. Besides, on-site inspections of various equipment and management measures are carried out on a non-scheduled basis to ensure compliance with legal requirements, national standards, and permissible regulations. Continuous review, analysis, and improvement are undertaken, and all records are maintained.

Key Results in 2023

Additional night lighting has been installed in the plant parking lot to enhance the safety around the plant premises.

Furthermore, annual inspections and risk assessments are conducted to identify high-risk safety items, which are then set as improvement targets. Continuous review, analysis, and improvement are carried out, and these items are tracked and monitored.

Aspect	Content
Work environment	· Provide a bright and clean work environment. · Conduct semi-annual environmental tests, such as temperature/humidity, lighting, noise, toxic/hazardous substances, etc. to comply with local laws and standards. · The occupational safety and health personnel visit the site from time to time to conduct inspections, including all firefighting equipment and measures.
Protective gears	· Continuously provide employees with necessary protective gears. · Regularly replace protective equipment with new ones. · Seek new equipment or better protective gear in a timely manner.
Promotion and training	· Regularly hold safety and health-related courses. · Various hazardous operations and preventive measures refresher training mechanism.
Maternity protection	· In accordance with maternity protection laws and regulations. · There are many breastfeeding rooms in the plant. · Provide a safe, private environment and facilities that allow our employees to express milk with confidence, peace of mind and proper storage.
Continuous Review Mechanism	· Each plant is ISO 45001:2018 compliant and certified, and is continuously and regularly verified by third-party certification organizations. · Based on the environmental monitoring report results and historical records, P-D-C-A cycle (Plan-Do-Check-Act) methodology is used for ongoing review and improvement.

6.3.4 Health Measures for Employees

In order to take care of the health and safety of employees in the workplace, GCE's senior executives regularly hold monthly occupational safety meetings, and from time to time collect information from domestic and international, industrial, and competent authorities, etc. Meanwhile, they also analyze practical cases in order to avoid the occurrence of similar situations.

At the same time, we continue to educate and train our employees on various hazardous operations and preventive measures, such as strengthening their awareness of high-risk chemical handling, and actively conducting chemical spill and evacuation drills for emergency response plans...etc. Through continuous education and training, we aim to make our employees more proficient, avoid panic and reduce the error rate and the occurrence of personal injury or death, and to control the hazards at the first time so that the scope of damage can be effectively limited.



Plant-Wide Evacuation Drill



Fire Drill



Chemical Spill Drill



Plant-Level Emergency Training

Aspect	Content
Health Promotion Activities	· Improve or promote workplace health based on information recommended by professional physicians. · Each plant has a health care personnel.
Health Checks	· Annual health checks and special health checks are conducted for employees. · Professional physician recommendations to provide employee health knowledge. · Tier 2 health management employees are included in a personal health coaching program for employees to provide more robust health and safety management. · Six times a month on-site service of general physicians and occupational physicians to provide professional consultation channels for employee health care.
Maternity protection	· Protect the safety of mothers and fetuses, pregnant and breastfeeding women are prohibited from working in dangerous or harmful jobs, and are not allowed to work at night. · The health care personnel proactively care for pregnant and postpartum employees. · The physicians provide on-site services to confirm pregnant and postpartum employees' status and the safety of all operations and work environments. · Maternity protection assessment is conducted jointly by employees, unit supervisors, physicians, nurses and occupational safety personnel to ensure that maternal employees are well taken care of.
Promotion and training	· Regularly hold safety and health-related courses. · Various hazardous operations and preventive measures refresher training mechanism. · Promote and provide employee health knowledge as recommended by professional physicians. · The medical office provides employees with health care information from time to time, so that employees can obtain correct and effective health and safety information. For the entire year, a total of 69,963 training hours were completed by all employees (in both Taiwan and China), achieving a 100% training completion rate.



Walking Activity



Annual Health Check

6.3.4 Health Measures for Employees

This year, there were 11 pregnant employees. The Company has implemented a maternal health protection mechanism, with medical staff conducting hazard identification, risk assessment, and job content confirmation through phone or face-to-face interviews. They also provide health education information related to pregnancy and postpartum, as well as inform employees about maternity subsidies and other relevant benefits. This ensures that pregnant employees receive full protection and understand their rights, actively promoting care and support.

Furthermore, to integrate safety awareness into the organizational culture, the Company promotes the "Special Training in Safety" activities, establishing experiential activities in occupational safety and health. Through interactive games and the use of real equipment in the plant, these activities enhance employees' experiences, providing them with real and practical interactions. This ensures that the "safety first" slogan is not just a formality, but is closely related to the employees' actual operations in the plant, allowing them to practice and improve their proficiency.

Number of People of Emergency Response Drills in 2023		
Region	Number of employees	Coverage Rate
Taiwan Plants	2,236	100%
China Plants	4,128	100%
Total number of employees	6,364	100%

Note: The calculation date is December 31, 2023.

If an employee is injured on the job, the Company will grant work injury leave according to legal regulations and actual circumstances and assist in applying for labor insurance occupational injury compensation. Although there were no serious occupational injuries or occupational diseases in 2023, there were sporadic occupational injury incidents, such as sprains or fractures caused by carrying heavy objects or goods, or falls during movement, totaling 25 cases. This prevented the Company from achieving its goal of zero workplace accidents for the year. However, through risk control, there were fortunately no serious occupational injury accidents. Detailed data are provided in the table below.

Region	Gender	Total working hours	Total Lost Days	Disability Injuries Frequency Rate (FR)	Disability Injuries Severity Rate (SR)	Occupational disease rate	Mortality rate
Taiwan Plants	Male	2,570,824	27	3.50	10.00	0	0
	Female	2,225,832	363	2.24	163	0	0
China Plants	Male	5,351,616	250	1.87	85.96	0	0
	Female	3,057,648	29	0.33	4.80	0	0

Note 1: Disability Injuries Frequency Rate (FR) = number of Disability injuries * million working hours/total working hours experienced. (Rounded to the second decimal place)

Note 2: Disability injury severity rate (SR) = Total number of days lost * million working hours / total working hours experienced. (Rounded to the second decimal place)

Note 3: Number of days lost: The number of days the worker cannot reinstate after the occurrence of occupational injury is more than one day (inclusive), and the total number of days lost does not include the calendar days on the date of injury and the date of reinstatement.

As for all personnel entering the plant (non-employee), there were no occupational injuries or occupational diseases in 2023 for those executing tasks or assignments designated by the Company.

Region	Gender	Total working hours	Total Lost Days	Disability Injuries Frequency Rate (FR)	Disability Injuries Severity Rate (SR)	Occupational disease rate	Mortality rate
Taiwan Plants	Male	2,870,472	0	0	0	0	0
	Female	139,440	0	0	0	0	0
China Plants	Male	6,434,416	0	0	0	0	0
	Female	413,640	0	9	0	0	0

- Note 1: Disability Injuries Frequency Rate (FR) = number of Disability injuries * million working hours / total working hours experienced. (Rounded to the second decimal place)
- Note 2: Disability injury severity rate (SR) = Total number of days lost * million working hours / total working hours experienced. (Rounded to the second decimal place)
- Note 3: Number of days lost: The number of days the worker cannot reinstate after the occurrence of occupational injury is more than one day (inclusive), and the total number of days lost does not include the calendar days on the date of injury and the date of reinstatement.
- Note 4: The scope of non-regular employees includes dispatched employees, contractors, cafeteria staff, cleaners, securities, and consultants.

6.3.5 Comprehensive Medical System

The Company has established a clinic that provides basic wound treatment, medical services, health care consultations, employee return-to-work evaluations, and physical examinations for new employees. It also collects data and assists plant doctors in conducting suitability assessments to ensure employees are working in appropriate positions.

Regarding health check-ups and consultations, the Company subsidizes health examination fees based on employees' job titles and levels. Annually, medical institutions are invited to the plants to conduct general and specialized health check-ups for employees. In 2023, a total of 1,938 employees at the Taiwan plant participated in health check-ups. Among them, 21.5% of employees with moderate to severe health abnormalities are under regular follow-up. For employees diagnosed with metabolic syndrome in 2022, totaling 402, doctors identified 176 high-risk individuals who required prioritized attention. The Company has meticulously managed and tracked 154 of these individuals, implementing health promotion measures with an improvement rate of 87.5%.

Additionally, the Company encourages employees at the Taiwan plant to actively participate in government-promoted expanded lung cancer prevention screening activities. A total of 249 employees participated and received relevant medical advice.

2023 Check for Special Operation in Taiwan Plants					
Check Item for Special Operation	Number of people	Tier One	Tier Two	Tier Three	Results of Health Checkups
Noise	384	164	193	27	Normal
Ionizing radiation	80	17	63	-	Normal
Lead	27	22	5	-	Normal
Manganese	82	74	8	-	Normal
Dust	184	138	46	-	Normal
Chromic acid	15	13	2	-	Normal
Nickel	47	29	18	-	Normal
Mercury	24	19	5	-	Normal
Formaldehyde	97	59	38	-	Normal

2023 Check for Special Operation in China Plants		
Check Item for Special Operation	Number of people	Results of Health Checkups
Noise	776	Normal
Ultraviolet	43	Normal
Ionizing radiation	49	Normal
Chromic acid	1,649	Normal
Dust	462	Normal

6.3.5 Comprehensive Medical System

- About the Report
- Contents
- Message from the Chairman
- Company Overview
- Sustainable Development Strategy and Management
- Robust Governance and Transparency
- Confronting Climate Change
- Green Strategy and Implementation
- Shared and Inclusive Pathway**
- Innovation Breakthroughs and Results
- Sustainable Supply Chain
- Appendix

The clinic also provides employees with health care information occasionally, ensuring they receive accurate and effective health and safety information. It offers personalized consultation and guidance based on individual physical and mental conditions, and organizes activities such as self-pay vaccines and cancer screenings. General physicians and occupational health physicians provide on-site services at least six times a month, giving employees access to professional consultation channels. These consultations cover occupational medicine, family medicine, labor health services, health policy and management, maternal health protection, health check-up advice, and workplace health promotion.

Each year, the Company conducts surveys on overload and psychological stress to proactively monitor employees' physical and mental conditions and prevent overwork. The results show that in 2023, there were no incidents of injury caused by overwork.

Finally, the Company's occupational safety and health management personnel, along with the physicians appointed by the company, regularly conduct on-site evaluations to facilitate subsequent improvements and tracking. In recent years, the Company has obtained the "Healthy Workplace Certification," meeting standards that include promoting tobacco hazard prevention in the workplace, exceeding legal requirements for working conditions, having a comprehensive health promotion mechanism, and actively promoting health enhancement activities.



6.4 Employee Compensation and Benefits

Unit: NT\$/thousand

6.4.1 Compensation and Bonus Strategy

The Company has established the "Salary Management Measures" and "Annual Salary Adjustment Procedures," which govern employees' starting salaries, salary determination, bonuses, remuneration, and benefits. These procedures adhere to the principle of non-discrimination or non-discrimination based on race, class, language, religion, politics, nationality, gender, age, marital status, or union membership.

Besides, there's a Compensation Committee holding regular meetings to discuss, evaluate, and review the Company's overall compensation policies and systems. These discussions take into account the Company's operational performance, consumer price index, industry salary standards, and experience and professional skills. The committee's recommendations are submitted to the Board of Directors for approval, aiming to ensure that starting salaries, salary determination, bonuses, remuneration, and benefits are accurate, reasonable, and fair through an effective rolling adjustment mechanism.

As a result, in 2023, in response to the adjustment of the basic wage, the starting salary was increased from NT\$25,250 to NT\$26,400, representing an average salary increase of 5.4%.

Furthermore, to allow employees to share in the Company's success and create incentives for pursuing operational performance, the Company has established the "Year-end Bonus Distribution Measures" and the "Production/Performance Bonus Distribution Measures." When operational performance targets are met, year-end bonuses and production/performance bonuses are distributed:

- If there is a surplus at the end of the year, after-tax surplus will be appropriated and year-end bonuses will be paid to employees.
- If there is a surplus at the end of each month, production/performance bonuses are distributed.

GCE aims to continue its efforts to demonstrate that the Company can balance operational profitability with labor rights. GCE aspires to be a high-quality, happy enterprise trusted by all its employees and to gain recognition from the investment market for its commitment to social responsibility.

