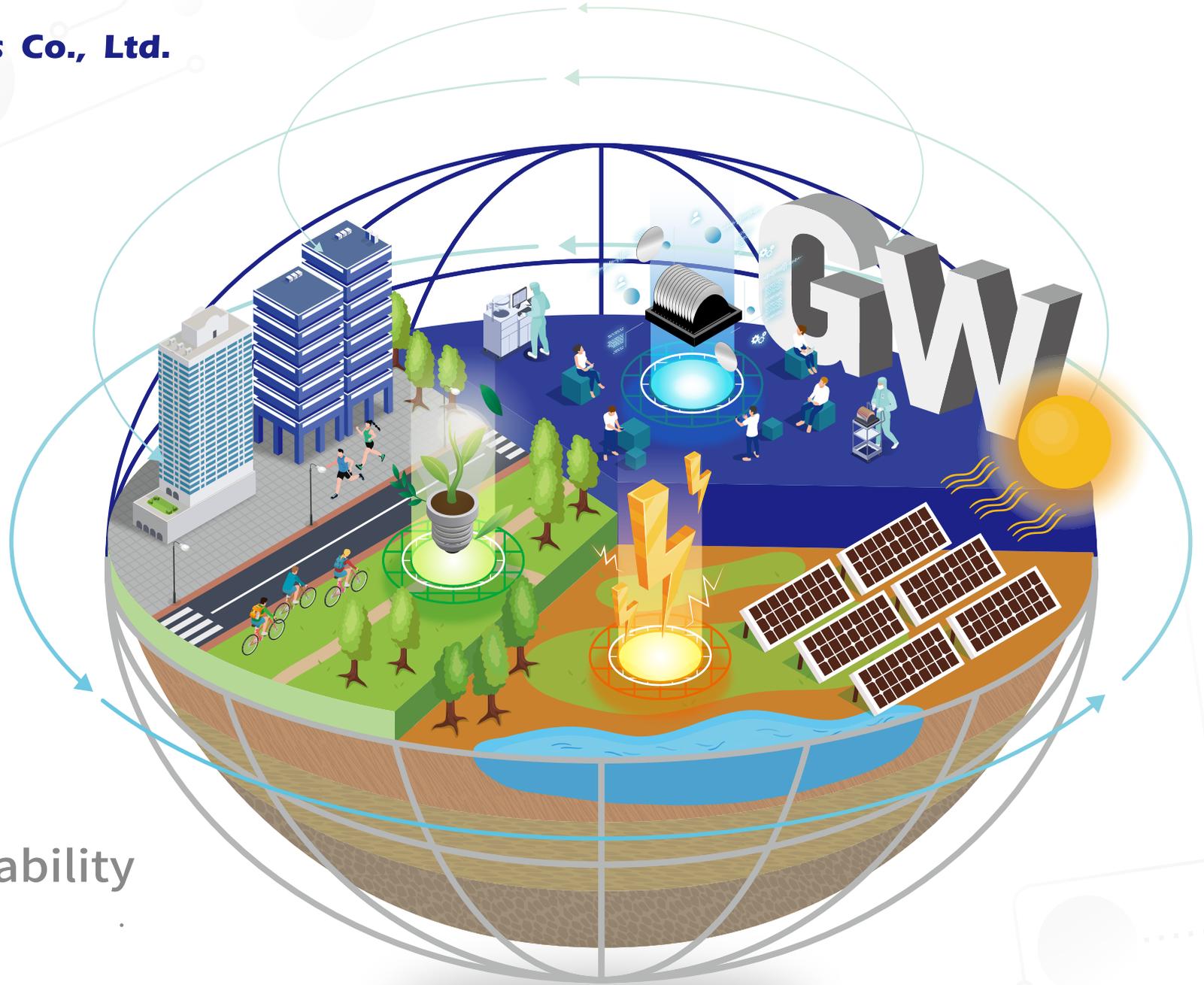




GlobalWafers Co., Ltd.



2022

**Sustainability
Report**

Report

Sustainability

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About This Report

✦ Report Axis

GlobalWafers Co., Ltd. (hereinafter referred to as GlobalWafers) is a professional silicon wafer supplier and manufacturer of products for integrated circuit and power electronics applications. In recent years, GlobalWafers has continued to independently compile CSR reports to address global climate changes and corporate social responsibility (CSR) development trends, and in 2021 it officially changed the name of the report to the Sustainability Report. Based on long-term, in-depth interactions with local communities and engagement with stakeholders, GlobalWafers discloses in the Report relevant information on material topics concerning corporate governance, economy, environment, and social (including human rights) implementation and improvement outcomes, in addition to presenting the future vision and goals in terms of sustainable development.

✦ Report Editing and Final Draft

The following describes how GlobalWafers prepares and compiles relevant information and edits this Report.

■ Planning, Compiling, and Organizing

Principal members of the Sustainability Task Force (comprising the President's Office and the Environment, Health & Safety Department) are in charge of the overall planning, information compilation & organization, communication and integration, and editing and revision.

■ Editing Procedures, Review and Final Draft

After members of the Corporate Sustainable Development Committee have collected all relevant information and written the Report, and the data therein have been verified by the heads of all departments, the Report is then submitted to the Chairperson (Chairperson of the Corporate Sustainable Development Committee) for review, then finalized for publishing.

✦ Reporting Standards

In preparing and organizing the content and structure of this Report, its compilers primarily refer to the compliance requirements of the Sustainability Reporting Standards issued by the Global Reporting Initiative (GRI) and the indicators of the semiconductor industry in the Sustainability Accounting Standards issued by the Sustainability Accounting Standards Board (SASB). Additionally, this Report was also prepared in accordance with the Rules Governing the Preparation and Filing of Sustainability Reports by TWSE Listed Companies as well as the recommendations for implementation provided by the Task Force on Climate-related Financial Disclosures (TCFD). Material topics of concern to stakeholders are disclosed and addressed in relevant chapters based on materiality analysis results.

✦ Report Boundaries and Reporting Period

This Report covers the following period and scope:





✦ Reporting Scope:

The scope of this Report includes the performance of all GlobalWafers operations and production bases, which are described as follows:

■ Economic performance:

Covers all operations and production locations of GlobalWafers, including GlobalWafers Headquarters, GlobalWafers Chunan Plant, Taisil Branch, GlobalWafers Japan Co., Ltd., MEMC Electronic Materials Sdn. Bhd., GlobiTech Incorporated, MEMC LLC, MEMC Electronic Materials S.p.A., Topsil GlobalWafers A/S, GlobalWafers Singapore Pte. Ltd.; the financial data have been audited and verified by KPMG Taiwan in accordance with International Financial Reporting Standards (IFRS). Financial numbers in the report are denominated in New Taiwan Dollars (NTD).

■ Environmental performance:

All operation sites except the Singapore office are included in the scope of environmental performance disclosure, and the statistics are collected by the responsible departments.

✦ Report Assurance

To strengthen the report's compliance with GRI Standards and enhance the transparency and credibility of the Company's sustainability information, GlobalWafers' Corporate Sustainable Development Committee has resolved that the Company's Sustainability Report shall be verified by an independent third party. Accordingly, this Report has been verified by DNV Business Assurance Co., Ltd. to be in compliance with the GRI Standards' compliance requirements and the moderate level of assurance of DNV VeriSustain. The verification statement is provided in the appendix.

■ People (including human rights) performance:

Except for the personnel statistical analysis covering the Singapore office, all other performance coverage is consistent with environmental performance, which is compiled by the respective responsible departments. However, since the data of some overseas sites are not yet complete, the scope of disclosure will be noted in the internal statistics, and relevant statistics will include overseas factories.

GlobalWafers publishes its Sustainability Report yearly, and offers an electronic version of the report at the [Sustainability Report Download Area](#) on the GlobalWafers website for download and review.

✦ Contact

Should you have any comments or suggestions regarding this report, please feel free to contact us in one of the following ways:

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Address: Hsinchu Science Park, No. 8, Industry East 2nd Road, East District, Hsinchu City, 300

E-mail: GWCIR@sas-globalwafers.com

Official website: <http://www.sas-globalwafers.com>



Sustainability Performance Overview

Aspects	Material topics	Relevant United Nations Sustainable Development Goals (SDGs)	2023 Target goals	2022 Target goals	Targets in 2022 Achievement status	Short-term goals (1~3 years)	Medium-term goals (3~8 years)	Long-term goals (8~13 years)	
Economic Aspect	Corporate Governance		Reach and maintain the top 5% ranking in the TPEX- listed category for corporate governance appraisal	Reach and maintain the top 5% ranking in the TPEX-listed category for corporate governance appraisal	Once again ranked in the top 5% among all TPEX-listed companies in terms of corporate governance appraisal according to the 9th Taiwan Stock Exchange corporate governance evaluation results	Achieved	Continue to maintain ranking in the top 5% of all TPEX-listed companies for corporate governance appraisal	—	
	Integrity and Ethics / Anti-corruption	 	<ul style="list-style-type: none"> Implement integrity and ethics training for new employees Maintain and continue to optimize risk monitoring system in integrity and ethics (email keywords control/whistleblowing system, etc.) No incidents of unethical or dishonest behavior 	No incidents of unethical or dishonest behavior	No incidents of unethical or dishonest behavior	Achieved	<ul style="list-style-type: none"> Implement integrity and ethics training for new employees Maintain and continue to optimize risk monitoring system in integrity and ethics (email keywords control/whistleblowing system, etc.) No incidents of unethical or dishonest behavior 	—	
	Operation Performance			Continuous profit	Continuous profit	Annual EPS reached NT\$35.31	Achieved	Continue to make profits and maintain a good financial structure (for sustainable growth)	—
				Maintain a good financial structure (maintain twAA- /twA-1+ in Taiwan Ratings)	Maintain a good financial structure (maintain twAA- /twA-1+ in Taiwan Ratings)	The Company's excellent operating capacity has also obtained the long-term issuer's "twAA-" credit rating, short-term issuer's "twA-1+" credit rating, and a rating outlook of "stable" by Taiwan Ratings	Achieved	Maintain a good financial structure (maintain twAA- /twA-1+ in Taiwan Ratings)	—
	Legal Compliance			<ul style="list-style-type: none"> Update the internal measures of domestic companies weekly according to the changes in laws and regulations Adjust the internal measures of overseas companies according to general industry guidelines (RBA code) and the changes in laws and regulations as reported by the plants Track and update export control regulations and internal training across plants 	Inspect and revise relevant internal regulations of overseas subsidiaries on labor, environmental safety, anti-bribery and anti-corruption, anti-monopoly, whistleblower protection mechanisms, export control (US Export Administration Regulations)	Inspect and revise relevant internal regulations of overseas subsidiaries on labor, environmental safety, anti-bribery and anti-corruption, anti-monopoly, whistleblower protection mechanisms, export control (US Export Administration Regulations)	Achieved	<ul style="list-style-type: none"> Update the internal measures of domestic companies weekly according to the changes in laws and regulations Adjust the internal measures of overseas companies according to general industry guidelines (RBA code) and the changes in laws and regulations as reported by the plants Track and update export control regulations and internal training across plants 	—



- About This Report | [Sustainability Performance Overview](#) | [Message from the Chairperson](#) | [About GlobalWafers](#)

Aspects	Material topics	Relevant United Nations Sustainable Development Goals (SDGs)	2023 Target goals	2022 Target goals	Targets in 2022 Achievement status		Short-term goals (1~3 years)	Medium-term goals (3~8 years)	Long-term goals (8~13 years)
Environmental Aspect	Energy resource consumption and greenhouse gas (GHG) emissions reduction (2019 as base year)	 	Electricity unit energy consumption reduction \geq 3%	Electricity unit energy consumption reduction \geq 2%	Energy consumption per unit of plants worldwide reduced by 9.38% compared with the base year	Achieved	Compared to 2019 (base year): 2025 energy unit consumption reduction \geq 5%	Compared to 2019 (base year): 2030 energy unit consumption reduction \geq 10%	Compared to 2019 (base year): 2035 energy unit consumption reduction \geq 15%
			GHG unit emission reduction \geq 3%	GHG unit emission reduction \geq 2%	15.69% reduction in GHG unit emissions from plants worldwide compared to base year	Achieved	Compared to 2019 (base year): 2025 GHG unit emission reduction \geq 5% (represented by calculating indirect carbon emissions caused by electricity purchase)	Compared to 2019 (base year): 2030 GHG unit emission reduction \geq 10% (Represented by calculating indirect carbon emissions caused by purchase of electricity)	Compared to 2019: 2035 GHG unit emission reduction \geq 15% (Represented by calculating indirect carbon emissions caused by purchase of electricity)
			Water unit consumption reduction \geq 4%	Water unit consumption reduction \geq 2%	Water unit consumption for plants worldwide reduced by 26.68%	Achieved	Compared to 2019 (base year): 2025 water unit consumption reduction \geq 6%	Compared to 2019 (base year): 2030 water unit consumption reduction \geq 11%	Compared to 2019: 2035 water unit consumption reduction \geq 16%
	Pollution prevention		Zero abnormal incidents reported to the competent authority	Continue to maintain zero abnormal incidents reported to the competent authority	No pollution prevention related abnormal incidents	Achieved	Continue to maintain zero pollution prevention related abnormal incidents		
	Waste Management (2019 as base year)	 	Cumulative increase of waste management (recycling and reuse treatment ratio for the total waste volume) to 83%	Cumulative increase of waste management (recycling and reuse treatment ratio for the total waste volume) to 82%	Waste management (recycling and reuse treatment ratio for the total waste volume) cumulatively increased to 81.21% (mainly due to change in waste handling method in Italian plant)	Not achieved	Compared to 2019 (base year): cumulatively increase waste management (recycling and reuse treatment ratio for the total waste volume) to 85% by 2025	Compared to 2019 (base year): cumulatively increase waste management (recycling and reuse treatment ratio for the total waste volume) to 90% in 2030	Compared to 2019: cumulatively increase waste management (recycling and reuse treatment ratio for the total waste volume) to 95% by 2035



Aspects	Material topics	Relevant United Nations Sustainable Development Goals (SDGs)	2023 Target goals	2022 Target goals	Targets in 2022 Achievement status		Short-term goals (1~3 years)	Medium-term goals (3~8 years)	Long-term goals (8~13 years)
People aspect	Employee education & training	4 QUALITY EDUCATION	Average education and training hours for the Group's employees: 16 hours	Average education and training hours for the Group's employees: 16 hours	Average education and training hours for the Group's employees: 23.7 hours	Achieved	Average education and training hours for the Group's employees: 16 hours	—	—
			100% of new recruits receive orientation education and training	100% of new recruits receive orientation education and training	All new employees have completed the training on arrival	Achieved	100% of new recruits receive orientation education and training	—	—
	Friendly workplace (Including friendly workplace issues like occupational safety and hygiene, occupational health, etc.)	4 QUALITY EDUCATION	100% of new recruits complete workplace violence education and training within 30 days of arrival	100% of new recruits complete workplace violence education and training within 30 days of arrival	Some plants were not able to complete the training within 30 days due to the pandemic. All new employees completed the training subsequently	Not achieved	100% of new recruits complete workplace violence education and training within 30 days of arrival	—	—
			Environmental safety, emergency rescue, disaster prevention drills, and other education and training courses are held at least once every six months	Environmental safety, emergency rescue, disaster prevention drills, and other education and training courses are held at least once every six months	All plants conducted relevant trainings on a regular basis	Achieved	Environmental safety, emergency rescue, disaster prevention drills, and other education and training courses are held at least once every six months	—	—
			All employees receive ESG-related education and training at least once a year	All employees receive ESG-related education and training at least once a year	100% completion rate	Achieved	All employees receive ESG-related education and training at least once a year	—	—
			Zero work-related illness cases	Zero work-related illness cases	Zero work-related illness cases occurred	Achieved	Maintain Zero work-related illness cases for the Company	—	—
	Product quality and customer satisfaction	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE 17 PARTNERSHIPS FOR THE GOALS	Continuously improve quality and focus on product development to enhance customer satisfaction	Continuously improve quality and focus on product development to enhance customer satisfaction	Customer satisfaction with quality and product development for the year is > 80 points	Achieved	Continuously improve quality and focus on product development to enhance customer satisfaction	—	—
			Zero major occupational disasters	Zero major occupational disasters	One work-related death occurred in 2022	Not achieved	Maintain Zero major occupational disasters for the Company	—	—