Analysis of the Number of Full-Time Employees Who Are Not in Managerial Positions, and the Average and Medium of the Salaries of the Full-Time Employees Who Are Not in Managerial Positions

Year	2023	2022	2021
Number of full-time employees	2,789	2,256	2,200
Average full-time employees' salaries	877	887	765
Average salary increase over the previous year	(1.13%)	15.95%	12.00%
Median full-time employees' salaries	682	721	623
Median salary increase over the previous year	(5.41%)	16.00%	9.00%

Note 1: Employees in managerial positions are not included.

Note 2: The number of full-time employees is the annual average.

Note 3: This table is rounded to the nearest dollar.

6.4.1 Compensation and Bonus Strategy

In 2022, the market demand related to the pandemic led to a significant increase in profits. However, this year, the market has returned to what it used to be, and consumer spending has not fully recovered, resulting in a slight decrease in the Company's operating income compared to 2022. Although the impact on employees' fixed salaries was not significant, with an average salary increase of 3-4% in 2023, the primary impact was on variable compensation such as bonuses and benefits. This caused the growth rates of the median and lower-end salaries to not maintain positive growth.

Unit: NT\$/thousand

Year	2023	2022	2021
Average of the top five highest remunerations among TWSE/TPEx listed companies	30,301	20,058	18,256
Increase percentage in the highest individual remuneration compared to the total remuneration of the previous year	51.07%	10.00%	
Multiple of the highest remuneration to the median salary of employee (Note 1)	44.43	27.82	29.3
Salary growth rate (Note 2)	(9.44)	0.63	

Note 1: Annual total remuneration multiple = Annual total remuneration of the five individuals with highest salary / The ratio of the median of the annual total remuneration of other employees (excluding those in managerial positions).

Note 2: Annual total remuneration increase percentage = Ratio of increase in total annual remuneration for the five individuals with highest salary / The annual increase rate of median in total remuneration for all employees (excluding those in managerial positions)

6.4.2 Proper Employee Care System

The Company continuously reviews and improves employee care systems to enhance employee benefits. Currently, a variety of measures and activities are already in place. However, the Company remains committed to further improvement. Therefore, in 2023, the following additional care and benefits were introduced:

- Establishment of an employee motorcycle parking lot.
- Enhancement of nighttime lighting in plant parking lots to increase safety.
- In-plant services by the bank twice a month to reduce the time employees spend on banking tasks.
- Implementation of online payroll services to facilitate convenient salary inquiries for employees.
- Increased budget for employee meals to offer a more diverse menu, including weekly international cuisine, allowing employees of different nationalities to enjoy cuisine from their homeland. This promotes intercultural exchange and achieves the Company's goal of fostering diversity and inclusion among the team and employees.



Top 3 Clubs of 2023



Badminton Club



Golden Statue Team



LOHAS Aerobics Club

Type	Purpose	Content
Employee leaves	To allow our employees to rest, to take care of their families and lives, and to relax and build up their leisure life and interests after work.	● Indirect employees take two days off per week; direct employees take a schedule of four days on and two days off. ● Other leave regulations are in accordance with local labor laws and regulations.
Employee Travel		
Subsidies		
Health checkups	Continuous care and tracking of employees' health	● Health checkups are arranged at the end of the year.
Welfare and bonus subsidies	All-around support and assistance for employees, so that they can put their minds and hearts at ease to work.	● Subsidies for wedding, funeral, hospitalization, maternity, etc. ● Employee birthday bonus, three festivals bonus and Labor Day gift or premium. ● Negotiation of various special contractors, welfare agencies, and in-plant sales activities.
Employee Emergency Relief Fund		● In accordance with the "Employee Emergency Relief Fund Application Regulations". ● Employees or family members who have financial difficulties due to injury, illness or other major accidents may apply. ● Application amount: NT\$60,000, to be repaid in 12 installments of NT\$5,000 each without interest.
Employee Counseling Service		● The Company provides assistance with legal or psychological issues.
Employee Insurance	For employees to carry out their duties and to protect their rights.	● Group medical insurance. ● Travel insurance for domestic and overseas business trips.
Scholarships	To encourage self-enrichment and positive growth for employees and families.	● Scholarships for employees and their children are offered annually according to the announcement period.



GCE Cycling Club



Hiking Club

6.4.3 Parental Leave for Raising Children

The Company strictly complies with labor laws and regulations, such as the Labor Standards Act and the Gender Equality in Employment Act. To ensure employees can focus on their work without worries, the Company has implemented a comprehensive childcare leave mechanism. All eligible employees, regardless of gender, can apply for this leave, and they will not face any discriminatory treatment. Employees can reinstate according to legal requirements and internal regulations.

Year	Number of eligible people for the year			Number of applicants for the year			Number of people who should be reinstated in the current year (A)			Number of people reinstated in the current year (B)			Reinstatement rate (B/A)			Number of people reinstated in the previous year (C)			Number of people who have been reinstated for one year (D)			Retention rate (D/C)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
2023	4	5	9	5	18	23	7	19	26	5	14	19	71.43%	73.68%	73.08%	3	14	17	1	9	10	33.33%	64.29%	58.82%
2022	12	15	27	3	13	16	4	22	26	3	14	17	75%	63.64%	65.38%	3	10	13	2	8	10	66.67%	80%	76.92%
2021	16	29	45	5	16	21	4	14	18	3	10	13	75%	71.43%	72.22%	4	11	15	3	9	12	75.00%	81.82%	80.00%

Note: Only the Taiwan plants are listed; there is no legal parental leave for raising child in the China plants.



6.4.4 Retirement System

Employees who meet the legal requirements for voluntary retirement or mandatory retirement may apply for retirement at any time, and the criteria for payment of pensions are in accordance with the relevant provisions of the Taiwan Labor Standards Act and the Labor Pension Act.

The Company has established a Labor Pension Fund Supervisory Committee in accordance with the laws and regulations to manage the provision and payment of pension funds, and to appropriate monthly pensions to employees in accordance with the Labor Pension Act.

Retirement System under the Labor Standards Act

The Company contributes the full amount of the monthly retirement reserve based on the total salary of employees, which is deposited in the "Company Retirement Fund" account opened by the Bank of Taiwan.

Labor Pension Act

The Company contributes 6% of the monthly salary of employees to the individual pension account set up by the Bureau of Labor Insurance; for employees who voluntarily contribute to the pension fund, the amount based upon the voluntary contribution rate will be deducted from the monthly salary of employees to the individual pension account of the Bureau of Labor Insurance.

- About the Report
- Contents
- Message from the Chairman
- Company Overview
- Sustainable Development Strategy and Management
- Robust Governance and Transparency
- Confronting Climate Change
- Green Strategy and Implementation
- Shared and Inclusive Pathway
- Innovation Breakthroughs and Results
- Sustainable Supply Chain
- Appendix



6.5 Employee Engagement and Feedback

- About the Report
- Contents
- Message from the Chairman
- Company Overview
- Sustainable Development Strategy and Management
- Robust Governance and Transparency
- Confronting Climate Change
- Green Strategy and Implementation
- Shared and Inclusive Pathway
- Innovation Breakthroughs and Results
- Sustainable Supply Chain
- Appendix

GCE values employees' opinions and feelings about the organization's development or various operations, and provides a smooth and diversified communication channel or complaint mechanism through e-mail, telephone, and direct appointment for interview...etc.

To ensure that employees can easily and frequently provide opinions or suggestions, the Company regularly and occasionally conducts promotional activities to ensure that all personnel fully understand the Company's commitment to fairness, justice, and impartiality, as well as its willingness to review and improve. This encourages employees to use communication channels or complaint mechanisms without fear, assisting in the protection of various labor rights.

When the Company receives employee requests, it adopts a proactive and cautious approach, ensuring proper communication and handling measures. The Company strives to address employee feedback promptly and resolve cases appropriately. Within the framework of legality, fairness, and reasonableness, the Company is committed to meeting employee expectations and needs, promoting the optimization of regulations and policies, enhancing overall labor rights, and achieving seamless workplace communication.

Communication Channels for Complaints and Suggestions	
Item	Description
Complaint mechanism	- Based on the attitude of encouragement, the Company maintains a smooth channel for complaints, which can be handled by immediate supervisors or directly to the Human Resources Department. - These include suggestions for improvement of practices and measures, unfair treatment, discovery of wrongdoing, sexual harassment, employee assistance programs, or other rights and interests of life and work concerns. - During the process, the Human Resources Department is responsible for confidentiality and will not tolerate any form of retaliation against the complaining employee.
	Ways and Means - Put the complaint (suggestion) into the suggestion box (anonymous complaint is allowed) - E-mail address (hr@gce.com.tw) - Telephone: (03)461-2541 ext. 21210 to 21213 - Mail to "Human Resources Department"

Communication Channels for Complaints and Suggestions	
Item	Description
Incentive system for improvement proposals	- We encourage employees to actively participate in various improvement activities in the plant. - Provide a digital proposal platform to make it more convenient for employees to use.
Complaint suggestion mailbox	- The staff will visit the mailbox daily to collect employees' opinions and related suggestions, so that employees' opinions can be processed as soon as possible, and to improve the rules and regulations to enhance the labor rights of all employees. - Provide a digital complaint and suggestion platform to make it more convenient for employees to use.
Employee Welfare Committee	- Select knowledgeable and experienced employees with strong communication skills to serve as committee members. - Conduct special discussions and in-depth explorations on welfare measures, employee work issues, and living matters, and gather opinions. This consultation and communication platform aims to strengthen mutual trust and understanding between labor and management, serving as an important reference for management.
Labor-management meetings	- Hold labor-management meetings once every quarter. - To coordinate labor relations, improve working efficiency, and promote cooperation and communication between employers and employees. - To report labor dynamics, production plans, and business and production profiles. - To discuss labor conditions, labor welfare planning, work rules revision, work environment, etc.
Occupational Safety and Health Committee	- Have employee representatives - Hold quarterly meetings to discuss key issues. - For safety and health matters, facilitate communication and coordination, supervise the execution of management matters, and review performance evaluations. - To review various safety and health proposals.
New Employee Interviews	- Build an exchange and communication platform to get employee feedback, facilitate two-way communication, help new employees integrate into the Company, and express their adaptation to the workplace environment and job content. - To provide employee care and general life care.

6.6 Social Investment and Development

Based on the characteristics of the industry, the wide plant area, and the large number of employees, GCE naturally has a close relationship with the local community. At the same time, the Company aims to give back to the society by exerting its influence, and to achieve the spirit of "taking from the society and using for the society".

Therefore, in 2023, GCE continued to inspire its employees to be socially responsible and contributed to social welfare through community care, park adoption, and public welfare sponsorship, and then expanded to the general public through various activities to spread the concept of selfless care to a farther and wider area.

Project	Description	Target	Promotional method	Execution Results
Communication and visits	Occasional visits	1. Each local village office 2. Residents of the local	Occasional visits and communication activities, such as questionnaires, on-site visits, etc.	1. Collect questionnaire information from the plant and local village offices. 2. No major complaints in 2023.
Community Care	Lunar New Year Home Care	Local residents	Actively participate in activities organized by the district office, neighborhood/village office, and community	Participate in Lunar New Year home care activities in 2023.
Adoption of Air Quality Purification Zone by the Department of Environmental Protection, Taoyuan City Government	Park adoption	1. Environmental Protection Administration, Executive Yuan 2. Local parks	1. Actively participate in the Air Quality Cleanup Area Adoption activities organized by the Environmental Protection Administration, Executive Yuan. 2. Adopt a park to promote the maintenance of environmental greenery through regular maintenance work.	GCE has dedicated its efforts to maintain the Zhongli Art Eco Park.
Public Benefit Sponsorship	Charity Donation	Jhong Fu Elementary School	By making donations to Jhong Fu Elementary School, we provide care for the families of children in need.	Jhong Fu Elementary School Donation Ceremony.
Public Benefit Sponsorship	Charity Donation	Wu Cyuan Elementary School	By making donations to Wu Cyuan Elementary School, we provide care for the families of children in need.	Wu Cyuan Elementary School Donation Ceremony
Public Benefit Sponsorship	Charity Donation	Community care for residents nearby	Through donations, show care for the local community and provide essential supplies to disadvantaged residents.	Participate in annual year-end warmth-giving activities, with the assistance of community leaders or charitable organizations, GCE distributes essential supplies to disadvantaged residents.



Kaohsiung Private Christian Mountain Children's Home



Little People of Taiwan Association



TPCA Environment Foundation



Saint Joseph Social Welfare Foundation



National Taiwan University Hospital Liugui Mountain Free Medical Service Team

Project	Description	Target	Promotional method	Execution Results
Public Benefit Sponsorship	Charity Donation	Saint Joseph Social Welfare Foundation	Through donations, we participated in social care activities of the Saint Joseph Social Welfare Foundation.	A certificate of appreciation was presented from the Saint Joseph Social Welfare Foundation.
Public Benefit Sponsorship	Charity Donation	Police Association	Through donations, we participate in the activities held by Friends of the Police Association.	As the Director of Friends of the Police Association
Public Benefit Sponsorship	Charity Donation	National Taiwan University Hospital	Through donations, we support the business development, academic research, and free clinic activities held by National Taiwan University Hospital.	National Taiwan University Hospital Donation Ceremony
Public Benefit Sponsorship	Charity Donation	Medecins Sans Frontieres	Through donations, we supported Medecins Sans Frontieres to organize free clinics and charitable activities, as well as medical services for disadvantaged groups worldwide.	A certificate of appreciation was presented from Medecins Sans Frontieres.
Public Benefit Sponsorship	Charity Donation	Little People of Taiwan Association	Through donations, we supported the Little People of Taiwan Association to care for individuals with achondroplasia and their families.	A certificate of appreciation was presented from the Little People of Taiwan Association.
Public Benefit Sponsorship	Charity Donation	Kaohsiung Private Christian Mountain Children's Home	By making donations to Kaohsiung Private Christian Mountain Children's Home, we supported and cared for the children of the Home.	A certificate of appreciation was presented by Kaohsiung Private Christian Mountain Children's Home.
Public Benefit Sponsorship	Charity Donation	Andrew Charity Association	By making donations, we participated in the Andrew Food Bank organized by the Andrew Charity Association to support and care for children from disadvantaged families.	A certificate of appreciation was presented by Andrew Charity Association.
Public Benefit Sponsorship	Charity Donation	TPCA Environment Foundation	Through donations, we provide middle and elementary schools with the opportunity to apply for free environmental education, create a platform for environmental educators to showcase their talents, and promote high-quality environmental education.	A certificate of appreciation was presented by TPCA Environment Foundation.



Andrew Charity Association



Collaboration Project with The Andrew Charity Association of the Republic of China

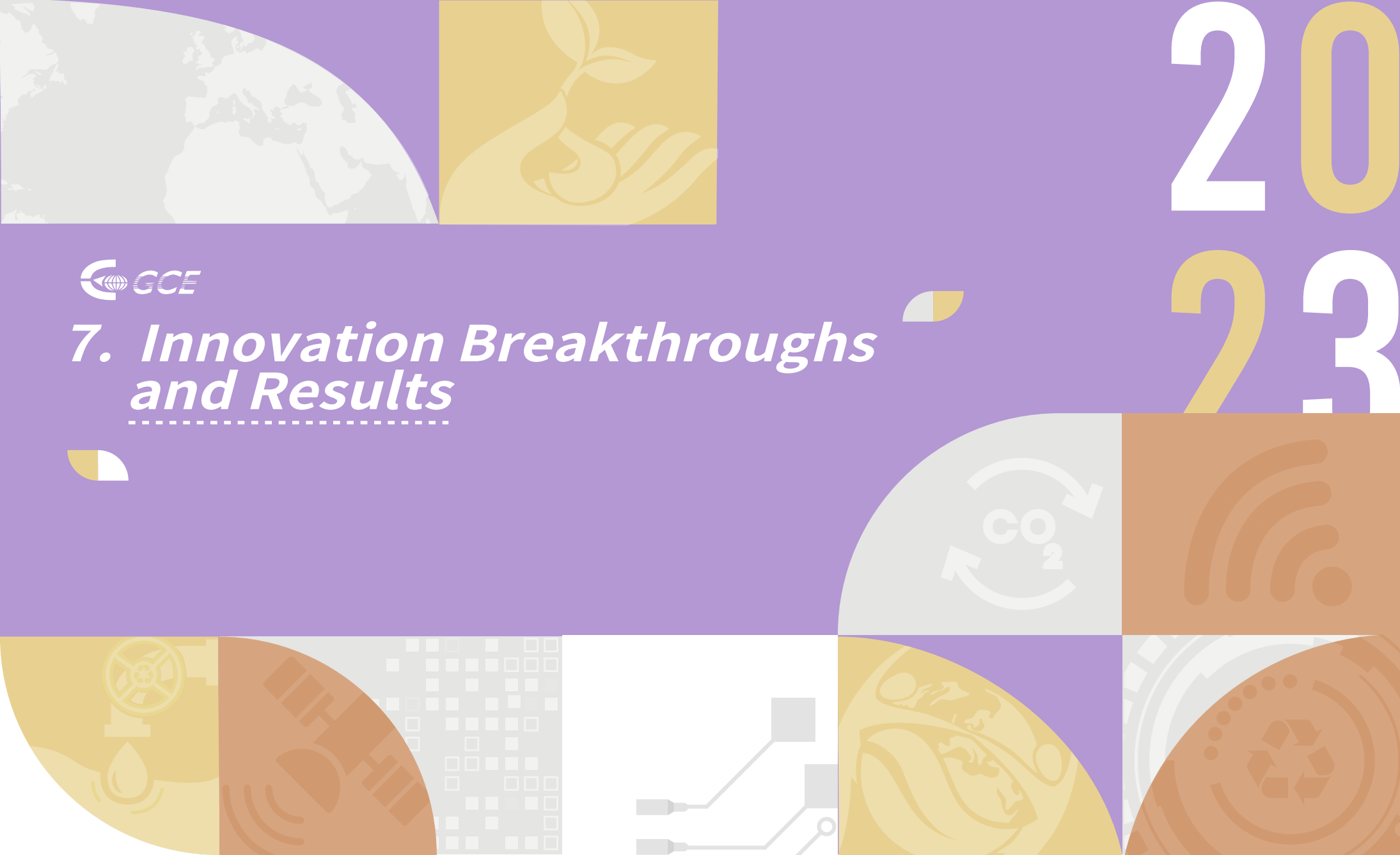


Children's Artistic World Painting Exhibition

20
23



7. Innovation Breakthroughs and Results



Innovation Breakthroughs and Results

GCE encourages an open mindset to invest resources and manpower, actively introducing digital technology and innovative techniques and persists in strictly reviewing, controlling, and monitoring the use of chemicals and the commitment to no hazardous substances. GCE also continuously improves service quality to meet customer needs and respond to market trends, making innovation and breakthroughs the brand's benchmark to identify and respond to impacts.

#	Item	Key Results
1	Conduct service quality and satisfaction surveys with customers	Successful completion of the survey
2	Number of complaints for product quality	Below 10 Goal achieved
3	100% customer complaint completion	Goal achieved
4	Review and improve based on customers' feedback.	100% Improvements implemented

7.1 Innovation Breakthroughs and Achievements

GCE is committed to improving product quality. To achieve this, resources and manpower are invested annually to implement various project measures, including raw material control, process optimization, procedure adjustments, and research and development, which helps to satisfy customers' needs, and at the same time, achieves the benefits of improved energy efficiency and conservation, as well as the reduction of greenhouse gases.

7.1.1 Raw Material Management Project

For the raw materials used in the manufacturing process, project-based investigation and analysis are conducted to enhance execution precision, such as:

- Analyzing the usage frequency, duration, timing, scope, and concentration of chemicals (sulfuric acid, hydrochloric acid, nitric acid, sodium hydroxide, sodium carbonate), implementing centralized management, and evaluating the feasibility of substitutions to improve maintenance efficiency and cost control.
- Establishing measures to monitor production and usage, and introducing anomaly detection reporting and root cause improvement mechanisms.
- Initiating raw material vulnerability assessments to find alternative countermeasures, resource detection, and maximize utilization efficiency.

7.1.2 Recycling and Reuse Project

To promote the recycling of raw materials, such as copper and aluminum plates, GCE conducts project surveys and analysis to adjust the specifications and requirements for the substitutability, level difference, or auxiliary nature of raw materials in different manufacturing processes or procedures to promote recycling and reuse.

In the upstream section, for raw materials such as substrates and copper foil, suppliers are required to use recycled copper as the base material for regeneration, which is then processed into raw materials used by GCE. In the downstream section, the Company's waste acids, alkalis, and waste copper sulfate are recycled and used as raw materials needed in the reprocessing industry. Through collaboration with upstream and downstream suppliers, GCE achieves the benefits of a circular economy.

7.1.3 Scrap Reduction Project

Due to persistently high scrap rates in specific engineering and manufacturing projects, sometimes even reaching nearly 10% of the total plant scrap, project improvement teams were established at each plant. These teams implemented daily digital monitoring, statistical analysis, tracking, comparison, testing, review, and verification of improvement effects. In 2023, with the implementation of these project measures, the scrap rate significantly decreased to 1-2%, hoping to the continued benefits in the future.

7.1.4 Equipment Improvement and Precision in Maintenance Project

Precision in maintenance

GCE introduces time-based theory and capacity analysis to evaluate the optimal timing for equipment maintenance and calculates the peak capacity values from fixed time intervals, assesses the timing and frequency of maintenance, and implements digital early warning mechanisms and prompt controls.

Replacement of the material for cooling plates

Due to climate change, the number of days with high temperature (higher than 38 degrees Celsius) is increasing. The usage of PVC cooling coils in the pre-copper plating process resulted in an elevated rate of copper oxide formation under high-temperature conditions. This increased the defect rate of product filling quality.

It is now replaced with metallic material, reducing the impact of pre-copper plating on production board copperization. This adjustment improved the heat exchange efficiency within the tank, ensuring a temperature not exceeding 25 degrees Celsius, thereby reducing the defect rate in product filling.

Utilization of automated equipment

GCE employed automated equipment to replace manual operations. For instance, mechanical arms were used for inner and outer layer alignment tasks, and automated equipment for adding stripping chemical was adopted. This reduced time of manual operation, minimizing the potential possibility for occupational injuries, and enhanced process efficiency.

Introduction of other new equipment

GCE introduced new equipment to enhance product quality and process efficiency. For example, a Direct Imaging (DI) exposure machine was adopted to replace conventional exposure machines. This machine eliminates the need for illumination by directly forming images, facilitating accurate alignment for etching. Simultaneously, it reduces the usage of films, saves space, and lowers power consumption.

7.1.5 Process Improvement Project

Process Refinement

GCE refines and customizes the manufacturing processes, while generating monthly analysis reports to adjust the molding operations in advance. Moreover, through project analysis, our team identifies weaknesses such as the impact of chemicals on the process and yield, and enhances protective mechanisms to reduce negative effects, significantly improving the yield rate.

Utilization optimization

GCE optimized layout and material utilization to maximize the benefits of both materials and layouts, thereby reducing the consumption of raw materials.

Customized adjustments

In response to the customer's request for sustainability, CGE customizes the adjustment to meet the customer's needs, designing the complexity of the process and the quantity of lamination and electroplating to respond to the customer's expectations.

7.1.6 Digitalization, Automation and Intelligence

GCE has developed the Panel Traceability System, using laser engraving and mechanical drilling to generate a unique code on each circuit board. During various processes, the code is read by devices or handheld units to automate production, measurement, and inspection records, thereby collecting a large amount of parameter data. Big data analysis is then used to identify possible improvement opportunities to enhance product quality and service.

Meanwhile, the introduction of automated equipment effectively replaces manual tasks such as visual inspection, cutting, specification judgment, moving and placing raw materials, dispensing chemicals, and cleaning equipment or products. This not only reduces the likelihood of workplace accidents but also improves precision, efficiency, and reduces waste.

Furthermore, the Company has started incorporating AI and intelligence into processes, such as using it during the inspection stage to filter out false points, with actual tests showing an improvement in the removal rate of false points by more than 80%.

Moreover, the Company has gradually established experimental sites where past collected data is integrated with AI to generate greater benefits. Historically, personnel training relied on experience accumulation, raw material conditions, and on-site practical situations, with numerous complex variables affecting equipment and system settings. This led to many testing points in the process, serving as the preliminary stage for subsequent mass production. However, these testing points were time-consuming, material-intensive, and inefficient, often causing worker stress and judgment errors, potentially leading to workplace accidents.