Note: "—" in the table means there is no target set for the year

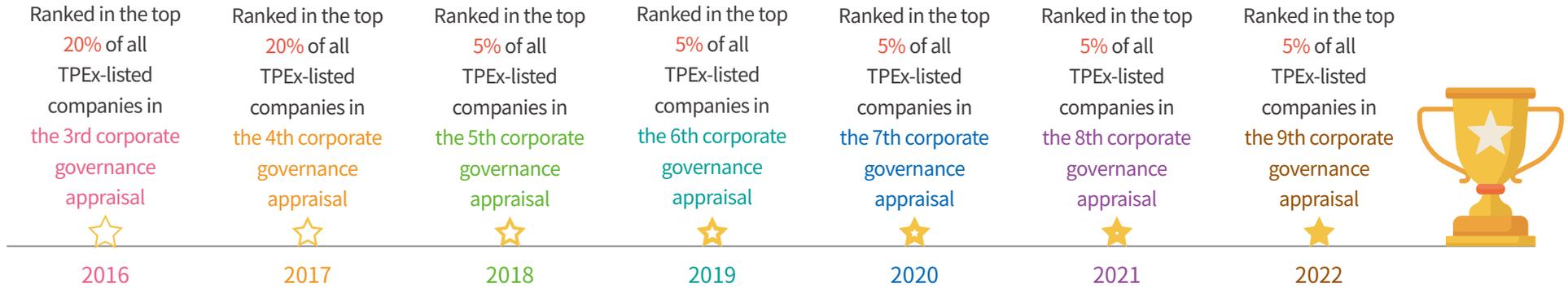




Economic Aspect

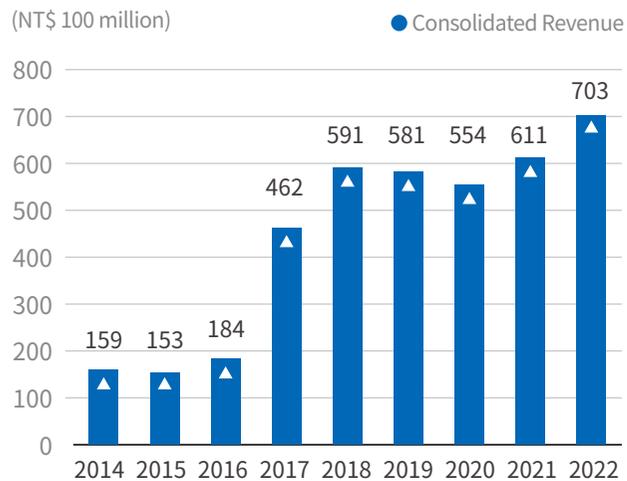
Corporate Governance KPI

Information disclosure and corporate governance appraisal and rating of TWSE listed companies

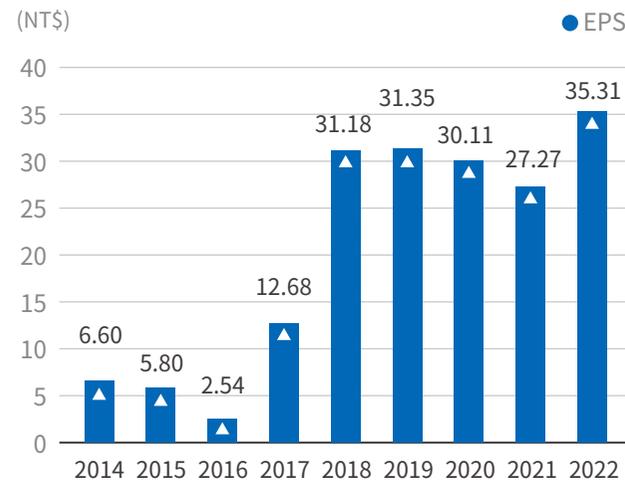


Key Economic Indicators

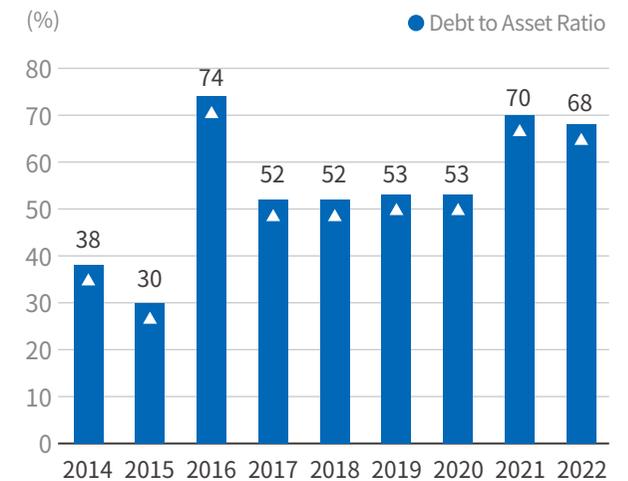
Revenue



EPS

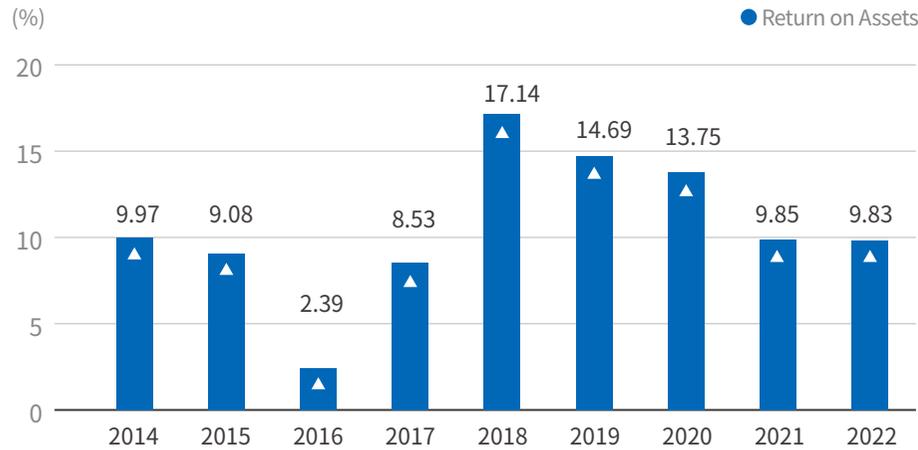


Debt to Asset Ratio

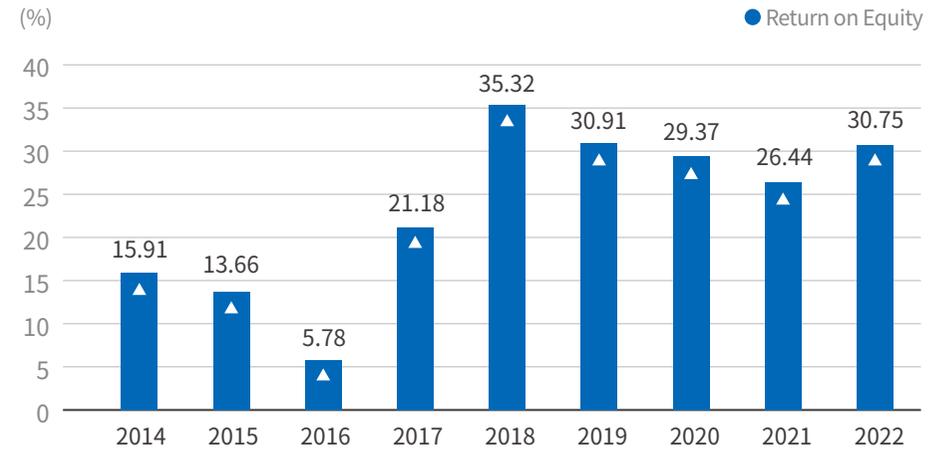




Return on Assets



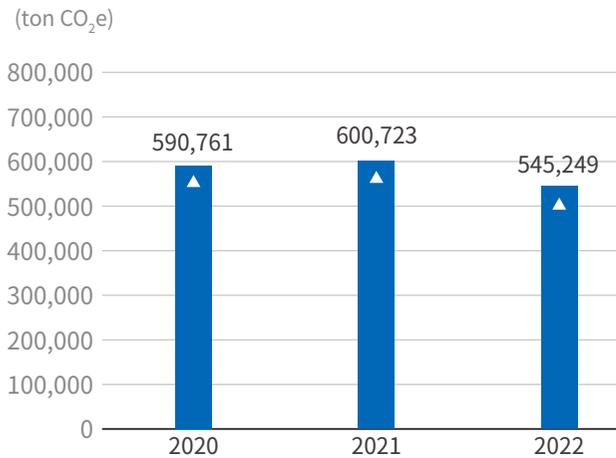
Return on Equity



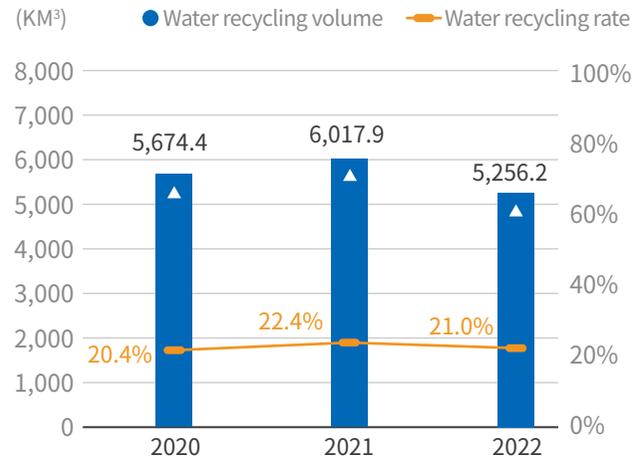
🚀 Environmental Aspect

Environment Performance KPI

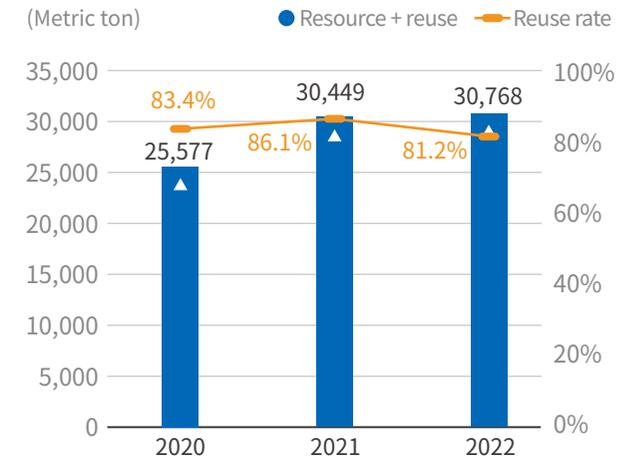
Carbon dioxide equivalent emissions (category 1~2)



Water Recycling



Waste Reused and Recycled





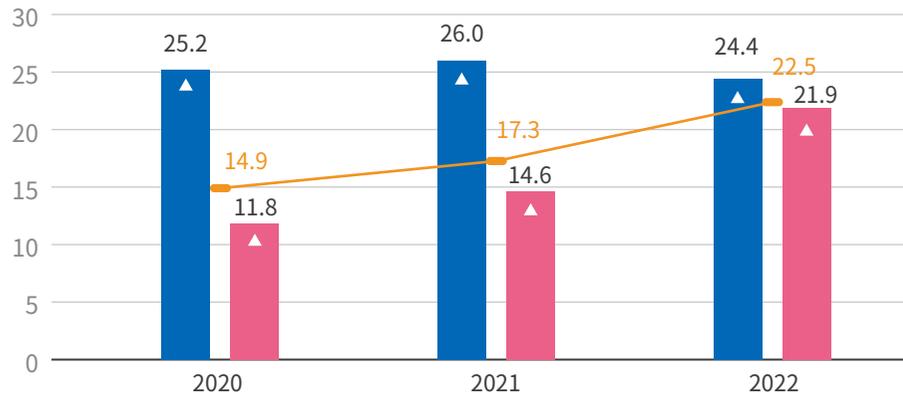
People Aspect

Key People Indicators

Average Training Hours per Employee

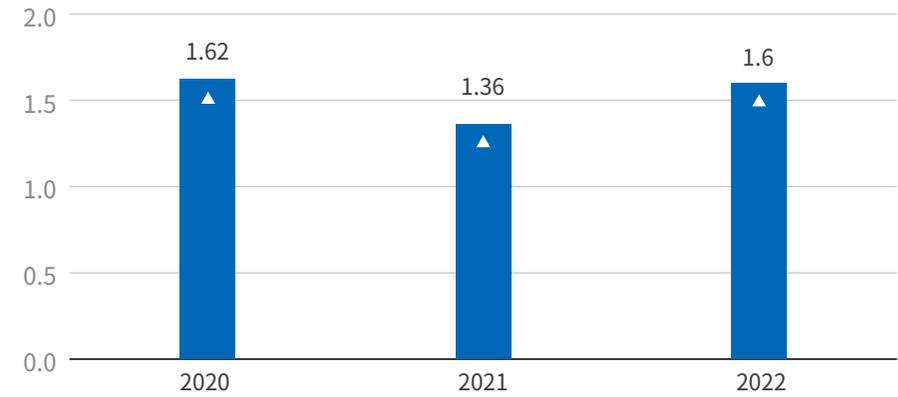
(Average Training Hours)

● Taiwan ● Offshore — Globalwafers



Disabling Frequency Rate

(FR)





Message from the Chairperson

2022 was a year full of challenges. With the world experiencing new outbreaks of coronavirus and the Russo-Ukraine war of the past few years causing many to lose their homes and loved ones, the world has experienced food shortages, energy crises, and inflation, resulting in a turbulent macroeconomic situation. In addition, with geopolitical issues, carbon emission requirements, and fluctuations in foreign exchange rates, companies can no longer focus solely on profitability and meeting customer requirements; they must also consider a more comprehensive set of change factors. Operational resilience, including the ability to adapt to changes and respond with agility, is an important topic for modern enterprises.

GlobalWafers has been actively improving itself since its establishment. It has a diffuse customer base due to its active business expansion. Having established operation bases throughout Europe, US and Asia, it is able to serve many local customers. When the construction of the US plant is completed, GlobalWafers' global presence will be increased to 18 operation and production bases across 9 countries. It will also be capable of complete processes, including ingot growth to epitaxy, in those three continents. Though geopolitical risk cannot be completely avoided, GlobalWafers' has significantly reduced its supply distance by use of local supply, which reduces risk exposure. GlobalWafers actively builds up its resilience to make it more able to navigate flexibly in today's ever-changing world.

Besides augmenting operation scale, GlobalWafers also hopes to make use of its economies of scale and its global bases as a strong force in shaping a sustainable environment to achieve responsible growth.

In terms of promoting ESG, GlobalWafers has set up a Corporate Sustainable Development Committee, with the Company chairperson acting as its Committee chairperson and CFO Ming-Huei Chien acting as both chief governance officer and director general. The Committee, which serves as the Company's highest-level decision-making center for sustainable development, coordinates the entire Company's corporate social responsibility and sustainable development direction and sets respective goals. Its three sub-committees are respectively in charge of environment, governance, and society. In addition, each unit of the Company is requested to set its business-related ESG goals and review its previous year's progress on said goals. Personnel from various departments conduct brainstorming sessions centered on the enterprise's green commitments to produce strategic goals and together promote progress in enterprise sustainability.

GlobalWafers is also committed to responsible business practices. In terms of operations, GlobalWafers has established regulations and measures such as its [Corporate Governance Best Practice Principles](#) and [Sustainable Development Best Practice Principles](#) as basis for internal compliance, and these regulations have been published in [Official Website/Investors' Corner/Corporate Governance/Company's Internal Regulations](#)

✦ Human rights policy

Employees are GlobalWafers' most valued partners, and a diversified employee base is one of the key factors for the Company's sustainable development. GlobalWafers' operation bases are distributed throughout the world. Following the principle of creating a friendly workplace, GlobalWafers is committed to equal treatment regardless of gender, age, or ethnic group. In addition to providing friendly working conditions, the Company also attaches great importance to the harmonious development of both society and environment.

GlobalWafers' operations in its various locations recognize and support the spirit and fundamental principles of human rights protection set forth in the Universal Declaration of Human Rights, United Nations Global Compact, and International Labour Conventions. GlobalWafers established its human rights policy in accordance with labor laws and regulations and the above-mentioned international human rights conventions and strives to create a work environment with a basis on equality, safety, and dignity.

GlobalWafers also implements measures for safe working conditions. All its commercial transactions, business relationships, supply chain activities, and personnel recruitment and appointment comply with ethical conduct and with the principle of integrity, and the Company strictly forbids illegal discrimination. GlobalWafers' human rights policies are disclosed in the [Company's respective Website Section](#).

✦ Business partners

GlobalWafers references the [Ethical Corporate Management Best Practice Principles](#) and [Procedures for Ethical Management and Guidelines for Conduct](#) to regulate its relationships with its business partners. Before establishing a business relationship with a customer or supplier, GlobalWafers must conduct an operational integrity assessment to ensure the prospective business partner abides by the Company's Ethical Corporate Management Best Practice Principles.