7.1.6數位化、自動化與智能化

Therefore, by investing resources and manpower in digitalization and intelligent system programming, and establishing a comprehensive database, the Company can overcome many of these challenges. Simultaneously, with automation, employees can scan work order barcodes, and the system automatically analyzes and compares data, bringing up equipment and system settings and key information, significantly reducing discrepancies and errors due to personnel experience differences.

The organization is vigorously promoting a digital transformation initiative, including the systematization of shipment reports, the electronic transmission of documents, the simplification of administrative workflows, and the optimization of system programs. These measures reduce administrative procedures, simplify control forms, decrease the error rate of manual transcription, and reduce the time needed for paper inspections and manual data compilation. Through digital transformation, the Company can gain nearly 200 additional man-days per year, allowing more focus and effort to be devoted to professional tasks and achieving goals.

Robotic Process Automation (RPA)

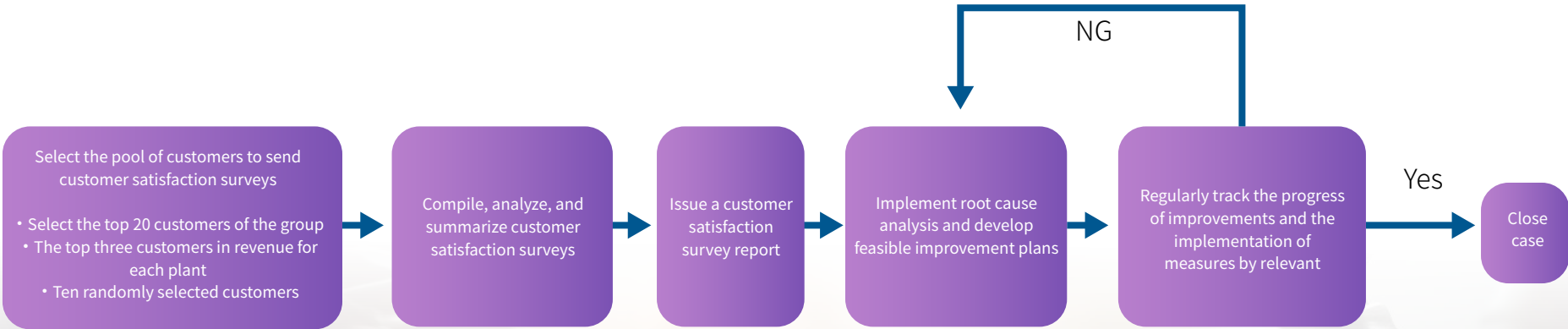
Through the application of software technology, it is now practically regarded as digital labor. By interacting with any system or application, it automatically assists workers in completing repetitive system or computer tasks, such as copying, pasting, searching for data, calculating, moving files, parsing, and connecting.

Key Results Tasks that typically take one person about 30 minutes to complete can be reduced to about 10 minutes per task using RPA, while also reducing the incidence of human errors.

7.2 Improve Customer Relations

GCE upholds the spirit of "financial integrity, proactive advancement, steadiness and pragmatism, and sustainable operation," and shoulders the responsibility towards employees and society. We stride steadily towards sustainable development. Moreover, we adopt an attitude of "integrity, accountability, professionalism, and innovation" towards customers, providing best and innovative electronic products. To achieve this, we continuously elevate our standard, rigorously adhere to quality control, and are committed to enhancing service quality by delivering high-quality products that meet customers' requirements.

In 2023, a customer satisfaction survey analysis was conducted for some products (the process as shown in the figure below). A total of 34 questionnaires were issued, and 21 completed questionnaires were collected. Among them, 15 valid questionnaires were analyzed, receiving high recognition and trust from customers, ensuring future continuous cooperation and deepening relationships.



7.2 Improve Customer Relations

- 1. GCE received the top ranking from 4 customers and the second ranking from 6 customers. Overall, GCE's rankings among customers were in the upper-middle tier.
- 2. The quality of our products has the highest ranking, highly recognized by our customers.
- 3. The content of the survey questionnaire showed a slight increase in scores for items with lower scores among the valid returned questionnaires compared to previous years, totaling 34 items. Customers provided five suggestions for reference. For this, the Company has humbly reviewed these suggestions, promptly implemented internal reviews, and formulated improvement measures. Furthermore, the Company continuously tracks and ensures the strict execution of the improvement mechanisms.
- 4. In 2023, an assessment of the potential impacts on health and safety for major products was conducted. Rigorous internal management of raw materials and processes ensured 100% health and safety compliance. The evaluation metric of "Compliance and Satisfaction with Hazardous Substance Management" even received a highly satisfactory rating from customers.

Evaluation Aspect	Evaluation Indicator
Product quality	Quality performance
	Quality improvement capability
	Compliance with hazardous substance management and satisfaction
Technology capability	Engineering capability and support
	Mass production / sample material number to flexibly support customers
Service quality	On-time delivery (OTD)
	Customer service quality
	Price
New product promotion	Product sampling service
	Process design service

Note: Each item is scored on a scale of 1 to 10. Scores above 7 are considered as receiving satisfaction from customers, and items with scores lower than/equal to 7 require review.

7.2 Improve Customer Relations

From 2021 to 2023, GCE has consistently achieved the highest ranking in the category of product quality. Other items have varied based on market conditions and customers' demands for each respective year. This highlights the Company's steadfast commitment to product quality as a benchmark in the market.

At the same time, through customer feedback and suggestions from questionnaires, such as systematic inspection mechanisms, enhancing the depth of professional training for personnel, implementing root cause analysis and improvement operations, and developing feasible improvement plans with regular progress tracking to effectively solve problems, the Company is driven to introduce digital technology and innovative techniques. This constant pursuit of innovation and self-improvement enables the Company to continuously meet customer needs and market trends.

Year	2021	2022	2023
Highest ranking item	Product quality	Product quality	Product quality
Average score of satisfaction	85.6	86.8	84.4

7.3 Special Report on Chemicals and Hazardous Substances

GCE realizes that chemicals and hazardous substances are taken very seriously by the law, the market and customers, and is regarded as one of the key quality control points. In addition to formulating chemical-related policies, hazardous substance free (HSF) quality policy, chemical management code of practice, use of chemicals, and emergency response regulations, the commitments and policies are disclosed on the Company's web site and in the Sustainability Report.

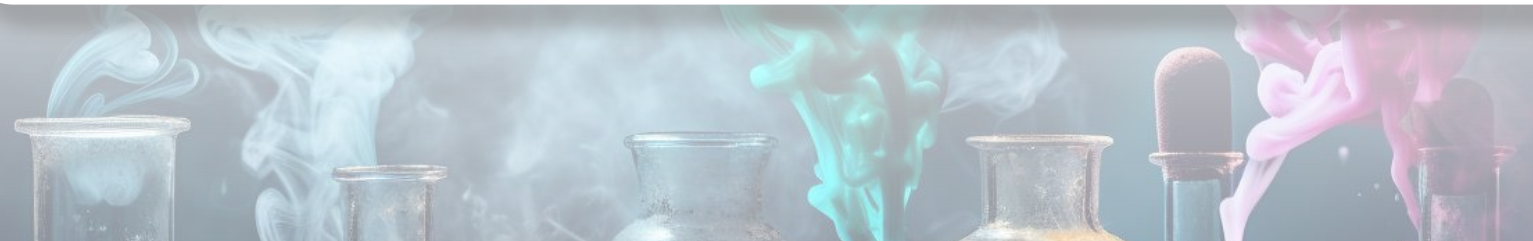
Adhering to the principles of "Customer First, Compliance with Laws, Continuous Improvement, Sustainable Operation, and Continuous Development of Low-Pollution Green Products" and "Caring for the Environment, Respecting Life," GCE has meticulously developed operational procedures for the management and control of chemicals and hazardous substances. This includes strict control and review of chemicals and rigorous monitoring of raw materials, work in process, and finished products to ensure they are free from hazardous substances. These measures ensure compliance with international and local regulations and standards (such as RoHS and REACH) and meet customer market commitments and sustainability requirements.

- **Hazardous Chemical Review:** A chemical inventory is established for all chemicals entering the factory, identifying the types and quantities of hazardous substances. They can only be used after review and evaluation.
- **Hazardous Chemical Control:** The Company manages a total of 805 chemicals, with 271 prioritized management chemicals, 45 organic chemicals, 62 specific chemicals, 81 REACH-restricted chemicals, and 1 RoHS-regulated chemical.

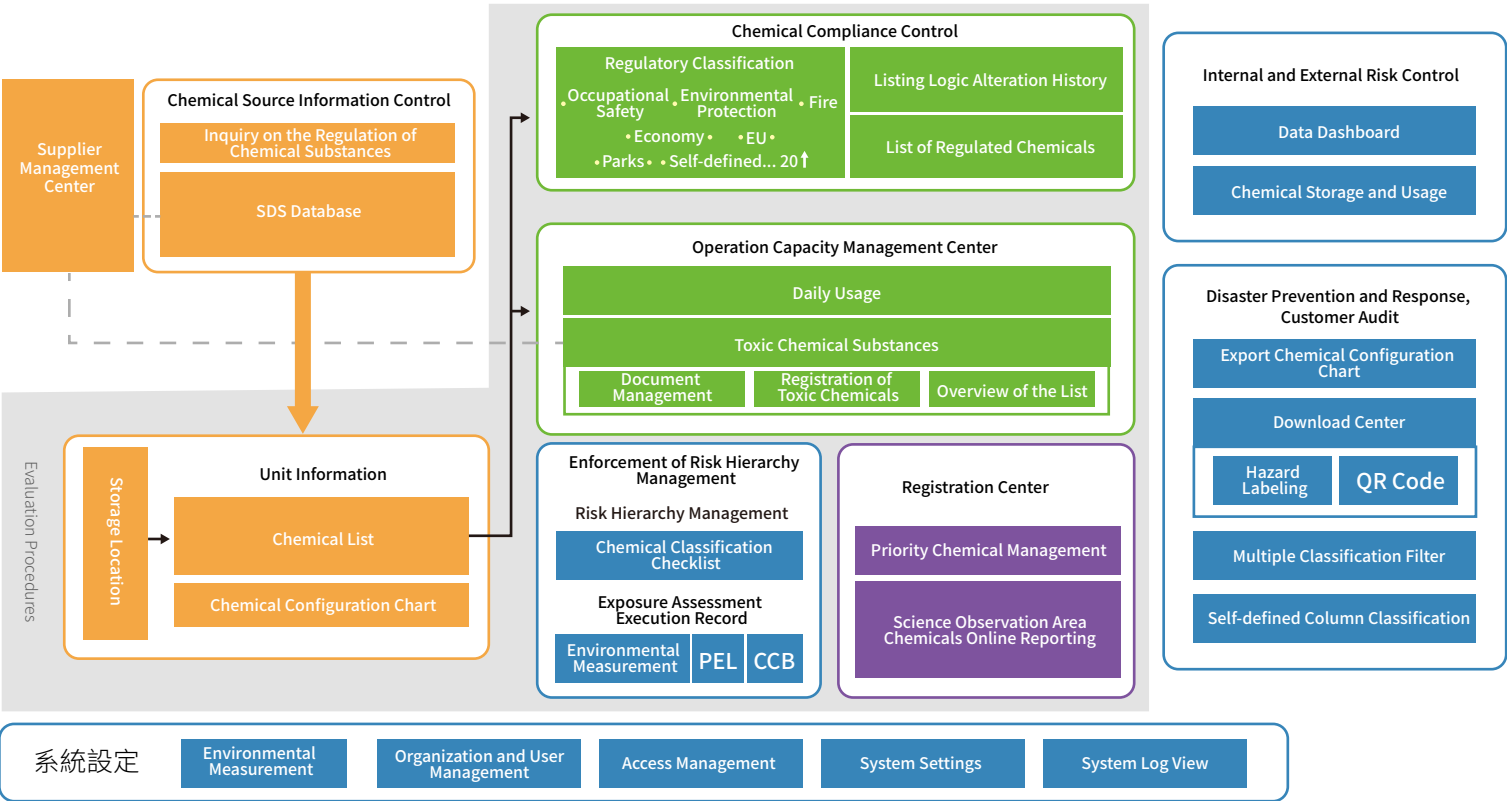
Chemical Cloud Management System

In 2023, GCE introduced a chemical cloud management system to identify, classify, and comprehensively control all raw materials, chemicals, and hazardous substances. This includes ozone depleting substances (ODS) substances, factory hazards and public hazard firefighting risks, priority management of specific organic occupational safety and health management, CMR health risks for maternal protection, toxic substances, and REACH substances of environmental concern.