■ Suppliers

All transactions between GlobalWafers and its suppliers are handled in accordance with the Company's [Ethical Corporate Management Best Practice Principles](#). GlobalWafers has established a [Supplier Code of Conduct](#), which requires its suppliers to sign the "[Supplier's Declaration on Compliance with Supplier Code of Conduct](#)" and comply with the regulations concerning anti-bribery and anti-corruption, social and environmental responsibilities, conflict-free minerals, compliance with trade laws, and non-infringement. Regular or occasional audits are conducted on suppliers to review their implementation of the code.



■ Customers

GlobalWafers and its customers enter into confidentiality agreements before cooperation to safeguard the confidential information of both parties. GlobalWafers has established the Process of Customer Complaints Management to maintain good communications with its customers and create effective product and service feedback procedures.

✦ Green commitments – RE100

In response to the quickening pace of climate change and frequent occurrence of abnormal climate events, GlobalWafers announced in 2021 that the Group will endeavor to meet the goal of using 100% renewable energy by 2050. In October 2022, GlobalWafers officially joined the RE100 initiative, thus restating its determination to environmental protection and sustainability, implementing the principle of responsible growth, and fulfilling corporate, and social responsibilities to the environmental, occupational health and safety, and corporate governance.

In order to achieve the 100% renewable energy goal, GlobalWafers adopts a two-pronged approach in which it (1) reduces electricity consumption for existing equipment and actively optimizes the usage efficiency of major energy-consuming equipment in its daily operations; and (2) in terms of its future energy blueprint, it expands on existing solar energy plants and builds new plants by signing into Power Purchase Agreements (PPA) and purchasing Renewable Energy Certificates (RECs) and it increases its green energy usage ratio by leveraging the abundant experience and advantages of the vertically integrated supply chain of its parent company, Sino-American Silicon Products Inc., a green energy total solution provider. Milestones for the proportion of renewable energy usage in each stage are 20% by 2030, 35% by 2035, 50% by 2040, and 100% by 2050. In setting the goal and milestones, the Company is committed to play a part in environmental sustainability by reducing carbon emission from the power generation process.

Although GlobalWafers reported increased capital expenditure in 2022, its total electricity consumption was down 1.3% (15,090 MWh) from the previous year, thanks to its adoption of various energy-saving measures. Moreover, in 2022, electricity consumption per unit of its global sites was reduced by 3.12%, cutting greenhouse gas emissions by 8.75%, and unit water consumption dropped 7.31%. These results are a testament to the group’s efforts in energy conservation and carbon reduction. By formally joining the RE100 initiative, GlobalWafers has made the commitment to go green, and to use resources in a way that is socially equitable, environmentally sustainable, and economically beneficial. It has successfully responded to the challenges of climate change while maintaining stable supply to customers around the world.



Chairperson and CEO of GlobalWafers

徐秀蘭





About GlobalWafers

Company Profile

Established on October 18, 2011 and headquartered in Hsinchu, Taiwan, GlobalWafers Co., Ltd. (hereafter “GlobalWafers”) specializes in manufacturing of 3” to 12” silicon wafers. Product applications span logic, memory, power management, automotive, IT, and MEMS. GlobalWafers is the world’s third largest semiconductor silicon wafer supplier as well as the largest domestic semiconductor silicon wafer supplier, not counting Japanese companies. Previously the semiconductor business unit of Sino-American Silicon Products Inc. (SAS), GlobalWafers spun off from SAS to become an independent company in 2011.

In 2012, GlobalWafers acquired Covalent, a subsidiary of Covalent Materials Corporation, a company ranked 6th in the world among wafer suppliers. In 2016, GlobalWafers acquired Denmark’s Topsil Semiconductor Materials A/S (hereafter “Topsil”) and SunEdison Semiconductor Limited (hereafter “SunEdison”) to become the 3rd largest wafer supplier worldwide. Since then, its has successfully advanced from Czochralski growth (CZ) wafers, expanding its product base to include large-size epiwafers, polished silicon wafers, silicon-on-insulator (SOI) wafers, annealed silicon wafers, and float zone (FZ) wafers. With its unparalleled operating model, market advantages, diversified product supply, as well as globally distributed bases and R&D capabilities, GlobalWafers has established a comprehensive product line along with a global presence in 17 operation sites that are strategically distributed throughout 9 countries in Asia, Europe, and the United States. GlobalWafers, with its comprehensive product portfolio, is set to accelerate the development of new technologies and new products and to continue its focus on serving customers, creating more value all around – for its customers, shareholders, and employees.

Product Portfolio	Wafer Diameter (Inches)				End-applications				
	<6”	6”	8”	12”					
Annealed Wafer			✓	✓	Memory	LCD Driver	Analog IC / Logic IC		
EPI Wafer (Epitaxial)	✓	✓	✓	✓	Power Device	Automobile	MPU/MCU	CMOS Image Sensor	
Polished Wafer	✓	✓	✓	✓	Communication	Power Device	Analog IC / Logic IC	Memory	
Diffused Wafer	✓	✓			Automobile	Electricity	Aerospace		
Non-polished Wafer	✓	✓			Discrete Device				
FZ Wafer (Float Zone)	✓	✓	✓		Medical Equipment	Wind Turbine	High Speed Rail	Automobile	
SOI Wafer (Silicon on Insulator)	✓	✓	✓	✓	High Voltage Power	MEMS Sensor/CMOS	CMOS	RF Device	Photonics
SiC Wafer (Silicon Carbide)	✓	✓			Automobile	High Voltage Power	High Speed Rail	Wind Turbine	
GaN /Si, GaN/SiC	✓	✓	✓		Solar Inverter	Power Supplies	RF Power		

GlobalWafers has endeavored to improve its operating performance by leveraging resource integration through strategic industry alliances, foreign investment, and reinvestment for improved business outcomes, an approach that has allowed it to make positive strides in the field and gain a stronger market position. Furthermore, GlobalWafers has extended its operational framework by embracing the group’s business model that places a premium on shareholder equity. Building on this foundation, GlobalWafers will continue to cultivate its existing core technologies, further implement product and enterprise diversification, and actively increase its global market share. These initiatives are geared towards advancing its leading global position in the wafer manufacturing field.



Basic Info



Company Name
GlobalWafers Co., Ltd.



Date of Establishment
October 18, 2011



Capital
NT\$4.352 billion



Main Product and Technology
3-inch to 12-inch silicon wafers



No. of Employees*
Taiwan: 1,711 employees; Offshore: 5,580 employees



Chairperson & CEO
Doris Hsu / Hsiu-Lan Hsu



President
Mark Lynn England



Headquarters
Hsinchu Science Park, No. 8, Industry East 2nd Road, East District, Hsinchu City, 300



Countries of Operation
Taiwan, China, Japan, South Korea, Malaysia, United States, Italy, Denmark, Singapore

Operation & Manufacturing Bases

GlobalWafers is headquartered in Hsinchu with production and operational sites in Taiwan, China, Japan, South Korea, Malaysia, the United States, Italy, Denmark, and Singapore. At present, its products are mainly sold in Asia, Europe, and the Americas. GlobalWafers possesses advantages in global and local supply and is able to flexibly allocate global production capacity and shipments, making it a partner that customers trust.



01 Taiwan (GlobalWafers Headquarters)
GlobalWafers Hsinchu Plant
GlobalWafers Chunan Plant
GlobalWafers Taisil Branch

04 South Korea
MEMC Korea Company

07 Italy
MEMC Electronic Materials, S.p.A.

02 China
Kunshan Sino Silicon Technology Co., Ltd.

05 Malaysia
MEMC Electronic, Materials Sdn. Bhd.

08 Denmark
Topsil GlobalWafers A/S

03 Japan
GlobalWafers Japan Co., Ltd.
MEMC Japan Ltd.

06 United States
GlobiTech Incorporated.
MEMC LLC

09. Singapore
GlobalWafers Singapore, Pte. Ltd.

* The number of employees is current as of December 31, 2022



✦ Participation in Associations

Association/organization	Participant	Member	Role
Taiwan Semiconductor Industry Association (TSIA)		●	
SEMI		●	Director
SEMI SMG	●	●	Vice Chairman
SEMI Semiconductor Climate Consortium		●	Founding Members
Japan Society of Newer Metals		●	
Federation of Malaysian Manufacturers (FMM)		●	
Malaysian Employers Federation (MEF)		●	
National Institute of Occupational Safety & Health (NIOSH)		●	
Local Industrial Association		●	
The Korea Chamber of Commerce & Industry		●	
Korea Environmental Preservation Association		●	
Korea Industrial Safety Association		●	
Korea Fire Safety Association		●	
High Power Device application and Research Allianc		●	
Allied Association for Science Park Industries		●	
Institute of Internal Auditors (IIA)-Taiwan Chapter		●	

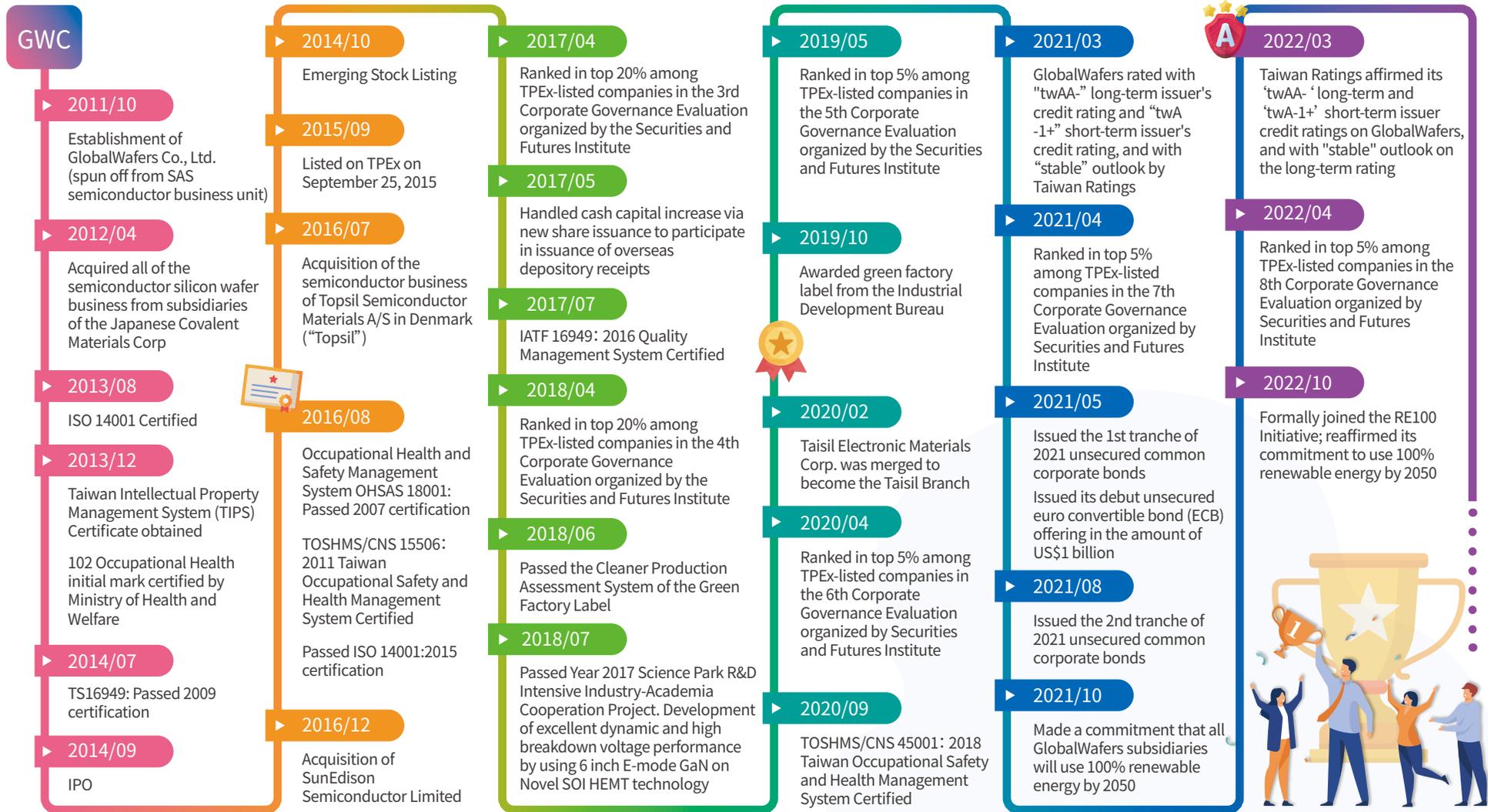
Association/organization	Participant	Member	Role
Computer Audit Association		●	
Taiwan Business Council for Sustainable Development		●	
Taiwan Compound Semiconductor and Equipment Industry-Academia Alliance	●	●	Chairman
Taiwan Institute of Chemical Engineers		●	
Spring Foundation of National Chiao Tung University		●	Director
Taiwan Space Agency		●	Director
Korean Nurses Association		●	Director
Local Emergency Planning Committee (LEPC)		●	
Sherman Safety Leaders Forum		●	
Sherman HR Networking Team		●	
Kiyohara Industrial Park Association	●	●	
SEMI Electronic Materials Group	●	●	
SEMI Test Method Task Force	●	●	
Japan Society of Abrasive Technology	●	●	
RE100		●	
Semi Standards	●	●	





Company Chronology

Development History





Awards

▶ 2011

2011/12
Granted Taiwanese Entrepreneur President Excellence Award from 29th Chinese Professional Management Association



▶ 2012

2012/09
2012 Parent company Sino-American Silicon's acquisition of Covalent granted 2012 Most Representative Award by MAPECT



▶ 2013

2013/12
Certified Healthy Work Environment



▶ 2016

2016/06
Recognized for excellent performance in energy conservation by Bureau of Energy, MOEA



2016/08
TOSHMS/CNS 15506: 2011 Taiwan Occupational Safety and Health Management System Certified (see the folder for original pictures)



2016/08
OHSAS 18001: 2007 Occupational Health and Safety Management System Certified (see the folder for original pictures)



2016/08
ISO 14001: 2015 Environmental Management System Certified



▶ 2017

2017/05
Outstanding Cooperation Supplier Award From HHGrace



2017/06
Front End Direct Materials Supplier of the Year Award from ON Semiconductor



2017/07
IATF 16949: 2016 Quality Management System Certified (see the folder for original photo)



2017/12
VP C.W. Lee awarded certificate of appreciation from SEMI SMG



2017/12
Acquisition of SunEdison Semiconductor Limited won Most Representative Award by MAPECT Taiwan as well as Best Cross-border M&A Award



▶ 2018

2018/01
GlobalWafers Awarded Triple A Country Award Taiwan 2017 - Best GDR by The Asset



2018/06
Passed Cleaner Production Assessment System of the Green Factory Label



2018/11
Awarded 1 Gold Tower, 2 Silver Towers, and 1 Copper Tower from Corporate Synergy Development Center in the 31st OCC competition



▶ 2018/12

Granted Excellent President Award from 36th Chinese Professional Management Association



▶ 2019

2019/01
Passed green building certification and won gold medal



2019/05
Won 2019 Technology Industry Happy Enterprise Award



2019/05
Ranked in top 5% among TPEX-listed companies in the 5th Corporate Governance Evaluation organized by Securities and Futures Institute



2019/07
Won Best Quality Award from HHGrace



2019/10
Awarded green factory label from the Industrial Development Bureau



2019/11
SGS ISO 45001 Plus Award Model Award



2019/12
Won Gold Tower Award for the 2019 Taiwan Continuous Improvement Competition held by the Corporate Synergy Development Center



▶ 2019/12

The materials from the subsidiary of GlobalWafers, Taisil Electronic, received the Golden Tower Award of the 2019 Taiwan Continuous Improvement Award organized by the Corporate Synergy Development Center



▶ 2020

2020/04
Finalist for top 5% among TPEX-listed companies in the 6th Corporate Governance Evaluation



2020/09
Enthusiastically assisted in the 2020 Hsinchu Science Park Industrial Safety and Environmental Protection Month Event



2020/09
Certified by CNS 45001: 2018



2020/09
Hsinchu and Chunan plants both won 2020 Annual Waste Reduction and Circular Economy Outstanding Enterprise Award



2020/09
Taisil Branch won the SGS ISO 45001 Plus Award Model Award



2020/12
Won Gold Tower Award and Silver Tower Award in the 2020 Taiwan Continuous Improvement Competition held by the Corporate Synergy Development Center



▶ 2021

2021/03
The Utsunomiya Factory (MJL) was awarded the "Eruboshi" label for the business promoting female participation and career advancement in the workplace