- About the Report
- Contents
- Message from the Chairman
- Company Overview
- Sustainable Development Strategy and Management
- Robust Governance and Transparency
- Confronting Climate Change
- Green Strategy and Implementation
- Shared and Inclusive Pathway
- Innovation Breakthroughs and Results**
- Sustainable Supply Chain
- Appendix



Chemical Cloud Management System



Classification Item	Dangerous Items in Factory	Dangerous Items (Categories 1-6)	Priority Chemical Management	CMR Substance	Greenhouse Gas Substances	Highly-related to REACH Substances	Total
Item No.	171	171	271	111	0	81	805

7.3 Special Report on Chemicals and Hazardous Substances

Furthermore, in recent years, GCE has promoted a sustainable supply chain and green procurement. During procurement and contract signing, suppliers are asked to sign the "Supplier Hazardous Substance Commitment," the "CHINA VOCS Standard Compliance Commitment," and the "Supplier Hazardous Substance Declaration," committing to comply with the Company's relevant requirements.

The Company continues to use the QC 080000 management procedures for the inventory, control, audit, and registration of hazardous substances as per international regulations and customer requirements. It constantly improves relevant operating procedures, establishes management indicators and targets, and ensures the accurate communication and dissemination of related information within the Company and to external organizations. This ensures that the product manufacturing process meets green, environmentally friendly, and hazardous substance-free requirements.

Finally, although the products produced by GCE are end-market products, the Company remains committed to complying with regulations, meeting market expectations, fulfilling customer quality commitments, and adhering to sustainable supply chain and green procurement strategies. To demonstrate the effectiveness of GCE's chemical and Hazardous Substance Free (HSF) quality policies, the Company annually sends products for sampling and testing to a third-party laboratory (IST). As of the end of 2023, all products were confirmed to be 100% free of REACH SVHC and related substances banned by customers, with no incidents of non-compliance.

Chemical Management Performance Over the Years

	2021	2022	2023
Project Name	Eliminating the Risk of Death from Chemical Exposure Substitution of High Hazard Risk Chemicals	Reducing the Risk of Exposure to Specific Chemicals Eliminating Organic Solvent Exposure Risks	Eliminating Organic Solvent Advanced Exposure Risks
Implementation Approach	- Substitution assessment of potion components (methanol instead of tetramethyl ammonium hydroxide, TMAH) - Substitution assessment of potion concentration (50% dilute sulfuric acid instead of 98% concentrated sulfuric acid)	- Cleaning solvent contains high hazardous ingredient - methanol - Use ethylene glycol monobutyl ether instead - Planning the work area	- Ethylene glycol monobutyl ether, an ingredient in chemicals, is still highly carcinogenic and toxic to reproduction by international standards. - Replacement with Green Chemical - Propylene glycol methyl ether

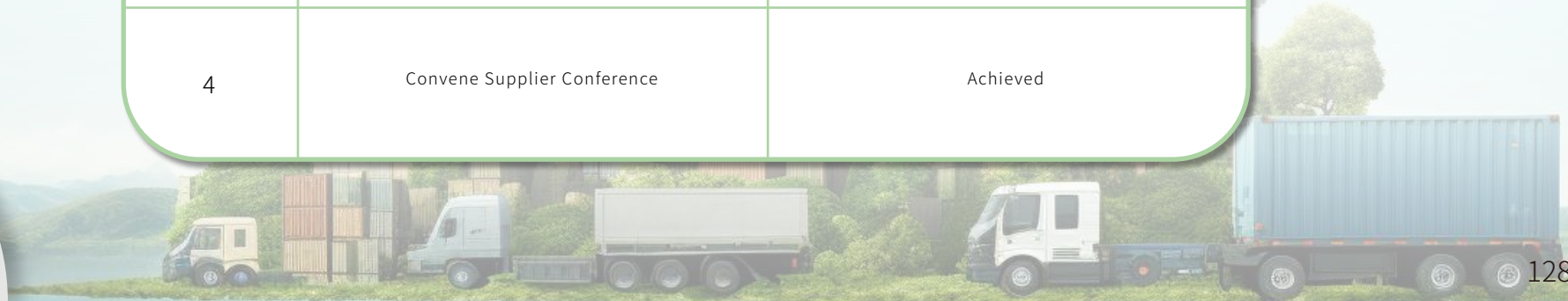


8. Sustainable Supply Chain

Sustainable Supply Chain

Suppliers are important partners, collectively fostering the concept of sustainable development. They actively support the implementation of environmental protection, social responsibility, and corporate governance issues, through evaluation and action, working together towards sustainable development goals to identify and respond to impacts.

#	Item	Key Results
1	Supplier Training Completion Rate	100%
2	Conduct Due Diligence for Compliance on Suppliers	31 Suppliers in Taiwan Plants Top 30 Suppliers in China 100% No Compliance Violations
3	Conflict Minerals Investigations Against Suppliers	31 Suppliers in Taiwan Plants Top 30 Suppliers in China 100% No Use of Conflict Minerals
4	Convene Supplier Conference	Achieved



GCE has established a supplier management procedure that includes supplier selection, contracts, evaluation, regular confirmation, and daily management. These procedures gradually incorporate aspects of environmental protection, social responsibility, and corporate governance, such as green procurement, conflict minerals, greenhouse gas emissions, labor rights, occupational safety and health, information security, operational continuity, and integrity in business operations.

Industry Value Chain

- Upstream: The main raw materials include substrates, films, copper foils, dry films, solder masks, and etchants, which cover industries such as petrochemicals, metals, and electronic components.
- Midstream: This refers to GCE's involvement in the production of double-layer and multi-layer PCBs.
- Downstream: On the customer side, it includes industries such as information technology, communication, consumer electronics, industrial, and medical instruments.

8.1 Sustainable Supply Chain Strategy

GCE upholds the spirit of a sustainable supply chain and green procurement, extending the influence of sustainable development to its suppliers. Besides expecting cooperating suppliers to share responsibilities for environmental protection, social responsibility, and corporate governance, the Company also provides resources and knowledge, fostering joint growth and maximizing the synergy of sustainable development.

< Green Procurement >

The Company has been practicing green thinking through its procurement activities, starting with source management of raw materials, banning hazardous substances, expanding the procurement of environmental protection products, and banning the use of products from conflict mining areas to reduce the environmental impact of raw materials.

Three Major Strategies for a Sustainable Supply Chain:

- 1 Spirit of Continuous Improvement: Through regular evaluations, education and training, suppliers are made aware of the Company's sustainable development culture, strategies, indicators, and targets. This enables suppliers to implement environmental protection, social responsibility, and corporate governance aspects internally, achieving continuous improvement, effective risk control, and enhancing the depth and breadth of sustainable development.
- 2 Growing Together: By establishing mutual communication channels or platforms in the spirit of cooperation and mutual assistance, suppliers can receive appropriate resources and knowledge, aiming to achieve sustainable development goals together.
- 3 Strict Control of Conflict Minerals, Chemicals, and Hazardous Substances: Committing to no conflict minerals, strictly controlling chemicals, and preventing the procurement of hazardous substances for use in products, thereby upholding the principles of responsible procurement to meet legal requirements.

In addition, the promotion of the sustainable supply chain and the execution results of short, medium, and long-term plans are discussed within the Sustainable Development Committee. The related results are reported to the Board of Directors to ensure that the highest governance unit is informed and can oversee them.

8.2 Sustainable Supply Chain Management and Practice

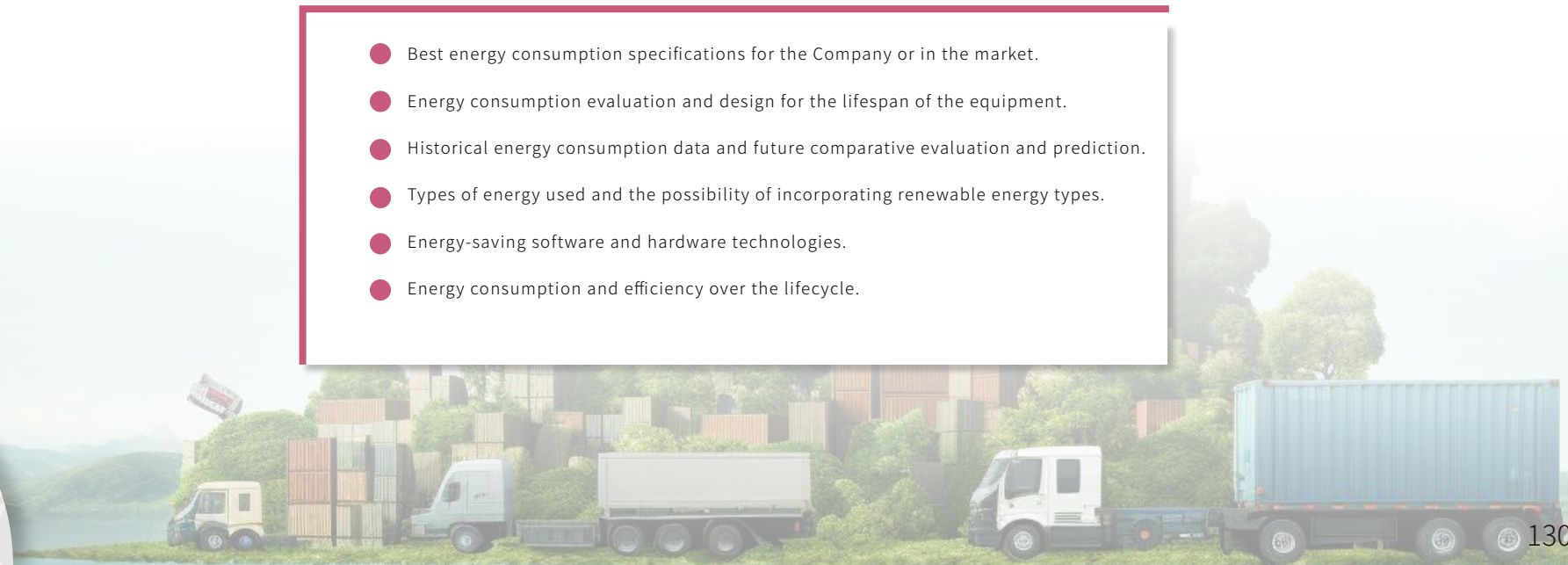
8.2.1 Early Assessment Management

The Company has established a qualified supplier evaluation mechanism to pre-screen the range of suppliers. During specific review stages or documents, such as supplier evaluation forms and qualification assessment group meetings, the supplier's sustainable development strategies and action plans are considered. Once a supplier is successfully registered as a "qualified supplier," this information is made available internally for departments to review and monitor.

Furthermore, in 2023, the Company gradually improved the sustainable procurement process. For procurement needs such as new installations, modifications, or improvements of facilities, equipment, and systems, suppliers are required to submit a "Procurement Energy-Saving Project Evaluation Form." This helps ensure that proper energy management evaluations are conducted before (planning stage), during (design and manufacturing stage), and after (acceptance stage) procurement to comply with ISO 50001 and local regulatory requirements.

Meanwhile, the dedicated energy management unit will participate in the evaluation and provide opinions. According to the "Energy Review Management Procedure," major energy-using equipment, or facilities, equipment, and systems with annual energy consumption exceeding 1 million kWh, will be subject to further evaluation and considered essential items for acceptance.

- Best energy consumption specifications for the Company or in the market.
- Energy consumption evaluation and design for the lifespan of the equipment.
- Historical energy consumption data and future comparative evaluation and prediction.
- Types of energy used and the possibility of incorporating renewable energy types.
- Energy-saving software and hardware technologies.
- Energy consumption and efficiency over the lifecycle.



8.2.1 Early Assessment Management

In the future, during the registration of qualified suppliers and procurement processes, the Company will gradually evaluate the following aspects to ensure that suppliers adhere to the Company's sustainable development culture, strategies, indicators, and goals, in alignment with the spirit of environmental protection, social responsibility, and corporate governance.

- International or national green or environmental standard certifications.
- Future strategies and action plans for energy saving and carbon reduction.
- Human rights policies, especially labor rights, to establish a diverse, fair, and inclusive corporate culture and continually improve a friendly workplace.
- Responding to social responsibility and caring for society.
- Strict adherence to business ethics policies.
- Compliance with legal regulations and risk control mechanisms.

Upon completion of the procurement stage, in addition to signing contracts with suppliers, the Company also ensures that suppliers sign various agreements such as the "RBA Code of Conduct Statement and Commitment," the "Supplier Confidentiality and Integrity Commitment," the "Supplier Hazardous Substance Commitment," the "CHINA VOCS Standard Compliance Commitment," and the "Supplier Hazardous Substance Declaration." These agreements cover requirements for environmental protection, social responsibility, and corporate governance and are included as terms in the contract. The procurement process is only considered complete once these documents are signed, ensuring adherence to GCE's requirements. In cases of any violations or deficiencies, GCE works with the supplier to make improvements. Non-compliant suppliers may face breach of contract penalties or even termination of the contract as a warning measure.

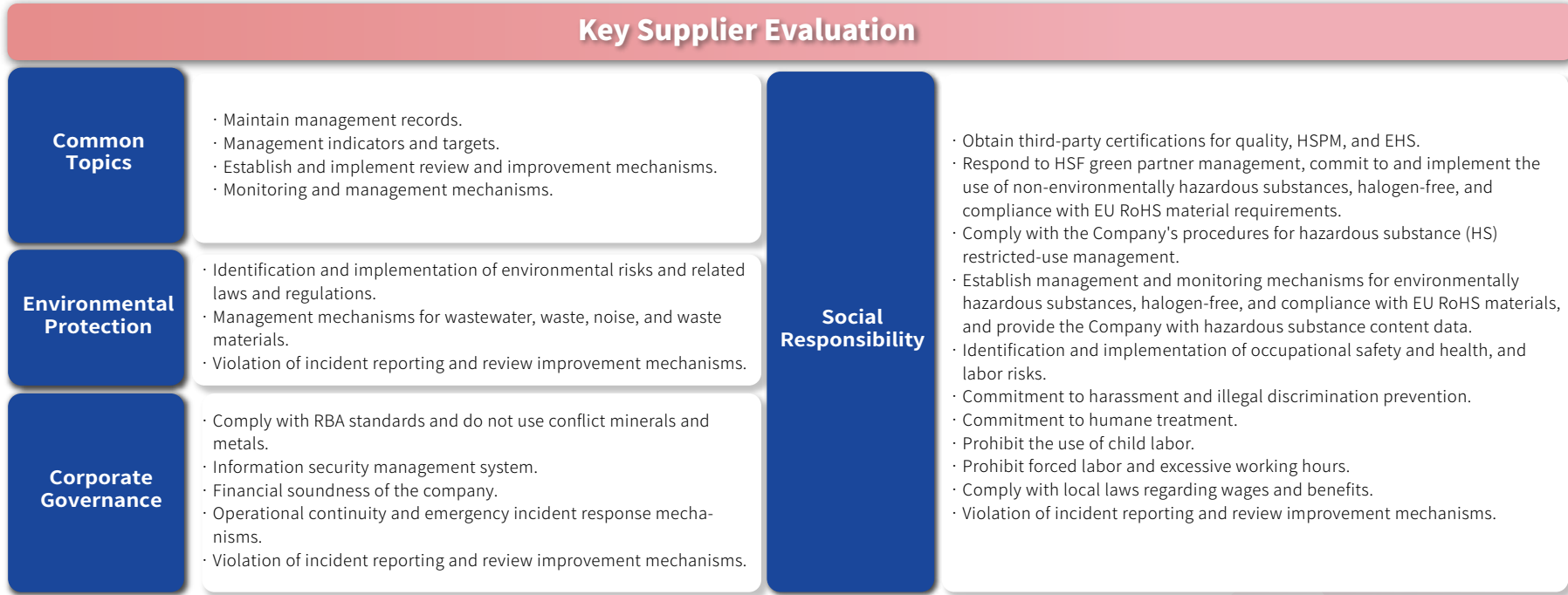
In 2023, the completion rate for new suppliers signing the "RBA Code of Conduct Statement and Commitment" and the "Supplier Confidentiality and Integrity Commitment" was 100%.

8.2.2 Collaboration and Execution Assessment Management

The Company collaborates with a diverse and numerous range of suppliers, including those providing raw materials, equipment, engineering services, on-site services, waste management, and general supplies. Despite the evaluation and management of suppliers through the registration of qualified suppliers and procurement processes, the close and long-term relationships during the collaboration make the implementation of cooperative evaluation and management even more crucial. Therefore, the Company has referenced the Responsible Business Alliance (RBA) to establish an evaluation and management mechanism for supply chain collaboration.

8.2.2 Collaboration and Execution Assessment Management

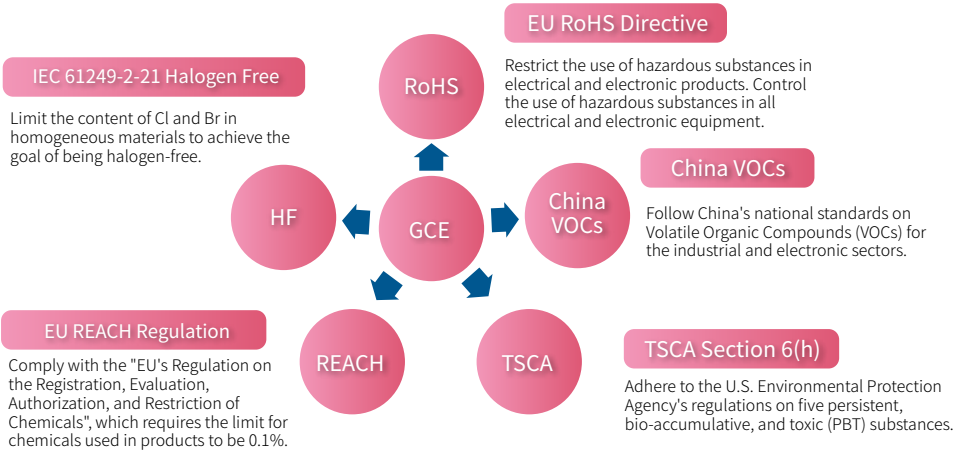
As a result, the Company assigns relevant departments and professional colleagues to form a professional and impartial team. Each year, this team conducts regular evaluations on aspects such as human rights, labor, health and safety, environmental protection standards, business ethics, and management systems. They retain the "Supplier Evaluation Form" and supporting documentation as records and evidence of the evaluations.



8.2.2 Collaboration and Execution Assessment Management

For example, raw material suppliers must comply with the Company's environmental hazardous substance standards and follow the Company's control processes. If the materials or processes impact the hazardous substance content of the delivered products, they are obligated to report it. Subsequently, the Company and the supplier will jointly evaluate alternative raw materials or terminate the partnership.

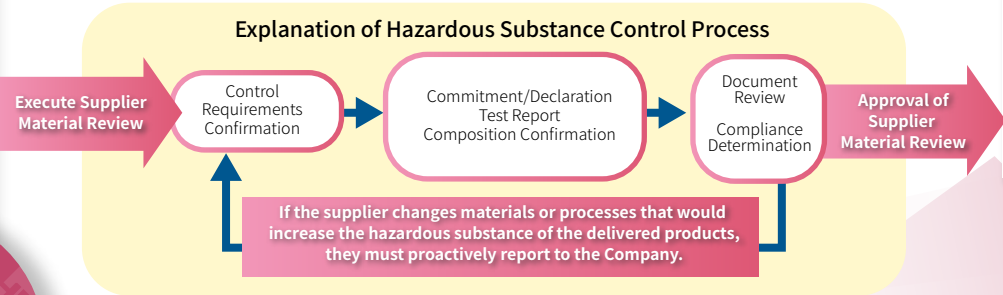
Subsequently, if any deficiencies are found, both parties will collaborate to promote improvement mechanisms and tracking measures to ensure effective risk control and achieve a mutually beneficial relationship with suppliers. Although deficiencies were found in supplier in 2023, all suppliers actively cooperated to make improvements within the stipulated time frame and established preventive mechanisms. After re-evaluation, no contract terminations occurred.



Number of Suppliers Audited Over the Years			
Region	2023	2022	2021
Taiwan plants	10	10	10
China plants	37	37	37
Total	47	47	47

Special Report

At the end of 2023, the Company conducted compliance due diligence and conflict minerals investigations specifically targeting 31 suppliers in the supply chain in Taiwan and the top 30 suppliers in China. The compliance due diligence included aspects such as human rights and international standards requirements. In terms of execution results, the suppliers subject to compliance due diligence and conflict minerals investigations did not violate compliance or conflict minerals requirements, achieving 100% conformity with international standards and the Company's requirements.



8.2.3 Conflict Minerals and Metals Issues

Conflict-Free Minerals Tips

- In 2010, the United States passed the "Dodd-Frank Wall Street Reform and Consumer Protection Act". Section 1502 of this financial reform act mandates the formulation of the "Conflict Minerals" law, which requires disclosure of whether minerals used in the manufacturing process originate from the Democratic Republic of the Congo (DRC) and adjoining countries, where forced and inhumane labor practices are prevalent.
- The Responsible Minerals Initiative (RMI) has investigated and found that local rebel groups in these regions obtain minerals such as tantalum, tin, tungsten, and gold through illegal means, including forced labor and child labor abuse. These minerals are then sold to purchase weapons, contributing to regional instability.
- Subsequently, the European Union's Critical Raw Materials report indicated that one-third of the world's cobalt comes from the Democratic Republic of the Congo and adjoining countries. Therefore, in 2019, the RMI designated "cobalt" as the fifth category of managed minerals and metals.
- As a result, minerals and metals such as cobalt, tantalum, tin, tungsten, and gold obtained through illegal operations are classified as conflict minerals and metals.

GCE is committed to supporting international efforts to boycott conflict minerals. In collaboration with the supply chain, GCE conducts conflict minerals and metals investigations to prevent the direct or indirect procurement of conflict minerals and metals from the Democratic Republic of the Congo and adjoining countries (such as Angola, Burundi, Central African Republic, Republic of the Congo, Rwanda, South Sudan, Tanzania, Uganda, Zambia, etc.). This ensures that procurement practices meet environmental protection and social responsibility standards, in alignment with the Responsible Minerals Initiative (RMI).

GCE adheres to conflict-free minerals management and responsible procurement strategies to comply with international regulations and customer requirements. By referencing the Responsible Business Alliance, GCE has established responsible procurement goals. Therefore, as mentioned in this chapter, topics such as the registration of qualified suppliers, procurement requirements, contract content, and cooperative execution evaluations, especially the regular evaluation mechanisms, all incorporate conflict-free minerals issues.

Furthermore, regarding all raw material suppliers, the investigation results for cobalt, tantalum, tin, tungsten, and gold indicate that currently, four gold suppliers and eight tin suppliers in the supply chain have confirmed that their smelters meet the Responsible Minerals Assurance Process (RMAP) requirements. These smelters have been approved by the Responsible Minerals Initiative (RMI) as legitimate smelters, achieving the goal of conflict-free minerals and metals. This contributes significantly to environmental protection, human rights, and social responsibility.

About the Report

Contents

Message from the Chairman

Company Overview

Sustainable Development Strategy and Management

Robust Governance and Transparency

Confronting Climate Change

Green Strategy and Implementation

Shared and Inclusive Pathway

Innovation Breakthroughs and Results

Sustainable Supply Chain

Appendix

8.2.4 Supplier Networking Meeting

GCE holds supplier meetings and training occasional every year, actively explaining the Company's strategies, indicators, and goals, as well as sustainable development strategies and action plans to suppliers. Recently, the focus has been on explaining the management policies of various aspects such as environmental protection, social responsibility, and corporate governance. In addition to regular audits, these advocacy and training aim to ensure that supplier performance meets the requirements of the Company's sustainable supply chain policies and management. With a spirit of cooperation and mutual assistance, communication channels or platforms are established to provide suppliers with appropriate resources and knowledge support to achieve sustainable development goals.