2021/04
Finalist for top 5% among TPEX-listed companies in the 7th Corporate Governance Evaluation



2021/05
Ranked among top 100 companies by Commonwealth Magazine in 2020



2021/11
Won Copper Award in the 3rd Term of the National Enterprise Environmental Protection Award from the Environmental Protection Administration, Executive Yuan



2021/11
Awarded Best Trading Contribution in the 2021 Awards for Excellent Trading Businesses of the Bureau of Foreign Trade, MOEA



2021/12
Mr. Ming-huei Chien, CFO, awarded Excellent Manager Award - CFO by the 39th Chinese Professional Management Association



2021/12
Won Gold Tower Award in the 2021 Taiwan Continuous Improvement Competition held by the Corporate Synergy Development Center



▶ 2022

2022/01
Hsinchu and Chunan plants awarded Badge of Accredited Healthy Workplace by the Health Promotion Administration, MOHW



2022/04
Received Supplier Excellence Award from Texas Instruments



2022/04
Finalist for top 5% among TPEX-listed companies in the 8th Corporate Governance Evaluation



2022/05
Ranked among top 100 companies by Commonwealth Magazine in 2021



2022/09
Received the Excellent Vendor Award from HHGrace



2022/11
Chairperson Hsiu-Lan Hsu was awarded Asia's Power Businesswomen in 2022 by Forbes



2022/11
Received National Enterprise Environmental Protection Award and Taiwan Corporate Sustainability Award



2022/12
Received three Silver Tower Awards from the 2022 Taiwan Continuous Improvement Award organized by the Corporate Synergy Development Center



2022/12
Production Vice President of Taisil Branch, Chun-Jung Huang, was awarded the 40th National Manager Excellence Award - Production Manager Award from the Chinese Professional Management Association



2022/12
Chunan Plant's strong foundation in green processes won the 2022 Excellent Energy-Saving Manufacturer award



2022/12
GlobalWafers was selected for the 2022 Taiwan Best-in-Class 100





01

Materiality and Stakeholder Engagement & Analysis

1.1	Identification of issues	19
1.2	Evaluation of degree of concern and degree of impact	22
1.3	Prioritize reporting of impact based on highest degree of significance	22

GlobalWafers has redefined its method for materiality assessment in accordance with the four-step materiality determination process provided in the latest GRI Standards (2021). This year, the “degree of concern” and “degree of impact” relating to topics of sustainability are used as the principles for materiality evaluation in identifying and evaluating the 11 material topics of GlobalWafers in terms of corporate governance, economy, environment, and people (including human rights). Lastly, the 25 sustainability topics are ranked according to degree of significance. The top 10 material topics are listed in the Report; also, management approaches are established and targets set for regular follow-up and management. Other material topics are discussed in the Report, but other than observation, no management measures are established and no targets set.

In the future, we will conduct the material topic identification process once every three years (or when there are major revisions and updates in the guidelines) and regularly review the impact of said topics.

- 1.1 Identification of issues | 1.2 Evaluation of degree of concern and degree of impact | 1.3 Prioritize reporting of impact based on highest degree of significance

1.1 Identification of issues

Identifying stakeholders and communicating with them are at the core of corporate social responsibility. Based on operational characteristics and cross-departmental discussions, GlobalWafers has identified its stakeholders, including: employees, customers, shareholders (investors), suppliers (contractors), government agencies (Science Park Bureau, Environmental Protection Bureau, Environmental Protection Administration, Bureau of Energy, Ministry of Labor) and the media, among others. GlobalWafers aims to understand stakeholders’ expectations through regular and irregular exchange and engagement over multiple channels; and that understanding is a source of information for sustainability topics and impact evaluation.

★ Stakeholder Engagement and Response

Primary stakeholders	Significance to GlobalWafers	Communication channel	Communication frequency	Issues of concern	Our Responses
<p>Customers</p>	Company’s main source of revenue	Operation meetings	Occasional	<ul style="list-style-type: none"> ■ Service ■ Quality & price ■ Hazardous substances management ■ Business continuity management 	<ul style="list-style-type: none"> ■ Adhere to the spirit of customer satisfaction. The quality assurance unit must conduct interviews and propose the corresponding improvement plan for customer survey items that have lower levels of satisfaction. ■ Actively understand customer voices. When customers have requirements, the organization must evaluate and discuss feasible solutions to meet those requirements.
		Annual customer satisfaction survey	Once a year		
		Customer audit	Occasional		
		Appeal/complaints telephone or email	Occasional		
<p>Employees/Union</p>	Employees are the Company’s most important asset. Only by taking good care of employees can the company and its employees grow together	Internal website and emails	Occasional	<ul style="list-style-type: none"> ■ Occupational safety ■ Human rights ■ Emergency Response ■ Job opportunities ■ Equal pay for equal work between men and women 	<ul style="list-style-type: none"> ■ We believe that employees are GlobalWafers’ most important assets, and only through a good, long-term labor-management relationship can we develop the organization sustainably. We have formulated formal provisions and continued to provide bilateral communication via our internal website, complaint mailbox, labor conferences, and face-to-face talks to ensure that employees’ voices are valued. ■ To attract and retain outstanding talent, the Company offers competitive salaries and sets the salary adjustment standards yearly according to the relevant data. ■ The Company has established a staff restaurant to provide free meals for employees during work. In addition to statutory labor and health insurance, the Company also provides group insurance superior to that required by law. It offers insurance to enhance employees’ protection and protect their right to work depending on the specific social circumstances. For example, we provided epidemic prevention insurance to employees during the pandemic. Moreover, we have also established a welfare committee and additional employee care programs according to law. These include employee travel, festival allowances, health examinations, and community activities. Employees are welcomed to fully participate in the Company’s process for welfare improvement and innovation and to help the Company to formulate creative welfare measures. ■ The Company adheres to the concept of ensuring the safety and health of the employee work environment and uses the organization’s system to create a healthy and safe working environment for employees.
		Company bulletin board	Occasional		
		Labor-Management Conference (Taiwan)	Four meetings per year		
		Complaint boxes or hotlines	Occasional		
		Performance appraisal interviews	Once a year		
		All organizational meetings	Occasional		
		Union member meeting	Occasional		

- 1.1 Identification of issues | 1.2 Evaluation of degree of concern and degree of impact | 1.3 Prioritize reporting of impact based on highest degree of significance

Primary stakeholders	Significance to GlobalWafers	Communication channel	Communication frequency	Issues of concern	Our Responses
<p>Shareholder/ Investor</p>	<p>All shareholders are investors of the Company, and information to be disclosed shall be disclosed in a fair manner</p>	<p>Shareholders meeting, earnings call, overseas and domestic investment institute seminars, and face-to-face communication meetings</p>	<p>In 2022, held 1 shareholders meeting and 4 earnings calls, and was invited to attend 11 overseas and domestic investment institute seminars</p>	<ul style="list-style-type: none"> ■ Sound finance ■ Integrity & Ethics ■ Risks & Crisis Management ■ Financial performance ■ Management strategies & financial goals ■ Legal Compliance ■ Business continuity management 	<ul style="list-style-type: none"> ■ Continue using our stable financial structure and abundant management experience to engage in performance management and operational improvement, and thus improve overall operational performance. ■ Establish new and strengthen existing close interaction and communication channels with investors, domestic and foreign media, legal persons, and shareholders. ■ Continue improving corporate governance performance and make our commitment to sustainable operations a reality. ■ “Integrity management is achieved by compliance with laws and regulations.” That said, the Company has actively organized education and training and integrity management policy advocacy to promote the integrity policy and its importance to directors and employees.
		<p>Company annual report</p>	<p>Once a year</p>		
		<p>News announcement on the company website and the Market Observation Post System</p>	<p>Occasional</p>		
		<p>Collecting and replying to messages via telephone or emails</p>	<p>Occasional</p>		
<p>Suppliers/ Contractors</p>	<p>Suppliers are the Company’s partners and must also maintain our ideals in order to provide services in line with our needs</p>	<p>Operation meetings</p>	<p>Occasional</p>	<ul style="list-style-type: none"> ■ Integrity & Ethics ■ Management strategies & financial goals ■ Source Reduction 	<ul style="list-style-type: none"> ■ Reduce costs by localizing suppliers. ■ Establish a supplier evaluation management process. ■ Formulate contractor management procedures and establish a contractor construction management system to manage all contractors who have entered the plants systematically.
		<p>On-site audit</p>	<p>Occasional</p>		
		<p>Collecting and replying to messages via telephone or emails</p>	<p>Occasional</p>		
<p>Governmental institutes</p>	<p>Maintain a smooth and positive communication relationship, and convey the Company’s determination to comply with legal requirements</p>	<p>Correspondence of official documents, meetings (public hearings or conferences)</p>	<p>Occasional</p>	<ul style="list-style-type: none"> ■ Water Resources Management ■ Waste Management ■ Source Reduction ■ Legal Compliance ■ Climate Change Risks and Opportunities 	<ul style="list-style-type: none"> ■ Regularly review content of regulations and stay up-to-date on the latest regulatory trends. ■ Participate in competent authority regulatory meetings and understand the requirements. ■ Communicate with competent authorities through association or union channels. ■ Cooperate with competent authorities for plant visits or during unscheduled plant audits.
		<p>By communicating and meeting with associations or unions</p>	<p>Occasional</p>		
<p>The Media</p>	<p>We have a contact channel with the media and provide occasional industry and corporate news that is correct, fair, and objective</p>	<p>Releasing news We occasionally receive interviews from the media and provide industry news</p>	<p>We release an average of 2 to 3 news articles each quarter</p>	<ul style="list-style-type: none"> ■ Climate Change Risks and Opportunities ■ Financial Performance ■ Legal Compliance 	<ul style="list-style-type: none"> ■ Contact the media on occasion to let media professionals conduct interviews that can help them better understand the Company’s industry and operating performance. ■ Issue press releases on revenue and earnings calls. ■ Provide transparent information disclosure to comply with the principles of completeness, real-time, and fairness.



- 1.1 Identification of issues | 1.2 Evaluation of degree of concern and degree of impact | 1.3 Prioritize reporting of impact based on highest degree of significance

✦ Compilation of sustainability topics

In order to find potential material topics, GlobalWafers compiled 25 sustainability topics from international sustainability standards and regulations, the UN's Sustainable Development Goals (SDGs), responsible investment, industry trends, interaction with stakeholders, and investigated the impact caused by each topic.

Source of topics

International Sustainability Standards and Regulations

Reference international sustainability guidelines, such as the GRI Sustainability Reporting Guidelines, Responsible Business Alliance (RBA), Task Force on Climate-Related Financial Disclosures (TCFD), Carbon Disclosure Project (CDP)

SDGs

Assess the 17 SDGs and their 169 targets, and select the actions to which GlobalWafers can contribute

Responsible Investment

Reference rating indicators such as the Dow Jones Sustainability Index (DJSI), MSCI ESG Leaders Indexes), FTSE4Good Index, Sustainability Accounting Standards Board (SASB)

Industry trends

Topics of concern to international sustainable leadership, information technology industry, and other industries

Topics of concern for stakeholders

Topics of concern for stakeholders such as employees, customers, supply chain and business partners, investors, governments and NGOs, academic units, society (including communities and media)

Sustainability Topics

Corporate governance and operations

- Risks and crisis management
- Management strategies and financial goals
- Information security and personal information protection
- Corporate governance
- Integrity & ethics
- Legal compliance

Innovation and Customer Service

- Product quality
- Financial performance and financial soundness
- Sustainable supply chain management
- Innovation management
- Customer service
- Tax

Sustainable Environment

- Air pollution prevention
- Waste Management
- Climate Change Risks and Opportunities
- Water Resources Management
- Prevention of hazardous substances in products
- Source Reduction
- Biodiversity

Friendly workplace (including Human Rights)

- Occupational health and safety
- Talent cultivation
- Job opportunities
- Labor equality, equal pay for equal work
- Human rights
- Social Participation



- 1.1 Identification of issues | 1.2 Evaluation of degree of concern and degree of impact | 1.3 Prioritize reporting of impact based on highest degree of significance

Material Topics Boundaries and GlobalWafers' Value Chn Relationship

Topic aspect	Material sustainability topic	Corresponding GRI standard	Corresponding SASB standard	Value chain impact boundary			Report chapter and section
				Upstream	Operations	Downstream	
Economy Aspect	Legal compliance	GRI307 GRI419	-	▲	■	▲	2.2.4 Legal Compliance
	Sound finance	GRI201	-		■		2.3 Operational Performance
	Management strategies and financial goals	GRI201	-	■	■	▲	2.3 Operational Performance
	Financial performance	GRI201	-		■		2.3 Operational Performance
Environment Aspect	Climate Change Risks and Opportunities	GRI305	TC-SC-110a.1 TC-SC-110a.2	■	■	■	4.1 Climate Change Risks and Opportunities
	Water Resources Management	GRI303	TC-SC-140a.1		■	▲	4.3.3 Water Resources Management for Relevant Data and Coverage of Information
	Waste Management	GRI306	TC-SC-150a.1		■	▲	4.2 Waste Management
	Source reduction	GRI301 GRI302 GRI303	TC-SC-130a.1		■		4.3 Source Reduction
People Aspect	Occupational health and safety	GRI403	TC-SC-320a.1 TC-SC-320a.2		■		5.2 Occupational Health and Safety
	Product quality	GRI 2-6	-		■	■	3.1 Innovation Management 3.2 Product Quality 3.3 Customer Service
	Talent cultivation	GRI404	TC-SC-330a.1		■		5.1.3 Talent Cultivation
	Customer service	GRI 2-6	-		■	■	3.1 Innovation Management 3.2 Product Quality 3.3 Customer Service

Impacts: ■ Direct/ ▲ Indirect



- 1.1 Identification of issues | 1.2 Evaluation of degree of concern and degree of impact | 1.3 Prioritize reporting of impact based on highest degree of significance

Material Topics and Risk Management

Material topic	Risks consideration	Risk attribute	Risk assessment and mitigation actions	Likelihood and timeframe of occurrence	Severity
Occupational health and safety	<ul style="list-style-type: none"> Earthquake, fire Occupational accidents, chemical hazards 	Potential negative impacts	<ul style="list-style-type: none"> Earthquake or fire damages machinery or equipment, resulting in operational interruption, financial loss 	May occur in the next 3 to 5 years	Moderate-Severe
Climate Change Risks and Opportunities	<ul style="list-style-type: none"> Climate disaster causing operational impact Stakeholders requesting to use renewable energy, resulting in increase in cost that may even affect orders Power shortage or interruption Consideration of the Company's use of renewable energy, RE100 declaration 	<ul style="list-style-type: none"> Potential negative impacts Operational risk 	<ul style="list-style-type: none"> Greenhouse gas emitted by GlobalWafers from operations and production will accelerate global climate change, causing irreversible harm to the environment GlobalWafers continues to optimize energy consuming equipment and energy efficiency to save energy and reduce carbon emissions; it introduced renewable energy and declared to join RE100 	May occur within 3 years' time	Major
Management strategies & financial goals	<ul style="list-style-type: none"> Affected by changes in the international political and economic situation 	Potential operational risk	<ul style="list-style-type: none"> Flexible deployment of global operation sites to mitigate the impact of specific events and strengthen corporate operational resilience 	May occur within the next 3 to 5 years	Moderate-Severe
Legal Compliance	<ul style="list-style-type: none"> Non-compliance matters 	Potential operational risk	<ul style="list-style-type: none"> Weekly updates of changes of domestic laws and regulations Overseas companies follow the general industrial standards, regularly report changes and conduct training across plants 	May occur within the next 3 to 5 years	Moderate-Severe
Product quality	<ul style="list-style-type: none"> Product quality is challenged 	Potential operational risk	<ul style="list-style-type: none"> Abnormal product quality and yield rates may cause products to be scrapped, affecting customer orders and Company operations 	May occur within the next 3 to 5 years	Major
Waste Management	<ul style="list-style-type: none"> Waste not handled appropriately, thus polluting the environment 	Negative impacts	<ul style="list-style-type: none"> Waste handling companies fail to handle the waste according to regulations, indirectly affecting the Company's reputation Implement circular economy, reduce waste generation; optimize waste handling company management 	May occur within the next 3 to 5 years	Moderate
Water Resources Management	<ul style="list-style-type: none"> Climate change results in reduced rainfall, causing water shortages 	Potential negative impacts	<ul style="list-style-type: none"> Implement various water-saving measures and modify process parameters to reduce water usage 	May occur within 3 years' time	Moderate-Severe
Customer Service	<ul style="list-style-type: none"> Leakage of customer specifics and confidential information Products unable to meet customer requirements 	Operational risk	<ul style="list-style-type: none"> Continuously improve quality and focus on product development to enhance customer satisfaction 	May occur within the next 3 to 5 years	Moderate
Financial Performance and Financial Soundness	<ul style="list-style-type: none"> Financial performance affected by macroeconomic changes and exchange rate fluctuations 	Potential operational risk	<ul style="list-style-type: none"> Establish a sound financial structure and maintain stable revenue and profits 	May occur within the next 3 to 5 years	Moderate-Severe
Source Reduction	<ul style="list-style-type: none"> High usage of polysilicon Unable to reduce waste, resulting in environmental pollution 	Potential negative impacts	<ul style="list-style-type: none"> Improve various manufacturing processes to increase production efficiency Recycle waste into resources Introduce clean production technologies and management methods 	May occur within 5 years' time	Moderate



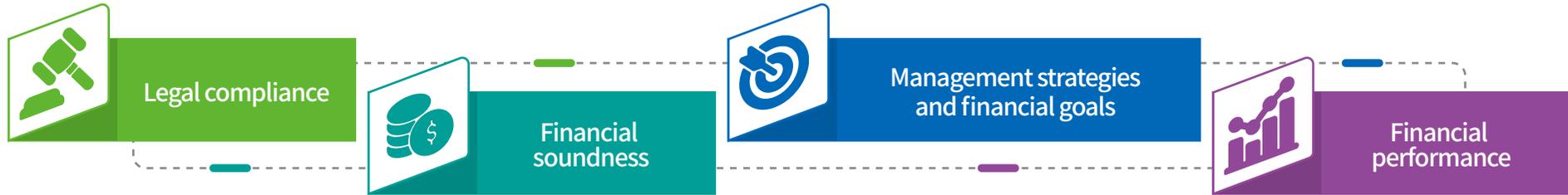
02

Governance and Operation

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/Material Issues/



/Significance to GlobalWafers/

Core values of GlobalWafers - People, Integrity, Passion, Excellence, and Innovation. We firmly believe that by prioritizing people, upholding the principles of honesty and integrity, maintaining passion to both life and work, and exerting our best efforts, we will naturally outperform the rest. Diverse perspectives open the way to boundless creativity, which will ultimately transform into innovative technologies that will shape the future. All the while, we actively implement Corporate Social Responsibility (CSR) and build distinct value that defines the Company's and thus win the trust of investors, customers, as well as our valued employees, as we continue down the road of sustainable operations.

/Management /

✦ Policies

- ✓ Actively understand market trends and international events. Flexibly allocate and maintain stable shipments to meet customers' needs even under the impact of politics and pandemics.
- ✓ Actively enhance yield and remove bottlenecks to maximize existing capacities, properly control capital expenditure to ensure expansion plans are completed on schedule.
- ✓ Actively develop GaN/Si/SiC products and work with strategic partners to maximize our complementary material synergies.
- ✓ Expand collaboration among government, industry, and academy; deploy our advanced manufacturing process for niche applications and accelerate the development of new technologies.
- ✓ Improve operational performance of all businesses, integrate research, production, and marketing across regions for optimal benefits.

✦ Commitment

- ✓ Comply with the principle of responsible growth, fulfill corporate social responsibilities in environment, occupational health and safety, as well as corporate governance, so as to pursue sustainable growth.

✦ Goals

Short-term goals

- ✓ Strengthen our R&D links with downstream customers, develop high-efficiency niche products with our core technology capabilities, and actively reduce manufacturing costs to increase profit margins.
- ✓ Accelerate the production performance of 12" products and increase our global market share of 8" and 12" wafers.
- ✓ Combine the group's technologies, resources, and possibilities to enhance the multinational technology integration platform and comprehensively improve quality and customer satisfaction to meet market demand.
- ✓ Stabilize supply of key raw materials and parts to ensure good production quality and on-time delivery, so that the production line runs smoothly.
- ✓ Use existing customer networks to expand the customer base of new products, increase the utilization rate of production lines and enhance profitability.
- ✓ Keep a close eye on market trends and industry fluctuation; adjust business strategies when necessary; continue to develop high-value products and carry out patent protection measures to strengthen the Company's competitiveness.



Long-term goals

- ✓ Use the Group's high-end, market-leading technologies to develop GaN/Si/SiC chips suitable for applications in next-gen products; aim for large-sized, highly-doped silicon wafer and power semiconductor epitaxy technological development, so that we can become the world's largest silicon wafer supplier with the most comprehensive product line.
- ✓ Implement green manufacturing, fulfill corporate social responsibility, enhance corporate governance to further reinforce our foundation in sustainable operations.
- ✓ Adopt renewable energies, enhance energy utilization efficiency and carbon removal, and purchase carbon offsetting products to achieve our goal of 100% clean energy utilization by 2050.
- ✓ Construct a resilient and flexible local supply chain and diversify suppliers to promptly address disruptions from pandemics and geopolitics.
- ✓ Expand to increase scale of operations, and at all times, keep up-to-date on industry trends, actively seek out government subsidies, and increase competitiveness in the silicon wafer industry.
- ✓ Actively sign long-term agreements with key partners to consolidate our cooperation.

✦ Systems

External systems

- ✓ Compliance with such external regulations as the Company Act, Securities and Exchange Act, Business Mergers and Acquisitions Act, Guidelines for Online Filing of Public Information by Public Companies, Fair Trade Act, and Labor Standards Act.

Internal systems

- ✓ Internal Control System; Articles of Incorporation; Acquisition or Disposal of Assets Procedure; Procedures for Endorsement and Guarantee; Procedures for Lending Funds to Other Parties; Policies and Procedures for Financial Derivative Transactions; Corporate Governance Procedures, Sustainable Development Best Practices Principles; Risk Management Policy and Procedure; Ethical Corporate Management Best Practice Principles, Code of Ethical Conduct; Measures for the Report on Illegal, Immoral and Dishonest Acts; Major Internal Information Processing Procedures; Insider Trading Prevention Operating Procedures; Rules Governing Public Information Reporting; Liability Commitment and Contingency Management Measures; Corporate Group Sector Specific Company and Affiliate Transaction Procedures; Financial Business Supervision and Management Practices between Affiliates; Long-term and short-term Investment Management Measures.

✦ Resources

- ✓ Invested NT\$2,089,325 thousand for R&D in 2022, which accounted for 2.97% of revenue.
- ✓ Our strong R&D teams is staffed with 136 R&D engineers from Taiwan and 117 from overseas.

✦ Concrete actions

- ✓ Initiate Annual Operation Plans and formulate KPIs for each department to strengthen internal operational management and control.
- ✓ Regularly convene business and production and marketing meetings to review goal-achievement status and propose improvement and response strategies for said goals.
- ✓ Establish an incentive system for improvement proposals to further enhance processes and quality
- ✓ Formulate appropriate risk measure methods for each department (including risk analysis and assessment) and set action items.
- ✓ Implement a legal mechanism and internal audits to facilitate our determination for sustainable development.

/2022 Key Results/

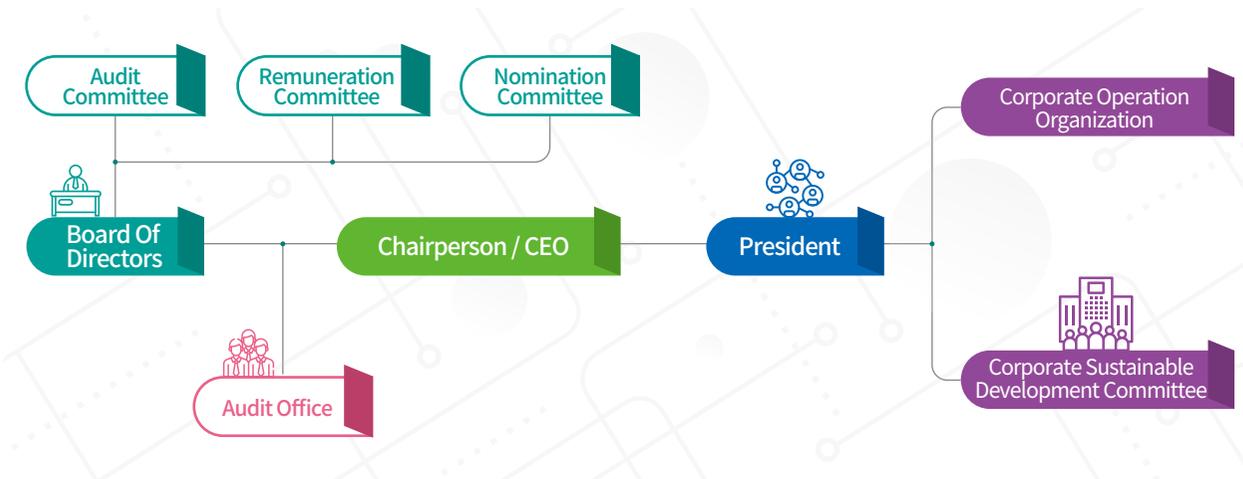
- Total consolidated revenue amounted to NT\$70.29 billion, for an annual growth rate of 15%, a historical high in annual revenue
- Gross profit margin reached a historical high of 43.2%
- Operating income margin reached a historical high of 35.5%
- Earnings Per Share (EPS) reached historical high of NT\$35.31
- As of 2022, the cumulative number of valid patents applications by GlobalWafers Group over the years has reached 1,999
- Ranked in the Top 5% among TPEX-listed companies in the 9th Corporate Governance Evaluation
- Awarded the Badge of Accredited Healthy Workplace by the Health Promotion Administration, MOHW
- Chairperson Hsiu-Lan Hsu was awarded Asia's Power Businesswomen in 2022 by Forbes Magazine
- Received the National Enterprise Environmental Protection Award
- Recognized by the Taiwan Corporate Sustainability Awards
- Ranked among the Top 100 enterprises in Taiwan in 2022 by Commonwealth Magazine
- Received three Silver Tower Awards from the 2022 Taiwan Continuous Improvement Award organized by the Corporate Synergy Development Center.
- Production Vice President of Taisil Branch, Mr. Chun-Jung Huang, was awarded the 40th National Manager Excellence Award - Production Manager Award from the Chinese Professional Management Association.
- Chunan Plant's strong foundation in green processes won the 2022 Excellent Energy-Saving Manufacturer award
- Nominated in the 2022 Taiwan Best-in-Class 100.

2.1 Sustainable Organization

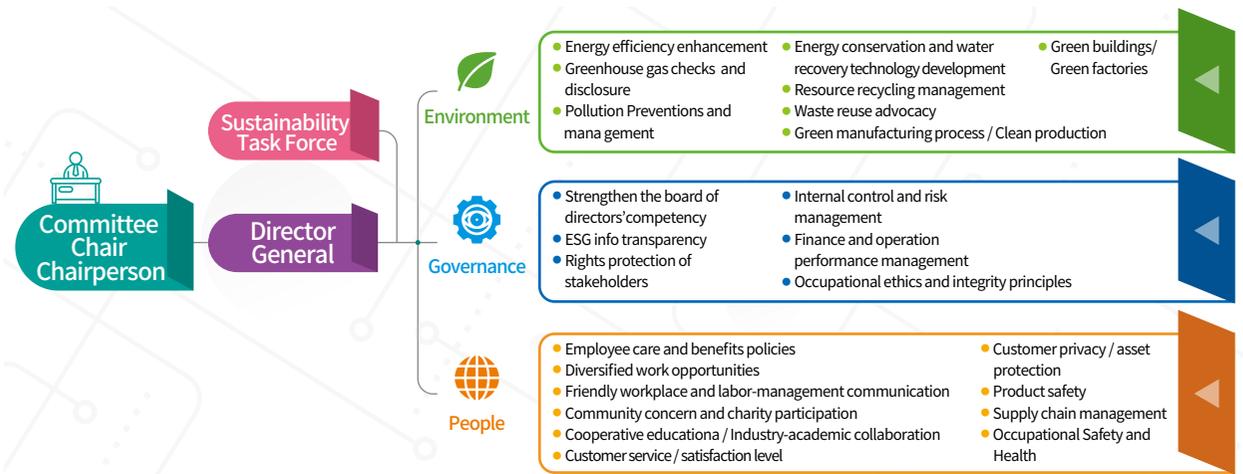
Aiming to strengthen and implement sustainable governance, GlobalWafers established a Sustainable Development Committee in 2017 as the Company's highest-level decision-making center for sustainable development. The Chairperson serves as the Committee Chairperson and leads the Company's operational organizations, the direction of sustainable development, and goal formulation. A director is also charged with the relevant administration of the Committee. Supervisory responsibility has been relegated to the Audit Office, and the Company has also established an audit committee, remuneration committee, and nomination committee to enhance the functions of the board of directors as well as corporate governance.

GlobalWafers' board of directors passed the Sustainable Development Best Practice Principles as a gesture to declare to stakeholders the solid determination of our highest management body to implement sustainable corporate development. We hope to impact the industry with our extended participation, awareness, and concerted efforts toward a sustainable society. To implement ESG activities in the three aspects of environment, society, and governance, the Committee is further divided into subcommittees charged with addressing the environmental, governance, and the social aspects of work. These subcommittees consist of dedicated committee members and department executives who are entrusted with the responsibility of shaping strategies and guiding management directions. They also facilitate cross-department integration, execution and implementation on certain issues all while conducting reviews and continuous improvements on implementation effectiveness. Regarding corresponding stakeholders, the subcommittees seek various communication and engagement channels to understand stakeholders' issues of concern and expectations for the corporate governance, environmental, and social aspects of GlobalWafers. Decisions are made based on discussions held by the Sustainable Development Committee. The Sustainable Development Committee is supervised by the board of directors. In addition to the annual report by the chair to the board of directors on implementation status and performance, it also reports on regulatory trends and environmental issue implementation results to the board of directors every quarter.

GlobalWafers Co., Ltd.



Corporate Sustainable Development Committee



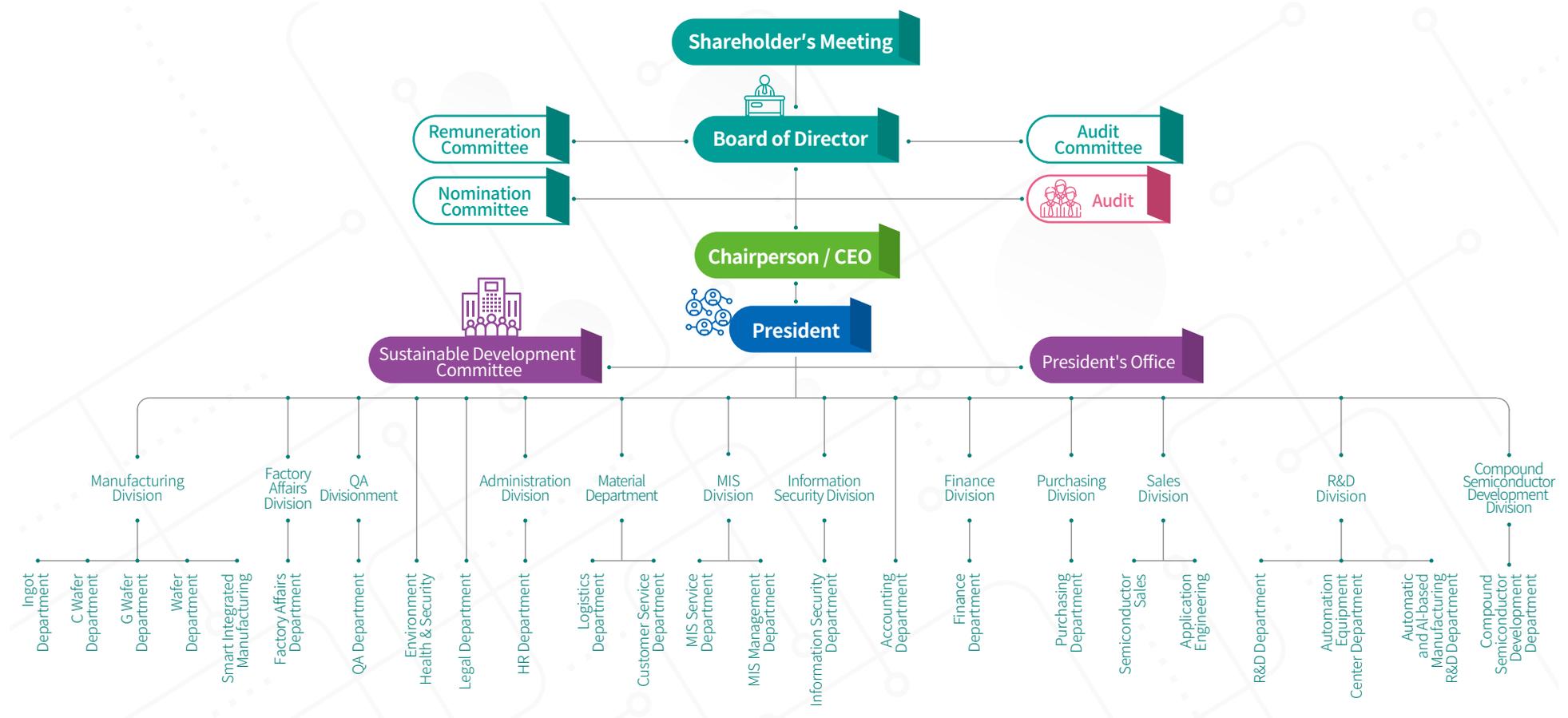


2.2 Corporate Governance

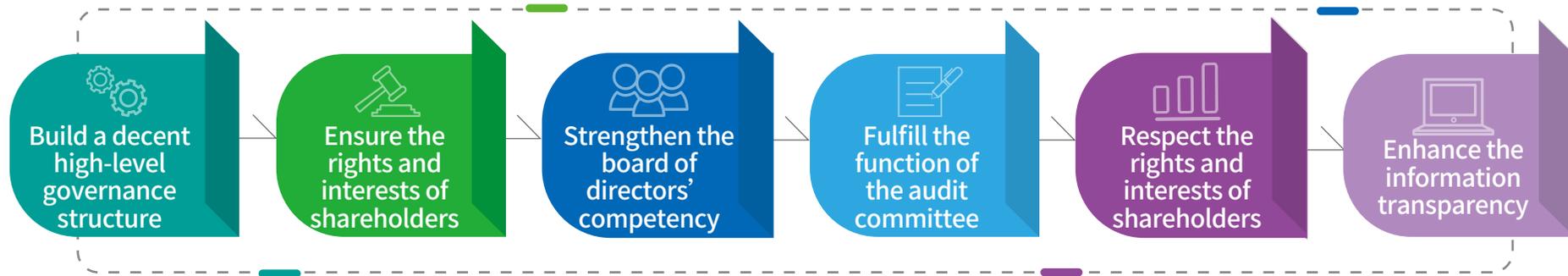
GlobalWafers adheres to a corporate culture founded on integrity, and fully implements management with honesty and integrity, fairness and transparency, and social responsibility. Following ethics policies, it establishes a good corporate governance system to achieve its objectives in sustainable operations.