2023 Supplier Conference

Experts and 131 suppliers (66 from Taiwan and 65 from China) were invited to jointly participate in the sustainable supply chain meeting. The Company's sustainable supplier management strategy was explained, and the future short-, medium-, and long-term supplier management indicators and goals were presented.

At the same time, the Company and suppliers exchanged and shared practical experience in sustainable development and discussed the latest trends and issues.

In the future planning of GCE, it will focus more on the green management of suppliers by not only handling it according to customer requirements, but also gradually requiring suppliers to incorporate measures such as power saving, water saving, emission reduction, and regular environmental assessment of risks. Even though there have been already preventive management measures of qualifications or abilities in the selection and sourcing stages, implementation and supervision of those measures are even more important. This is because the issues, such as the changes in time and space in response to the mainstream trend of climate change and environmental protection, frequent changes in legal requirements, diversified customer requirements, increasingly stringent human rights policies and social responsibilities, and the expansion of corporate governance and evaluation are increasingly concerned by general public. It is expected that GCE and suppliers can learn from each other, jointly communicate and work together on issues related to environment, society and corporate governance.

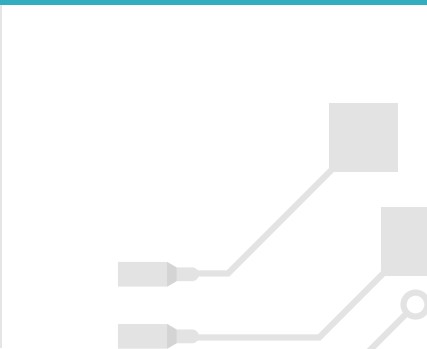
- About the Report
- Contents
- Message from the Chairman
- Company Overview
- Sustainable Development Strategy and Management
- Robust Governance and Transparency
- Confronting Climate Change
- Green Strategy and Implementation
- Shared and Inclusive Pathway
- Innovation Breakthroughs and Results
- Sustainable Supply Chain**
- Appendix



20
23



9. Appendix



Appendix

GRI Content Index

GCE has reported the information of 2023 (from January 1 to December 31, 2023) cited in the GRI Content Index with reference to the GRI standards. The following indicators have been externally verified, and the results of the verification are detailed in the independent assurance opinion statement.

GRI 1: Foundation 2021 [GRI 1 does not include any disclosures]

Applicable GRI industry standards: None.

GRI 2: General Disclosure 2021

GRI Standards	Disclosure item	Chapter, page number or content overview
Organizational profile and reporting practice		
2-1	General Disclosure 2021	About the Report 1. Company Profile
2-2	Entities included in the organization's sustainability reporting	About the Report 1. Company Profile
2-3	Reporting period, frequency and contact point	About the Report
2-4	Restatements of information	None restatements of information for the current year.
2-5	External assurance	Appendix Verification Statement/ Certificate
Activities and workers		
2-6	Entities included in the organization's sustainability reporting	2. Sustainable Development Strategy and Management 8. Sustainable Supply Chain
2-7	Employees	6. Shared and Inclusive Pathway 6.1.1 Diverse Team Structure
2-8	Workers who are not employees	6. Shared and Inclusive Pathway 6.1.1 Diverse Team Structure
Governance		
2-9	Governance structure and composition	3. Robust Governance and Transparency 3.1 Corporate Governance
2-10	Nomination and selection of the highest governance body	3. Robust Governance and Transparency 3.1 Corporate Governance
2-11	Chair of the highest governance body	3. Robust Governance and Transparency 3.1 Corporate Governance
2-12	Role of the highest governance body in overseeing the management of impacts	2. Sustainable Development Strategy and Management 3. Robust Governance and Transparency 3.1 Corporate Governance 4. Confronting Climate Change 5. Green Strategy and Implementation

Appendix

- About the Report
- Contents
- Message from the Chairman
- Company Overview
- Sustainable Development Strategy and Management
- Robust Governance and Transparency
- Confronting Climate Change
- Green Strategy and Implementation
- Shared and Inclusive Pathway
- Innovation Breakthroughs and Results
- Sustainable Supply Chain

Appendix

GRI Standards	Disclosure item	Chapter, page number or content overview
Activities and workers		
2-13	Delegation of responsibility for managing impacts	2. Sustainable Development Strategy and Management 3. Robust Governance and Transparency 4. Confronting Climate Change
2-14	Role of the highest governance body in sustainability reporting	2. Sustainable Development Strategy and Management
2-15	Conflicts of interest	3. Robust Governance and Transparency 6. Shared and Inclusive Pathway
2-16	Communication of critical concerns	2. Sustainable Development Strategy and Management 3. Robust Governance and Transparency 4. Confronting Climate Change
2-17	Collective knowledge of the highest governance body	3. Robust Governance and Transparency
2-18	Evaluation of the performance of the highest governance body	3. Robust Governance and Transparency
2-19	Remuneration policies	3. Robust Governance and Transparency 6. Shared and Inclusive Pathway
2-20	Process to determine remuneration	3. Robust Governance and Transparency 6. Shared and Inclusive Pathway
2-21	Annual total compensation ratio	6. Shared and Inclusive Pathway
Strategy, policies and practices		
2-22	Statement on sustainable development strategy	Message from the Chairman
2-23	Policy commitments	3. Robust Governance and Transparency 4. Confronting Climate Change 5. Green Strategy and Implementation 6. Shared and Inclusive Pathway 7. Innovation Breakthroughs and Results 8. Sustainable Supply Chain
2-24	Embedding policy commitments	
2-25	Processes to remediate negative impacts	
2-26	Mechanisms for seeking advice and raising concerns	

Appendix

GRI Standards	Disclosure item	Chapter, page number or content overview
Strategy, policies and practices		
2-27	Compliance with laws and regulations	3. Robust Governance and Transparency
2-28	Collective bargaining agreements	1. Company Profile
Stakeholder engagement		
2-29	Approach to stakeholder engagement	2. Sustainable Development Strategy and Management
2-30	Collective bargaining agreements	Although there's no labor union and group agreement in the Company, we hold regular labor-management meetings and have transparent communication channels.
GRI 3: Material Topics 2021		
3-1	Process to determine material topics	2. Sustainable Development Strategy and Management
3-1	List of material topics	2. Sustainable Development Strategy and Management
Operational performance		
GRI 3: Material Topics 2021		
3-3	Management of material topics	2. Sustainable Development Strategy and Management 3. Robust Governance and Transparency
GRI 201: Economic Performance 2016		
201-1	Direct economic value generated and distributed	3. Robust Governance and Transparency
Business ethics		
GRI 3: Material Topics 2021		
3-3	Management of material topics	2. Sustainable Development Strategy and Management 3. Robust Governance and Transparency
GRI 205: Anti-corruption 2016		
205-2	Communication and training about anti-corruption policies and procedures	3. Robust Governance and Transparency 6. Shared and Inclusive Pathway 6.2 Employee Development and Training

Appendix

Material Topics

GRI Standards	Disclosure item	Chapter, page number or content overview
Energy management		
GRI 3: Material Topics 2021		
3-3	Management of material topics	2. Sustainable Development Strategy and Management 4. Confronting Climate Change 5. Green Strategy and Implementation
GRI 303: Energy 2016		
302-1	Energy consumption within the organization	5. Green Strategy and Implementation
302-3	Energy intensity	
302-4	Reduction of energy consumption	
Resources management and circular economy		
GRI 3: Material Topics 2021		
3-3	Management of material topics	2. Sustainable Development Strategy and Management 5. Green Strategy and Implementation
GRI 303: Water and effluents 2018		
303-1	Interactions with water as a shared resource	5. Green Strategy and Implementation
303-2	Management of water discharge-related impacts	
303-3	Water withdrawal	
303-4	Water discharge	
303-5	Water consumption	

Appendix

Material Topics

GRI Standards	Disclosure item	Chapter, page number or content overview
GRI 306: Waste 2020		
306-1	Waste generation and significant waste-related impacts	5. Green Strategy and Implementation
306-2	Management of significant waste-related impacts	
306-3	Waste generated	
306-4	Waste diverted from disposal (Inside the plant/ outside the plant)	
306-5	Waste directed to disposal (Inside the plant/ outside the plant)	
GHG emissions management issues		
GRI 3: Material Topics 2021		
3-3	Management of material topics	2. Sustainable Development Strategy and Management 4. Confronting Climate Change 5. Green Strategy and Implementation
GRI 305: Emissions 2016		
305-1	Direct (Scope 1) GHG emissions	5. Green Strategy and Implementation
305-2	Energy indirect (Scope 2) GHG emissions	
305-3	Other indirect (Scope 3) GHG emissions	
305-4	GHG emissions intensity	
305-5	Reduction of GHG emissions	
Supplier management		
GRI 3: Material Topics 2021		
3-3	Management of material topics	2. Sustainable Development Strategy and Management 8. Sustainable Supply Chain

Appendix

Material Topics

GRI Standards	Disclosure item	Chapter, page number or content overview
GRI 308: Supplier environmental assessment 2016		
308-1	New suppliers that were screened using environmental criteria	8. Sustainable Supply Chain
308-2	Negative environmental impacts in the supply chain and actions taken	
GRI 414: Supplier social assessment 2016		
414-1	New suppliers that were screened using social criteria	8. Sustainable Supply Chain
414-2	Negative social impacts in the supply chain and actions taken	
Occupational safety and labor health		
GRI 3: Material Topics 2021		
3-3	Management of material topics	2. Sustainable Development Strategy and Management 6. Shared and Inclusive Pathway
GRI 403: Occupational health and safety 2018		
403-1	Occupational health and safety management system	6. Shared and Inclusive Pathway 6.3 Health and Safety
403-2	Hazard identification, risk assessment, and incident investigation	
403-3	Occupational health services	
403-4	Worker participation, consultation, and communication on occupational health and safety	
403-5	Worker training on occupational health and safety	6. Shared and Inclusive Pathway 6.2 Employee Development and Training 6. Shared and Inclusive Pathway 6.3 Health and Safety
403-6	Promotion of worker health	6. Shared and Inclusive Pathway 6.3 Health and Safety
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	
403-9	Work-related injuries	
403-10	Work-related ill health	

Appendix

Material Topics

GRI Standards	Disclosure item	Chapter, page number or content overview
Chemicals and hazardous substance management		
GRI 3: Material Topics 2021		
3-3	Management of material topics	2. Sustainable Development Strategy and Management 7. Innovation Breakthroughs and Results
Chemicals and hazardous substance management		
GRI 416: Customer health and safety 2016		
416-1	Assessment of the health and safety impacts of product and service categories	7. Innovation Breakthroughs and Results
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	No such matter in this year
Customer satisfaction for product quality		
GRI 3: Material Topics 2021		
3-3	Management of material topics	2. Sustainable Development Strategy and Management 7. Innovation Breakthroughs and Results
Self-defined	Customer satisfaction for product quality	7. Innovation Breakthroughs and Results
Information Security		
GRI 3: Material Topics 2021		
3-3	Management of material topics	2. Sustainable Development Strategy and Management 3. Robust Governance and Transparency
Self-defined	Information Security	3. Robust Governance and Transparency
Business continuity		
GRI 3: Material Topics 2021		
3-3	Management of material topics	2. Sustainable Development Strategy and Management 3. Robust Governance and Transparency
Self-defined	Business continuity	3. Robust Governance and Transparency

Appendix

Material Topics

GRI Standards	Disclosure item	Chapter, page number or content overview
Climate change risks and opportunities		
GRI 3: Material Topics 2021		
3-3	Management of material topics	2. Sustainable Development Strategy and Management 4. Confronting Climate Change
Self-defined	Climate change risks and opportunities	4. Confronting Climate Change

Sustainability Disclosure Indicators

Based on the Appendix 1-12 of Article 4 of the "Rules Governing the Preparation and Filing of Sustainability Reports by TWSE Listed Companies" by the Taiwan Stock Exchange, the disclosure requirements for sustainability indicators in the electronic components industry are as follows:

No.	Indicator	Disclosure in 2023
1	Total energy consumption, percentage of purchased electricity, and renewable energy usage rate	Chapter 5. Green Strategy and Implementation 5.1Energy Usage
2	Total water withdrawal and total water consumption	Chapter 5. Green Strategy and Implementation 5.1Energy Usage
3	Weight of hazardous waste generated and percentage of waste recycled	Chapter 5. Green Strategy and Implementation 5.6 Waste Management
4	Description of types, number, and rate of occupational injuries	Chapter 6. Shared and Inclusive Pathway 6.3 Health and Safety
5	Disclosure on product life cycle management: including the weight of scrapped products and electronic waste, as well as the percentage of recycling	Chapter 5. Green Strategy and Implementation 5.6 Waste Management
6	Description of risk management related to the use of key materials	Chapter 7. Innovation Breakthroughs and Results Chapter 8. Sustainable Supply Chain
7	Total monetary loss due to legal disputes related to anti-competitive behavior regulations	In 2023, there were no violations, and the total related financial loss was 0.
8	Volume of main products by product category	For details, please refer to Chapter V, Business Overview, in the 2023 Annual Report.