2.2.1 Governance Structure

GlobalWafers' Organizational Chart



High-level Operation Management



GlobalWafers adheres to principles of integrity, gives priority to the shareholders' rights and interests, and believes that an efficient board of directors is the basis of excellent corporate governance. GlobalWafers has established an effective corporate governance structure; and its board of directors has authorized the establishment of an audit committee, a remuneration committee, and a nomination committee to assist the board in fulfilling their supervisory duties. The organizational charter of each committee has been approved by the board of directors, and the committees report regularly to the board regarding their activities and decisions. GlobalWafers' audit and remuneration committees are entirely composed of independent directors, and over half of the nomination committee members are independent directors.

GlobalWafers has established a sound corporate governance structure to achieve continuous improvements and excellence via its internal audit and control systems so as to thoroughly fulfill corporate governance. Looking to the future, GlobalWafers will continue to adhere to principles of integrity and continue with its corporate governance blueprint, while fortifying the company foundations so as to enhance its operation performance, facilitate corporate social responsibility, and proactively forge ahead towards becoming a benchmark enterprise.

Operation of the Board of Directors

The Company aims to implement a good corporate governance system, improve supervisory functions, and strengthen management; its board of directors is composed of seven directors with high educational background and experience, and expertise in domains such as technology, operational management, finance, and strategic management. The term of office for each board member is 3 years, and they are eligible for re-election. At least one meeting is held every quarter.

In addition, with the intention of improving the professional knowledge and legal literacy of the Company's directors, the directors are required to attend at least 6 hours of training courses each year (at least 12 hours of training courses for new directors). The training for directors includes corporate governance related topics such as finance, risk management, business, commerce, legal, accounting, and corporate social responsibility. In 2022, the training for directors included corporate governance and securities regulations, insider trading prevention and response, information security strategies, ESG, global net-zero, and sustainable development. Please see the [GlobalWafers' 2022 Annual Report](#) for more on directors' training.

Summary of key points for the corporate governance organization

- ✓ The GlobalWafers board of directors consists of 7 directors, 3 of which are independent directors.
- ✓ Members of both the audit and remuneration committees are independent directors, and over half of the nomination committee members are independent directors
- ✓ Ahead of corporate governance is charged with increasing support for directors and enhancing the effectiveness of the board of directors
- ✓ [The organizational charter of each committee](#) is publicly disclosed on the Company website
- ✓ The board of directors and the committees conduct annual self-performance evaluations and disclose the [evaluation results](#) on the Company website



Board of Directors' Diversity

The Company's Corporate Governance Best-Practice Principles has expressly defined the formation of the board members and ability to be held by the members. The Company has also established the diversified policy for the board members. The composition of the board of directors has been determined by taking diversity into consideration, and appropriate policy on diversity based on the Company's business operations, operating dynamics, and development has been formulated, as the following two general standards:

- I. Basic requirements and values: Gender, age, nationality, and culture.
- II. Professional knowledge and skills: A professional background (e.g., law, accounting, industry, finance, marketing, technology), professional skills, and industry experience.

The Company's current board of directors consists of seven directors, including three independent directors. Besides having one female director, the directors also have rich industrial experience and educational backgrounds in business administration, professional technology, business and finance, and are equipped with the knowledge, skills and literacy necessary to perform their duties, thereby implementing the policy of board diversity. The Company also values gender equality of the board, and aims to elect at least one female director. In the future, it will increase the number of female directors based on various considerations of directors. See [the Annual Report](#) for the directors' professional qualification and implementation of diversity.

Performance Evaluation

In order to implement corporate governance and enhance the functions of the Company's board of directors and functional committees, and establish performance targets to enhance operational efficiency, the Company conducts performance evaluations every year in accordance with the "[Board of Directors and Functional Committee Performance Evaluation Measures](#)", and completes and submits to the board of directors before the close of the first quarter in the next year.

The evaluation procedures are executed and coordinated by the President's Office at the end of each year by means of internal questionnaires. Through internal self-evaluation, members of the board of directors and functional committees conduct self-evaluation. The evaluation scope includes performance evaluation of the entire board of directors, individual members of the board and functional committees. The performance evaluation criteria mainly include the degree of participation in the Company's operations, the improvement of the decision-making quality of the board of directors and functional committees, the composition and structure of the board of directors and functional committees, the election and continuous education of directors and functional committees, and internal control, etc. All indicators of the aspects of [2022 performance evaluation](#) have been met, which shows that the operations of the entire board of directors and functional committees are sound, and meet the requirements of corporate governance. The evaluation results have been submitted to the board of directors on March 14, 2023, and disclosed in the [Company's website](#).

Avoidance of Conflict of Interest of Directors

GlobalWafers' Rules and Procedures for Board of Directors Meetings and the organizational charters of all committees include provisions regarding avoidance of conflict of interests for directors. When directors have a conflict of interest with the meeting agenda, the important content of the conflict of interest shall be explained in the meeting. If such conflict of interest is harmful to the Company, the said person may express his or her opinion and answer queries, but shall be prevented and recused from discussion and voting, and shall not act on behalf of other directors to exercise their voting rights.

Election of GlobalWafers' directors (including independent directors) adopts a candidate nomination system in accordance with Article 192-1 of the Company Act, where the candidates are selected from the list of director candidates during the shareholders' meeting. The board of directors met 9 times in 2022, with an average attendance rate of 98%. Board of directors' composition and the experience and educational background and attendance of the members are as follows:



Main Academic (Experience) Background and Attendance Status of Board Members in 2022

Title	Name	Gender	Age			Primary professional (educational) background	Actual no. of presence (in attendance)	No. of presence by proxy	Actual presence (attendance) rate (%)	Notes
			51-60 years old	61-70 years old	71-80 years old					
Chairperson	Doris Hsu/Hsiu-Lan Hsu	Female		✓		MA in Computer Science from University of Illinois/Vice President of Sino-American Silicon Products Inc.	9	0	100%	
Director	Sino-American Silicon Products Inc. representative: Ming-Kuang Lu	Male			✓	Honorary Doctor of Engineering from National Chiao Tung University/Honorary Doctorate in Engineering from Tatung University/ITRI Laureate/Chairman of Sino-American Silicon/President of Lite-On Semiconductor Corp./President of Xuxing Science and Technology Corporation/Vice President of Xuli Corporation	8	1	89%	
Director	Sino-American Silicon Products Inc. representative: Tang-Liang Yao	Male		✓		MA in Management from Tamkang University/President of Sino-American Silicon Products Inc./Assistant Vice President of the Manufacturing Division of Xuxing Science and Technology Corporation	9	0	100%	
Director	Kuo-Chow, Chen	Male		✓		Tainan Nan Ying Senior Commercial & Industrial Vocational School/Chairperson of Nan Hai Corp./Board Director of COTA Bank	9	0	100%	5th Term (Elected on August 24, 2021)
Independent Director	Jeng-Ywan Jeng	Male		✓		Ph.D. in Mechanical Engineering of University of Liverpool/Dean of Engineering College of National Taiwan University of Science and Technology/Chairman of Additive Manufacturing Association of Taiwan	9	0	100%	
Independent Director	Chung-Yu Wang	Male			✓	Honorary Doctorate of Chemical Engineering from Chung Yuan University/Advanced Management Program, Harvard University/Chairperson of Taisil Electronic Materials Corporation./Chairperson of China Steel Corporation/Chairperson of Tong Lung Metal Industry Co., Ltd./Chairperson of Kaohsiung MRT	9	0	100%	
Independent Director	Ming-Ren Yu	Male	✓			MBA from New York University/Vice President of JP Morgan Chase Bank/ Senior Vice President/of Backlight Modules Business Group of Coretronic Corporation/Executive VP of Investment Banking Department, Yuanta Securities/Senior VP and Executive Director of FIH Mobile Limited/Chief Financial Officer of Elite Material Co., Ltd.	9	0	100%	

See [GlobalWafers 2022 Annual Report](#) for information on directors' remuneration, concurrent positions in GlobalWafers, and other company positions and board resolutions.

For the policies and establishment procedures for remuneration for directors and managers, see [GlobalWafers 2022 Annual Report](#).



Remuneration Committee

GlobalWafers established its Remuneration Committee on December 12, 2014, to implement corporate governance and improve the remuneration system for directors (including independent directors) and managers. The committee consists of 3 independent directors and holds at least two meetings each year. A total of 3 meetings were held in 2022, with an average attendance rate of 100%.

The Remuneration Committee aims to assist the board of directors in executing and reviewing the Company’s overall remuneration and benefits policies, system, standards and structure, as well as assessing the goal fulfillment performance of the directors and managers, regularly reviewing the organizational charter of the Remuneration Committee and proposing and submitting discussion suggestions to the board of directors.

In line with the guideline as outlined by the organizational charter of the Remuneration Committee, the Committee is entitled to hire lawyers, accountants, or other consultants to assist the duty execution.

For the organizational charter of the Remuneration Committee, see the [GlobalWafers website](#)

For details on Remuneration Committee resolutions, see the [GlobalWafers 2022 Annual Report](#).

Remuneration Policies of Directors and Managers

✓ Compensation

According to Article 24 of the Articles of Incorporation, compensation for the Company’s directors is set based on the directors’ degree of participation and contribution to the Company’s operations, as well as industry standards. If the Company’s director concurrently holds other positions in the Company, the compensation for the position at the Company may be paid monthly according to the ordinary manager’s level.

✓ Remuneration

According to Article 31 of the Articles of Incorporation, if the Company makes profit in the year, the Company shall allocate 3%-15% of the profit as employee bonuses, and up to 3% as directors' remuneration. But when the Company has accumulated losses, it shall first reserve an amount to cover losses.

For information on the remuneration for directors and managers, see the [GlobalWafers’ 2022 Annual Report](#).

In addition to the above-mentioned remuneration, the Company’s directors do not have any severance pay or other retirement welfare or clawback policies. For managers who resign voluntarily, no severance pay shall be paid; for non-voluntary resignation or retirement, the severance pay, or retirement welfare shall be made in accordance with the relevant labor laws and regulations for ordinary employees. The clawback policy is handled according to individual implementation regulations and incentive measures, for example: the Employee Benefit Savings Association Charter (Welfare and Saving Trust).

Remuneration Committee Independent Director Attendance Status for 2022

Title	Name	Actual attendance no.	No. of presence by proxy	Actual attendance rate	Notes
Convener	Jeng-Ywan Jeng	3	0	100%	4th term (Appointed on August 24, 2021)
Board member	Chung-Yu Wang	3	0	100%	
Board member	Ming-Ren Yu	3	0	100%	



Audit Committee

GlobalWafers established its Audit Committee on March 19, 2015, to strengthen the internal supervision mechanism of corporate governance. The committee consists of 3 independent directors and holds at least one quarterly meeting. A total of 9 meetings were held in 2022, with an average attendance rate of 100%.

The Audit Committee assists the board of directors in fulfilling its primary goal of supervision regarding the following matters

- ✓ Adequate expression of the corporate financial statements
- ✓ Selection (dismissal) of certification accountants and their capability, independence and performance
- ✓ Effective implementation of internal control
- ✓ Compliance with relevant laws and regulations
- ✓ Control and management of the Company’s potential or existing risks

In accordance with regulations as outlined in the Audit Committee’s organizational charter, its members are entitled to conduct any suitable audits and investigation within the purview of their responsibilities, while having direct contact channels with GlobalWafers’ internal audit personnel, certification accountants, and other relevant personnel. The Committee is also entitled to hire lawyers, accountants, or other consultants to assist in the execution of their duties.

For the organizational charter of the Audit Committee, see the [GlobalWafers website](#)

For details on Audit Committee resolutions, see the [GlobalWafers 2022 Annual Report](#).

Audit Committee Independent Director Attendance Status for 2022

Title	Name	Actual attendance	No. of presence by proxy	Actual attendance rate	Notes
Independent Director	Jeng-Ywan Jeng	9	0	100%	The third session (Elected on August 24, 2021)
Independent Director	Chung-Yu Wang	9	0	100%	
Independent Director	Ming-Ren Yu	9	0	100%	

Performance Evaluation

In order to implement corporate governance and enhance the functions of the Company’s board of directors and functional committees, and establish performance targets to enhance operational efficiency, the Company conducts performance evaluations every year in accordance with the [Board of Directors and Functional Committee Performance Evaluation Measures](#), which it completes and submits to the board of directors before the close of the first quarter each year. [2022 performance evaluation](#) results show that the overall board of directors and the various functional committees are operating well and meet the requirements of corporate governance. The evaluation results were submitted to the board of directors on March 14, 2023.

Nomination Committee

GlobalWafers has established its Nomination Committee on December 9, 2020, to improve the nomination system for the Company’s directors and senior managers. The committee comprises 3 directors, 2 of which are independent directors. The committee convened one meeting in 2022 with an average attendance rate of 100%.

The Nomination Committee is designed to assist the board of directors in finding, reviewing, and nominating candidates for directorships and senior managerships; conduct performance evaluations of the board, committee, and director members; evaluate the independence of independent directors; as well as formulate and review training plans and succession plans for directors and senior managers.

In compliance with the guideline as outlined by the organizational charter of the Nomination Committee, the Committee is entitled to hire attorneys, accountants, or other consultants to assist in the execution of their duties.

For the organizational charter of the Nomination Committee, see the [GlobalWafers website](#)

For details on Nomination Committee resolutions, see the [GlobalWafers 2022 Annual Report](#).

Nomination Committee Independent Director Attendance Status for 2022

Title	Name	Actual attendance	No. of presence by proxy	Actual attendance rate	Notes
Convener	Doris Hsu/Hsiu-Lan Hsu	1	0	100%	2nd term (Appointed on December 07, 2021)
Board member	Jeng-Ywan Jeng	1	0	100%	
Board member	Ming-Ren Yu	1	0	100%	



✦ 2.2.2 Integrity & Ethics

Core Values

GlobalWafers’ most important core values are honesty and integrity. To establish an honest business environment, GlobalWafers has formulated [relevant specifications and communication mechanisms](#) for the compliance of all directors, managers, and employees. Rigorous management mechanisms and effective control are implemented to minimize integrity risks, create value for customers, and achieve benefits for both shareholders and stakeholders.

Internal Regulation System

To implement integrity management, GlobalWafers has established important internal regulations such as the [“Ethical Corporate Management Best Practice Principles,”](#) [“Code of Ethical Conduct,”](#) and [“Procedures for Ethical Management and Guidelines for Conduct.”](#) These regulations encompass a range of subjects, such as integrity management, ethical behavior, prohibition of unreasonable hospitality or improper benefits, prohibition of intellectual property right infringement, prohibition of anti-competition behaviors, and conflict of interests. These documents are published on the Company’s public website and internal website for colleagues to review at any time to improve legal compliance and professional ethics awareness.

For marketing and procurement colleagues, the Company has reiterated the importance of honesty and integrity via its Sales Management Measures and Procurement Management Measures and established a comprehensive business legal compliance mechanism covering topics such as fair competition, due diligence, trade control (trading counterparty, subject matter, purpose of use, cash flow, and relevant trade control and restrictions of major trading countries), anti-corruption, anti-bribery, and conflict of interests prevention and exemption mechanisms. The Company also uses supply chain control to ensure compliance with regulations for conflict-free minerals.

In addition to requiring our employees to sign intellectual property rights and confidentiality agreements, our marketing and procurement units are also required to sign non-disclosure agreements (NDAs) before cooperating with suppliers and customers in order to prevent unethical information-related behavior, such as disclosing company secrets. Employees are also prohibited from inquiring or collecting non-job-related company operation secrets in order to fully protect the sensitive or confidential information of business partners. GlobalWafers has established the Personal Data Protection Management Measures, regularly inventories personal data, and practices personal privacy confidentiality obligations with the highest ethical standards.

In 2022, GWC was not the subject of any legal events or penalties in relation to anti-competitive behavior

Anti-bribery and Anti-corruption

GlobalWafers insists on “3 Nos”: No offering bribes, no receiving bribes, and no demanding bribes. The [“Ethical Corporate Management Best Practice Principles”](#) clearly stipulate that colleagues shall not directly or indirectly provide, promise, request, or receive any improper benefits during the process of engaging in business activities. The [“Procedures for Ethical Management and Guidelines for Conduct”](#) further provides clear codes of conduct for colleagues; key points include: (1) If payment is provided or promised due to threat or intimidation, record the process, report to the supervisor, and notify the compliance unit. (2) If others provide or promise illicit benefits, return or refuse the offer, and report to the supervisor and notify the compliance unit. If it cannot be returned, hand it over to the legal compliance unit for processing within 3 days from the date of receipt.

In 2022, GlobalWafers conveyed the correct way to deal with anti-corruption and anti-bribery to all new employees via integrity management education and training courses to enhance legal compliance awareness and ensure all corruption risks are properly controlled. GlobalWafers spares no effort in conveying the following code of conduct to colleagues:

- ❶ Be vigilant and cautious about all interests that may affect business decision-making.
- ❷ Regardless of value, “no bribe offering, no bribe receiving, and no bribe demanding.”
- ❸ “No prior gifts and no subsequent gratuities.”

GlobalWafers’ marketing and procurement units are the first-line external contact units due to their business attributes, so they are faced with more internal/external incentives and opportunities for dishonest behaviors (i.e., cash, gifts, services, entertainment, facilitating fees). They are identified as having a higher risk of corruption by the Company using the dishonest behavior risk assessment mechanism. As such, GlobalWafers has stipulated the “anti-bribery and anti-corruption” clauses in the “Sales Management Measures” and “Procurement Management Process” measures to prohibit any bribery and corruption such as direct or indirect requests, appointments, deliveries, requests, or acceptance of bribes, any unreasonable gifts, entertainment, or other improper benefits from any third party. Violators face criminal and civil liabilities in addition to punishment according to the Company’s employee Reward and Punishment Provisions. If GlobalWafers suffers damages due to such actions, any losses incurred must be compensated.

In addition to the aforesaid internal risk control measures, GlobalWafers urges all suppliers and customers to adopt the highest corruption prevention standards and signed written [“Supplier Code of Conduct”](#) or Customer Code of Conduct documents to declare anti-bribery and anti-corruption principles to all of the Company’s transaction partners. GlobalWafers requires suppliers and customers to refrain from paying or accepting bribes from GlobalWafers or its representatives in order to prevent improperly influencing transaction decisions under any circumstances.



Conflict of Interest

The “[Procedures for Ethical Management and Guidelines for Conduct](#)” clearly stipulates that when a director, manager, or other interested party participating or attending a board of directors meeting has a conflict of interest with the proposals listed by the board of directors, the conflict of interest must be explained to the board of directors. If the conflict of interest is harmful to the Company, said person shall be prevented and recuse him/herself from discussion and voting and may not act on behalf of other directors to exercise voting rights. Board directors shall also be self-disciplined and not offer inappropriate support to each other.

When a GlobalWafers colleague discovers that there is a conflict of interest with him/herself or the legal person he/she represents during Company business performance, or the situation may enable himself/herself or his/her spouse, parents, children, or their interested parties to obtain improper benefits, report the relevant situation to the direct supervisor and the GlobalWafers Legal Compliance Unit, and the direct supervisor shall provide appropriate guidance.

Education and Training

GlobalWafers firmly believes that "integrity management is achieved by full compliance with laws and regulations." So, the Company has actively organized education and training as well as integrity management policy advocacy, and promotes the integrity policy and its importance to directors and employees. The goal is to ensure that all colleagues fully understand and comply with the policies, carry out operations according to the highest standards, and practice our core value of honesty and integrity in daily work. Specific course contents offered in 2022 related to ethics and integrity are as follows:

- ✓ The one-hour Insider Education and Training was provided to new employees. The contents include insider trading law analysis (constitutive elements, major news disclosure method and time frame, judicial opinions) and insider equity transfer law analysis (obligation to declare before/after the event and maintain the number of shares held by directors and supervisors).
- ✓ Provided the 1-hour Personal Data Protection Training to section chiefs. Contents of the training include legal principles that require compliance during personal data collection, processing and use, the Company’s legal obligations, penalties for violations, and case study.
- ✓ The two-hour Ethical Corporate Management Training was provided to new employees. The content includes trade secret protection, issues of competition law, anti-bribery and corruption, conflict of interest prevention, and customer due diligence (KYC), export control, among other major compliance issues closely related to the technology industries.
- ✓ The 20-minute Training on the New System of the U.S. Export Administration Regulations (EAR) was provided to managers in the semiconductor business system. The contents include the current status and analysis of response measures taken for the impact of the U.S. EAR on GlobalWafers' business.

Reporting Channel and Informant Protection

GlobalWafers has established the “[Measures for the Report on Illegal, Unethical and Dishonest Conducts](#)” in order to ensure integrity management compliance and clearly stipulate the disciplinary and appeal system for integrity management violations. The Company has also established and provided employee suggestion boxes, e-mails, and appeal hotlines on the Company’s internal website; and pledged to protect whistleblowers from any mistreatment due to whistleblowing. The goal is to encourage GlobalWafers internal and external personnel to report unethical behaviors or misconducts.

GlobalWafers ensures that the identities of whistleblowers and the contents of report are kept confidential, and the relevant personnel involved in report verification and investigation inform the whistleblower in writing that their identity and the reporting content will be kept confidential. If an integrity management regulation violation is proven, punishment is imposed according to the severity of the case. The specific reporting process and the responsible unit are summarized as follows:

1 Acceptance Unit and Accepted Party

Acceptance Unit	Accepted Party
Spokesperson	1. Shareholders, 2. Investors, 3. Other interested parties
Human Resources manager	1. Company insiders, 2. Customers, 3. Suppliers, 4. Contractors
Legal Affairs	Accepted parties are same as spokesperson and human resources manager

2 Processing Unit and Procedure

The Accused	Processing Procedure		Processing Unit
General Employees	Money Case	Report to the Chairperson	Human Resources Assisted by Legal Affairs
	Non-money Case	Report to the Chairperson, Notify the Department Director	Human Resources and Department Head Assisted by Legal Affairs
Chairperson, Director, Senior Executive	Report Submission Independent Director or Audit Committee		Human Resources and Legal Affairs

3 Handling Method

Steps	Responsible Unit	Content
1. Investigate the Facts	Human Resources, Legal Affairs	<ul style="list-style-type: none"> Investigate the relevant facts immediately; if it is believed that there is indeed a risk of unethical behavior, submit the case to the Chairperson for case delegation. The relevant personnel handling the case shall issue a written disclosure to keep the identity of the informant and the content of the report confidential. Written records of report acceptance and investigation shall be kept for 5 years.
2. If verified to be true	Human Resources, Legal Affairs	<ul style="list-style-type: none"> The perpetrator is required to stop the relevant behaviors, and shall be properly disciplined via the Company’s internal procedures or legal procedures. Information such as the job title, date of violation, facts of violation, provisions violated, and handling status shall be disclosed on the Market Observation Post System. (The same shall apply to those receiving immunity from the board of directors.) If necessary, report to the competent authority or transfer the case to the judicial authority for investigation. The relevant unit of the perpetrator shall review the internal control system and operating procedures, and propose improvement measures. The investigation results shall be recorded in writing and be kept for 5 years.
3. Relief	Human Resources	<ul style="list-style-type: none"> Give the perpetrator the opportunity to appeal, and convene a Personnel Appraisal Committee hearing if necessary.
4. Report to the board of directors	Legal Affairs	<ul style="list-style-type: none"> Submit the case reported, the handling method, and the subsequent review and improvement measures to the board of directors.

Integrity Inspection

The Legal Affairs Office is responsible for formulating, supervising, and implementing the integrity management policy and prevention plan. Currently, we use the mail system management, access control, reporting system, legal compliance inventory, and interview human resources and intellectual property team (non-competition violation, unlawful infringement of business secrets, bribes, and intellectual property infringement risks). The individual case investigation method for special cases is to conduct inspections and ensure that the Company’s operations comply with the Ethical Corporate Management Best Practice Principle, as well as to review the Company’s current measures during the inspection. The Legal Affairs Office regularly reports the cases above to the Board of Directors every year, and [no corruption incidents have occurred after the investigation in 2022](#). GlobalWafers will continue to review and optimize each work item and strive to eliminate all unethical and dishonest behaviors.



2.2.3 Implementing Internal Audits

Primarily Goal for the Set-up

Check and assess the soundness, rationality, and effectiveness of the company’s internal control system; assist in the advocacy of the internal control system; and perform audits and present reports to appropriate management.



Key Areas for Execution

- 1** Internal control system: Assist managers in designing appropriate internal control mechanisms and conduct “Internal Control System Self-assessment.” Each department shall evaluate the internal control status for its own responsible area. The goal is to achieve the self-examination and strengthen internal control principles for the evaluation department.
- 2** Annual audit plan: formulate the annual audit plan via risk assessments, perform audit for the various operating procedures based on the Company’s business activities, identify process defects, and make recommendations during operations to ensure internal control proficiency.
- 3** Audit project review: Perform project inspections in response to potential risks (including fraud and corruption) identified by senior executives and make recommendations in order to improve internal control integrity.
- 4** Discussion of audit findings: Discuss improvement measures with the inspected unit based on the findings of the audit and continue to track the follow-up on the improvements to realize internal control implementation.
- 5** Report the audit operation: Report the auditing results to the Audit Committee and board of directors, convey the weaknesses of internal control and obtain instructions for improving supervision effectiveness for enhanced corporate governance.
- 6** Subsidiary audit operation: Formulate the annual key audit items for the subsidiary’s audit unit, review the audit reports of each subsidiary, and track the results of the audit.
- 7** Audit experience sharing: Share the audit experience or cases in each area to the Group’s audit team and review or update the local internal control system accordingly in order to achieve risk prevention.

Since becoming listed on the Taipei Exchange on September 25, 2015, GlobalWafers has been audited by securities firms and accountants, and supervised by the competent authority. The risk assessment conducted by the Company’s risk management unit and the audit performed by the audit office did not discover any major abnormalities or corruption incidents.

See the [internal audit organization and operation in the Company network for details](#).

✦ 2.2.4 Legal Compliance

In addition to formulating policies and provisions according to domestic and foreign laws and regulations, GlobalWafers also complies with the various national laws and regulations. GlobalWafers also strictly requires all employees to comply with and understand the relevant laws and regulations via continuous education, training, and promotion, and in its legal compliance self-assessment system it requires each department to fill out a check list of relevant laws and regulations that departments should follow every year. It also strictly requires all employees to comply and understand the relevant laws and regulations. In addition, the Legal Compliance Unit has also assisted GlobalWafers to formulate the relevant internal provisions to ensure different departments abide by the applicable laws and implements appropriate education and training.

The GlobalWafers’ legal compliance audit is led by the Legal Compliance unit, and the items executed in 2022 are as follows:

- 1** Personal information protection audit:

The Company took inventory of all personal data involved in the operations of responsible units, ensuring that the collection, processing, and use of personal data by responsible units is compliant with the Personal Data Protection Act. If deficiencies are found, the Legal Compliance unit will guide in the correction, and assist in the formulation of supporting measures in line with the business content of each unit.



2 Offshore subsidiaries’ legal compliance audit:

Referencing RBA7.0, target 9 major legal issues of concern: Anti-Corruption, Antitrust, Trade Secret, Ethics/Whistleblowing, Health and Safety, Environment, Export Control, Personal Data Protection, and conducting audits on offshore subsidiaries. If deficiencies are found, the Legal Compliance unit will communicate with the heads of the subsidiaries to discuss and formulate the most suitable improvement plan, and continue to track the improvement results.

The penalty cases for GlobalWafers and its subsidiaries in 2022 are as follows:

Year	No. of penalty	Penalty of fines	Penalty plant	Matter of violation	Corrective measures
2022	1	NT\$60,000	Taisil Branch	Violated Article 57 of the Regulations for the Occupational Safety and Health Equipment and Measures and Paragraph 1, Article 6 of the Occupational Safety and Health Act, causing an employee to sustain injury.	<p>Corrective measures:</p> <ol style="list-style-type: none"> 1. Conduct safety and health training for relevant production lines and equipment personnel to raise personnel s’ safety awareness and prevent injury from disasters. 2. If the wireless remote control of the crane fails, use the wired controller to remove the ingot and then perform the relevant repair and maintenance. <p>Preventive measures:</p> <ol style="list-style-type: none"> 1. Post warning signs at the entrances and exits of the crane operations. 2. Inspect and ensure the operational availability of all crane wired/wireless controllers. 3. Fully inspect /test the safety and protection system of all cranes. 4. Revise the work instructions and incorporate the troubleshooting procedure of the crane into the management.
2022	1	NT\$360,000	Taisil Branch	Violates Paragraph 1, Article 20 of the Air Pollution Control Act, by exceeding the emission standard in Table 1 of the Air Pollution Emission Standards for stationary pollution sources.	Delegate the Industrial Technology Research Institute to test the ambient temperature denitrification treatment equipment and replace the sodium sulfide agent. In addition to having yellow smoke elimination, it also reached the standard for odor elimination.
2022	1	US\$3,409	MEMC Electronic Materials Sdn.Bhd.	Improper storage and incomplete labeling of sludge.	<ol style="list-style-type: none"> 1. Increase frequency of sludge treatment. 2. Increase routine inspections to ensure that the current storage situation comply with standards and the production of sludge will not exceed the specified amount.
2022	1	Not determined	GlobalWafers Hsinchu Plant	Violated Article 225 and Paragraph 1, Article 281 of the of the Regulations for the Occupational Safety and Health Equipment and Measures, resulting in the death of an employee.	<ol style="list-style-type: none"> 1. A-frame ladders are prohibited in factories of below 2 meters in height and handrail platform ladders are to be used instead; A-frame ladders are prohibited in factories of above 2 meters and other safe alternatives such as construction frames and self-propelled carts are used instead. 2. Strengthen safety awareness: Conduct training for standard operating procedures for maintenance, repair, etc., ensure thorough safety compliance.