Appendix of the "Rules Governing the Preparation and Filing of Sustainability Reports by TWSE Listed Companies"

Item No.	Disclosure Indicator	Disclosure Content	參考章節/頁碼
1	Explain the oversight and governance of climate-related risks and opportunities by the board of directors and management.	4.1 GCE's Climate Governance	53
2	Explain how the identified climate risks and opportunities impact the company's business, strategy, and financial performance (short-term, medium-term, long-term).	4.1 GCE's Climate Governance	55
3	Explain the financial impact of extreme weather events and transition actions.	4.1 GCE's Climate Governance	55
4	Explain how the identification, assessment, and management processes of climate risks are integrated into the overall risk management system.	4.1 GCE's Climate Governance	55
5	If scenario analysis is used to assess resilience to climate change risks, explain the scenarios, parameters, assumptions, analysis factors, and key financial impacts used.	4.1 GCE's Climate Governance	55
6	If there are transition plans to manage climate-related risks, explain the content of these plans and the indicators and targets used to identify and manage physical and transition risks.	4.1 GCE's Climate Governance	55
7	If internal carbon pricing is used as a planning tool, explain the basis for price setting.	In the current year, internal carbon pricing tools have not yet been introduced; future feasibility and schedule for introduction will continue to be assessed.	
8	If climate-related targets are set, explain the covered activities, scope of greenhouse gas emissions, planning periods, and annual progress; if carbon offsets or Renewable Energy Certificates (RECs) are used to achieve the targets, explain the sources and quantities of carbon offsets or RECs.	4.3 Climate Change Metrics and Targets	61
9	Greenhouse Gas Inventory and Assurance Status.	4.3 Climate Change Metrics and Targets	61

The above information can also be found in the Company's 2023 Annual Report on pages 45 to 52.

Sustainability Disclosure Topics & Accounting Metrics

Note: The SASB Indicators used is the Hardware Standards for the Technology and Communication Sector (TCS), Version 2023-12.

SASB Code	SASB Accounting Metric	Disclosure in 2022
Product Security		
TC-HW-230a.1	Description of approach to identifying and addressing data security risks in products	1. The Company is a manufacturer of printed circuit boards (PCBs) in the midstream of various electronic products, and downstream customers are suppliers of various electronic products. The products are not directly sold to general consumers, but external advertisements still need to be confirmed by legal affairs before publishing. Products will also be inspected in accordance with regulations and customer requirements. 2. All employees receive education and training for information security policy awareness, and there are specific channels and procedures for customers complaints for quick handling.
Employee Diversity and Inclusion		
TC-HW-330a.1	Percentage of gender and racial/ethnic group representation for (1) management, (2) non-management, (3) technical staff, and (4) all other employees	6. Shared and Inclusive Pathway 6.1 Diverse and Inclusive Human Resources Strategy
Product Lifecycle Management		
TC-HW-410a.1	Percentage of products by revenue that contain IEC 62474 declarable substances	No such matter in this year
TC-HW-410a.2	Percentage of eligible products, by revenue, meeting the requirements for EPEAT registration or equivalent	The products were not EPEAT registered.
TC-HW-410a.3	Percentage of eligible products, by revenue, meeting ENERGY STAR® criteria	This indicator is not applicable to non-end product manufacturers.
TC-HW-410a.4	Weight of end-of life products and e-waste recovered, percentage recycled	5. Green Strategy and Implementation 5.4Waste Management

SASB Code	SASB Accounting Metric	Disclosure in 2022																									
Supply Chain Management																											
TC-HW-430a.1	Percentage of Tier 1 supplier facilities audited in the RBA Validated Audit Process (VAP) or equivalent, by (a) all facilities and (b) high-risk facilities	No such matter in this year																									
TC-HW-430a.2	Tier 1 suppliers’ (1) non-conformance rate with the RBA Validated Audit Process (VAP) or equivalent, and (2) associated corrective action rate for (a) priority non-conformances and (b) other nonconformance	No such matter in this year																									
Materials Sourcing & Efficiency																											
TC-HW-440a.1	Description of the management of risks associated with the use of critical materials	1. GCE complies with the RBA Code of Conduct and promises not to use metals from armed conflict, illegal mining and poor working conditions. 2. At the same time, suppliers are required to fulfill their social responsibilities, and they are also required to communicate this requirement to their upstream suppliers, and use market mechanisms to prevent such behaviors. 3. Please refer to 7. Innovation Breakthroughs and Results and 8. Sustainable Supply Chain																									
Activity Metric																											
TC-HW-000.A	Number of units produced by product category	For details, please refer to Chapter V, Business Overview, in the 2023 Annual Report.																									
TC-HW-000.B	Area of manufacturing facilities	<table><tr><td></td><td>Taiwan Plant</td><td>Suzhou Plant</td><td>Changshu 1st Plant</td><td>Changshu 2nd Plant</td></tr><tr><td>Land area (m2)</td><td>35,657</td><td>145,000</td><td>61,800</td><td>60,024</td></tr><tr><td>Production line floor area-A m²</td><td>79,425</td><td>80,239</td><td>42,218</td><td>30,300</td></tr><tr><td>Other floor area-B m²</td><td>13,710</td><td>31,664</td><td>33,338</td><td>18,109</td></tr><tr><td>GFA A+B m²</td><td>93,135</td><td>111,904</td><td>75,556</td><td>48,409</td></tr></table>		Taiwan Plant	Suzhou Plant	Changshu 1st Plant	Changshu 2nd Plant	Land area (m2)	35,657	145,000	61,800	60,024	Production line floor area-A m ²	79,425	80,239	42,218	30,300	Other floor area-B m ²	13,710	31,664	33,338	18,109	GFA A+B m ²	93,135	111,904	75,556	48,409
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GFA A+B m ²	93,135	111,904	75,556	48,409																							
TC-HW-000.C	Percentage of production from owned facilities	Production by own facility: 100%																									

Independent Assurance Statement



INDEPENDENT ASSURANCE OPINION STATEMENT

2023 GCE Sustainability Report

The British Standards Institution is independent to GOLD CIRCUIT ELECTRONICS LTD. (hereafter referred to as GCE in this statement) and has no financial interest in the operation of GCE other than for the assessment and verification of the sustainability statements contained in the report.

This independent assurance opinion statement has been prepared for the stakeholders of GCE only for the purpose of assuring its statements relating to its sustainability report, more particularly described in the Scope below. It was not prepared for any other purpose. The British Standards Institution will not, in providing this independent assurance opinion statement, accept or assume responsibility (legal or otherwise) or accept liability for or in connection with any other purpose for which it may be used, or to any person by whom the independent assurance opinion statement may be read.

This independent assurance opinion statement is prepared on the basis of review by the British Standards Institution of information presented to it by GCE. The review does not extend beyond such information and is solely based on it. In performing such review, the British Standards Institution has assumed that all such information is complete and accurate.

Any queries that may arise by virtue of this independent assurance opinion statement or matters relating to it should be addressed to GCE only.

Scope

The scope of engagement agreed upon with GCE includes the following:

1. The assurance scope is consistent with the description of 2023 GCE Sustainability Report.
2. The evaluation of the nature and extent of the GCE's adherence to AA1000 Accountability Principles (2018) in this report as conducted in accordance with type 1 of AA1000AS v3 sustainability assurance engagement and therefore, the information/data disclosed in the report is not verified through the verification process.

This statement was prepared in English and translated into Chinese for reference only.

Opinion Statement

We conclude that the 2023 GCE Sustainability Report provides a fair view of the GCE sustainability programmes and performances during 2023. The sustainability report subject to assurance is free from material misstatement based upon testing within the limitations of the scope of the assurance, the information and data provided by the GCE and the sample taken. We believe that the performance information of Environment, Social and Governance (ESG) are fairly represented. The sustainability performance information disclosed in the report demonstrate GCE's efforts recognized by its stakeholders.

Our work was carried out by a team of sustainability report assessors in accordance with the AA1000AS v3. We planned and performed this part of our work to obtain the necessary information and explanations we considered to provide sufficient evidence that GCE's description of their approach to AA1000AS v3 and their self-declaration in accordance with GRI Standards were fairly stated.

Methodology

Our work was designed to gather evidence on which to base our conclusion. We undertook the following activities:

- a top level review of issues raised by external parties that could be relevant to GCE's policies to provide a check on the appropriateness of statements made in the report.
- discussion with managers on approach to stakeholder engagement. However, we had no direct contact with external stakeholders.
- 5 interviews with staffs involved in sustainability management, report preparation and provision of report information were carried out.
- review of key organizational developments.
- review of the findings of internal audits.
- review of supporting evidence for claims made in the reports.
- an assessment of the organization's reporting and management processes concerning this reporting against the principles of Inclusivity, Materiality, Responsiveness, and Impact as described in the AA1000AP (2018).

Conclusions

A detailed review against the Inclusivity, Materiality, Responsiveness, and Impact of AA1000AP (2018) and GRI Standards is set out below:

Inclusivity

This report has reflected a fact that GCE has continually sought the engagement of its stakeholders and established material sustainability topics, as the participation of stakeholders has been conducted in developing and achieving an accountable and strategic response to sustainability. There are fair reporting and disclosures for the information of Environment, Social and Governance (ESG) in this report, so that appropriate planning and target-setting can be supported. In our professional opinion the report covers the GCE's inclusivity issues.

Materiality

GCE publishes material topics that will substantively influence and impact the assessments, decisions, actions and performance of GCE and its stakeholders. The sustainability information disclosed enables its stakeholders to make informed judgements about the GCE's management and performance. In our professional opinion the report covers the GCE's material issues.

Responsiveness

GCE has implemented the practices to respond to the expectations and perceptions of its stakeholders. An Ethical Policy for GCE is developed and continually provides the opportunity to further enhance GCE's responsiveness to stakeholder concerns. Topics that stakeholder concern about have been responded timely. In our professional opinion the report covers the GCE's responsiveness issues.

Impact

GCE has identified and fairly represented impacts that were measured and disclosed in probably balanced and effective way. GCE has established processes to monitor, measure, evaluate, and manage impacts that lead to more effective decision-making and results-based management within the organization. In our professional opinion the report covers the GCE's impact issues.

GRI Sustainability Reporting Standards (GRI Standards)

GCE provided us with their self-declaration of in accordance with GRI Standards 2021 (For each material topic covered in the applicable GRI Sector Standard and relevant GRI Topic Standard, comply with all reporting requirements for disclosures). Based on our review we confirm that sustainable development disclosures with reference to GRI Standards' disclosures are reported, partially reported, or omitted. In our professional opinion the self-declaration covers the GCE's sustainability topics. However, the future report will be improved by the following areas:

- It is encouraged to consider referring to international peers' practices to meet the requirements of the standards for disclosing the GRI 2-21 annual total compensation ratio, thus enhancing the credibility and transparency of the sustainability report.

Assurance level

The moderate level assurance provided is in accordance with AA1000AS v3 in our review, as defined by the scope and methodology described in this statement.

Responsibility

The sustainability report is the responsibility of the GCE's chairman as declared in his responsibility letter. Our responsibility is to provide an independent assurance opinion statement to stakeholders giving our professional opinion based on the scope and methodology described.

Competency and Independence

The assurance team was composed of auditors experienced in relevant sectors, and trained in a range of sustainability, environmental and social standards including AA1000AS, ISO 14001, ISO 45001, ISO 14004, and ISO 9001. BSI is a leading global standards and assessment body founded in 1901. The assurance is carried out in line with the BSI Fair Trading Code of Practice.

For and on behalf of BSI: 
Peter Pu, Managing Director BSI Taiwan



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2024-06-24

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