2022 law compliance focus:

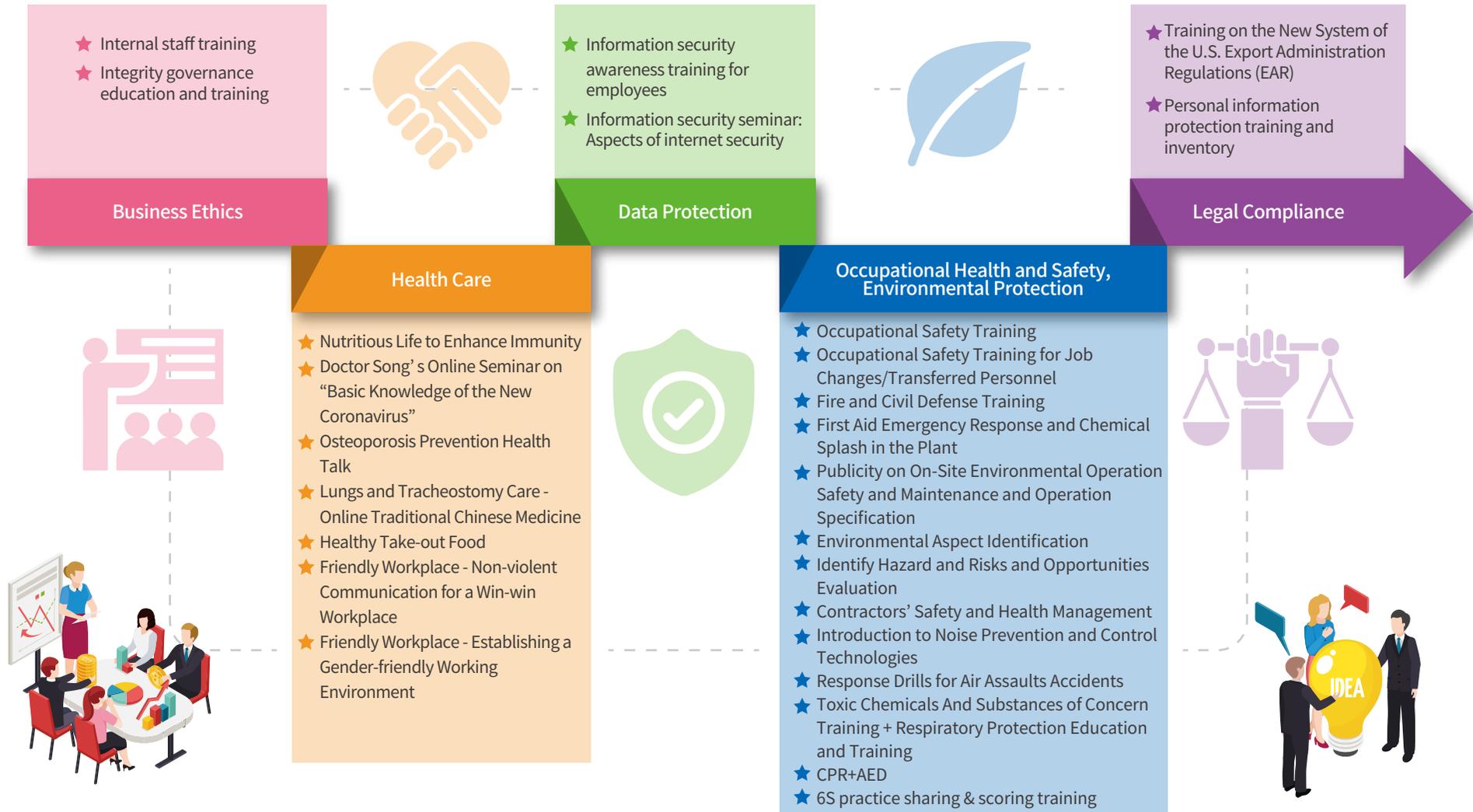
Securities regulations	<p>Strict management mechanism GlobalWafers is listed on the Taipei Exchange and thus must abide by the Securities and Exchange Act and other relevant laws and regulations.</p> <ul style="list-style-type: none"> ■ The President’s Office has established a good communication channel with the relevant competent authorities. ■ The Legal Compliance Division observes the legal trends, reviews the latest regulations and proclamations, tracks the law and regulation developments, and notifies the relevant departments after verification to formulate the necessary response measures. If a relevant department raises questions, the legal compliance division studies the relevant regulations and provide correct responses after communicating and confirming with the competent authority.
Products, services, and import & export regulations	<ul style="list-style-type: none"> ■ Verify the legal and regulatory requirements of the customers’ or suppliers’ business locations or designated trading places to ensure that the products, processes, and services meet the laws and regulations of the country. ■ Ensure the raw material sources comply with the corresponding local laws and regulations, such as the EU RoHS directive, REACH regulations (restrictions), and the Toxic Substances Control Act (TSCA) of the United States.
Labor & human rights regulations	<p>Strict compliance with labor & human rights regulations</p> <ul style="list-style-type: none"> ■ Regularly revise various work systems and management regulations to meet or exceed local labor regulations. Use formal and informal channels as well as 2-way communication with supervisors and employees to ensure that all employees understand the basics with respect to labor laws and regulations and can help to create a sound working environment together. ■ Valuing employee salaries and benefits; proactively cultivate talent; implement labor laws; ensure employees’ rights. Where there are major policy changes, remuneration & benefits, or leave system changes that impact the rights of our employees, employees will be notified, prior to implementation, via labor-management meetings, electronic newsletters or announcements on the HR notice board to ensure employees’ rights. In addition, the employers and employees have jointly operated GlobalWafers’ Employee Welfare Committee to improve welfare and shape a corporate culture of inclusiveness. ■ Implement 0.5 or 1-hour relevant human rights education and training for new employees. Conduct regular workplace violence and sexual harassment prevention education and training for unit managers and interested colleagues. Moreover, we have established methods and appeal windows to provide employees with easy-to-access appeal channels and communication platforms and help prevent any illegal incidents. The goal is to let employees cultivate self-awareness and create personal value in a safe working environment.
Data management	<ul style="list-style-type: none"> ■ Formulating employment contracts and Business Confidentialities and IPR agreements, Code of Ethical Conduct, Handling Procedures for Intellectual Property Disputes, and Confidentiality Agreements. ■ Management mechanism: Education on the importance of intellectual property and business secrets through posters and slogans, employee training and education, and signing of confidentiality agreements with employees in charge of certain operations.
Corporate governance	<ul style="list-style-type: none"> ■ Formulate the “Ethical Corporate Management Best Practice Principles,” the “Code of Ethical Conduct,” and the “Measures for the Report on Illegal, Unethical and Dishonest Conducts” ■ Management mechanism: Relevant contents are incorporated into education for current employees and orientation training for newly inducted employees to ensure the compliance of all employees with said code of conduct in the performance of duties.
Environmental/OSH laws and regulations	<ul style="list-style-type: none"> ■ Identification and management procedures for environmental protection, energy management, and occupational safety and health related laws and regulations. ■ Management mechanism: Review the compliance with the latest changes in environmental protection, occupational safety and health, energy management, and other related laws and regulations or other requirements each month; and regularly assess compliance with applicable regulatory requirements.

Legal Compliance Courses and Education

With the regular launch of enhanced legal training courses, the Company intends for personnel to understand important laws and regulations and for stronger commitment to abide by occupational ethics and confinements. To this end, we place promotional posters within the plant, and we provide the policy guidance on legal compliance on the internal website or in regulation advocacy activities of the following themed courses, thus substantially enhancing our staff members’ understanding of legal compliance.



2022 Course Offers



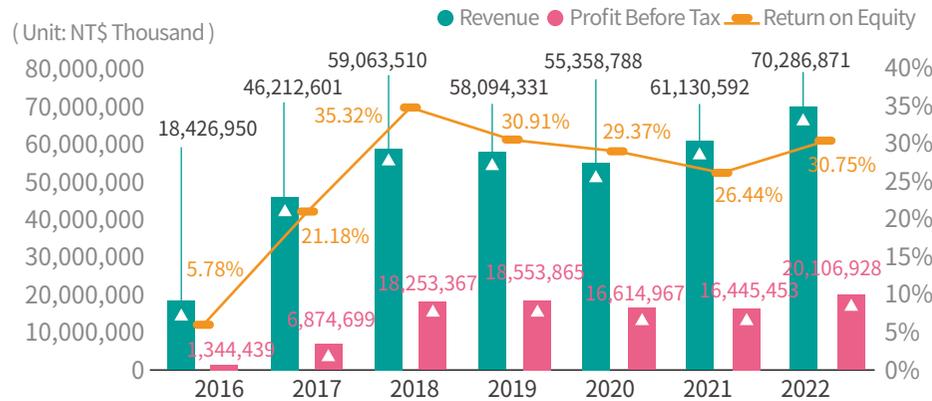


2.3 Operation Performance

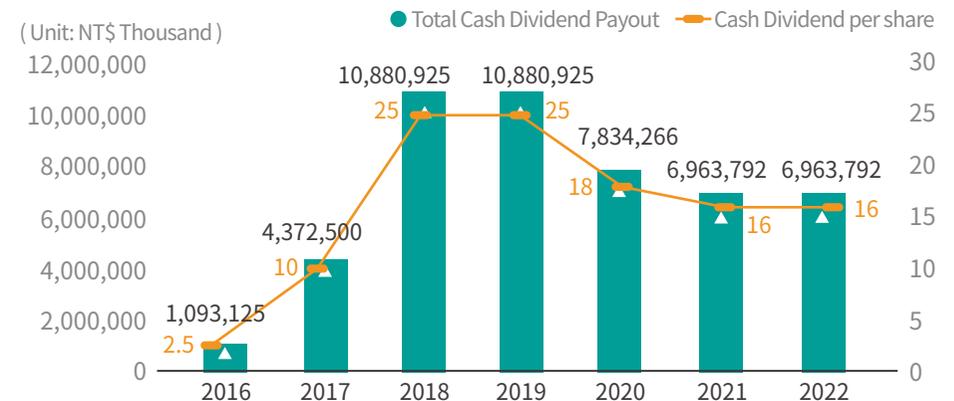
In 2022, increasing geopolitical risk has driven restructuring of the semiconductor industry supply chain; it has also highlighted the importance of our global layout. GlobalWafers, having built a smooth and unimpeded supply network of 17 operating bases around the world, supplies customers with high quality silicon wafers of all dimensions and specifications, and for all applications; it has gradually fulfilled its green commitment with a lower carbon footprint, realizing prompt services with local production and nearby supply. GlobalWafers maintained consistently stable performance in 2022, with outstanding results in revenue and profit; and it made a consolidated revenue that broke through the NT\$70 billion mark, reaching a historical high of NT\$70.29 billion! This is a significant growth of 15% compared to 2021!

For details on the Company's operating performance and financial information, see GlobalWafers' [2022 Consolidated Financial Statements](#).

Financial Performance (Consolidated)



Cash Dividends



2022 Economic Value Analysis

		Unit: NT\$ Thousand
Generated direct economic value	Annual report: Revenue	70,286,871
Distributed economic value	Operational costs	39,945,282
	Employee salaries & benefits	12,823,470
	Payment to investors	6,963,792
	Payment to the government	966,452
	Community resources	2,253

Note: Government payments and community information are based on data from Taiwan (GlobalWafers Headquarters, GlobalWafers Chunan Plant, and Taisil Branch)

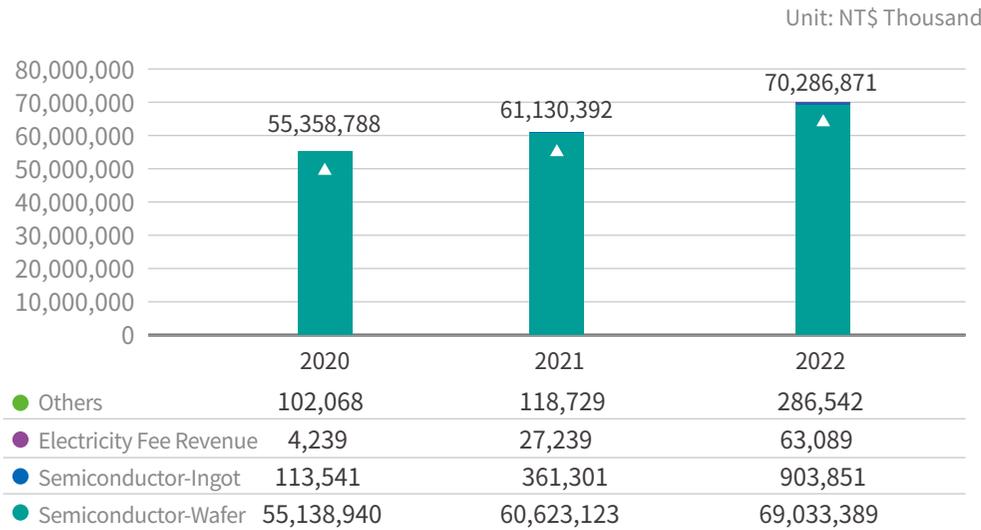
Product Sales

In 2022, the semiconductor market sustained the robust momentum it had carried over from 2021, and the development of network infrastructure, such as cloud, server, and automotive electronics showed significant growth, driving GlobalWafers' revenue and shipment growth each quarter. 2022 consolidated revenue reached NT\$70.286 billion, a significant growth of 15% compared to 2021. GlobalWafers continues to achieve a number of outstanding performances – its 2022 year revenue, operating gross profit, operating net profit, pre-tax net profit, after-tax net profit, and earnings per share all outperformed, demonstrating GlobalWafers' capabilities in management and operations.

In 2022, GlobalWafers' total global wafer production capacities were 2,903,161 (KSIE Wafer) & 4,779,420 (Kg Crystal), all of which came from its own factories.



Revenue

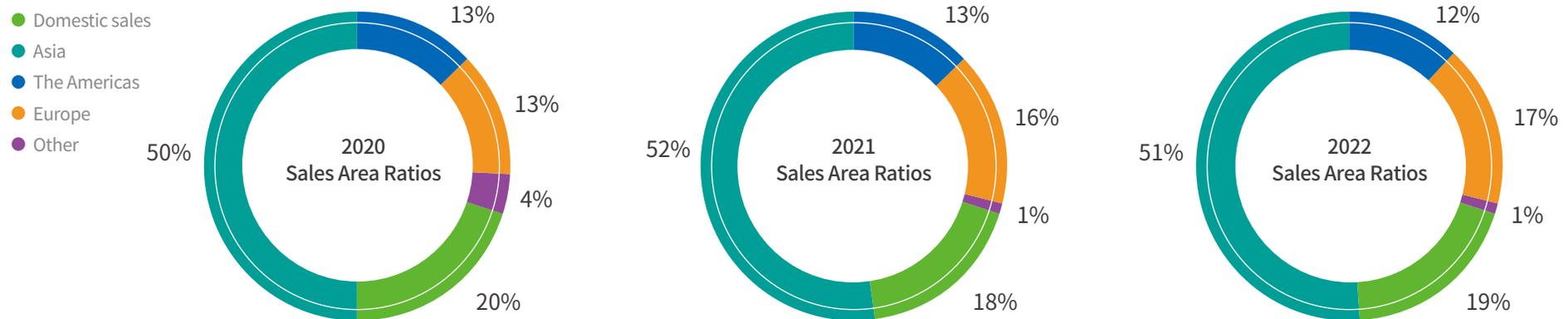


Macroeconomics and Industry Trends

Though the semiconductor industry is facing a cyclical downturn in the short-term, its long-term strength still sees support from the booming digital economy, such as in 5G, electric vehicles, and data centers. Not only have the COVID-19 pandemic and net-zero emissions accelerated the process of smart mobility, new manufacturers are also looking to enter the EV market and are investing heavily in electrification, giving new impetus to the automotive industry. On the other hand, in addition to being widely used in power electronics, compound semiconductors can also be applied to renewable energy to cope with the current energy crisis; the penetration rate will thus continue to increase. GlobalWafers has a full product spectrum, and its terminal market spans various fields, such as livelihood, aerospace, and industry. Its high-quality silicon wafer substrate can be used as a solid foundation for many downstream technological applications, and it is able to avoid being impacted when specific products enter the recession cycle. The increasingly tense geopolitical situation has highlighted the importance of the global layout of semiconductor supply chains, and more countries are considering implementing carbon pricing mechanisms. GlobalWafers has actively strengthened local production to meet customer requirements. By establishing a global supply chain network and operating bases, GlobalWafers provides real-time services and flexible scheduling of shipments to reduce geopolitical risk, and through local production, it significantly reduces its carbon footprint. In this ever-changing and highly competitive global environment, GlobalWafers will continue to be a trusted ESG partner for all parties, with whom we will pursue corporate sustainability together.

Sales Area Ratios

Since GlobalWafers acquired Topsil and SunEdison Semiconductor in 2016, it has gained existing customer orders and a global sales network. In recent years, our sales revenue ratio for different regions has tended to be balanced and stable, with Asia being the largest sales region, where domestic sales accounted for 70%, followed by Europe.



2.4 Risk Management

In response to the rapidly changing management environment and to ensure the Company’s stable management and sustainable development, GlobalWafers formulated its Risk Management Policies and Risk Management Guidelines in 2015. In 2021, the Company integrated information and redefined the “[Risk Management Policy and Procedures](#)” to establish an effective risk management mechanism, assess and supervise risk tolerance, monitor risk exposure status, determine risk response strategies, and comply with risk management procedures.

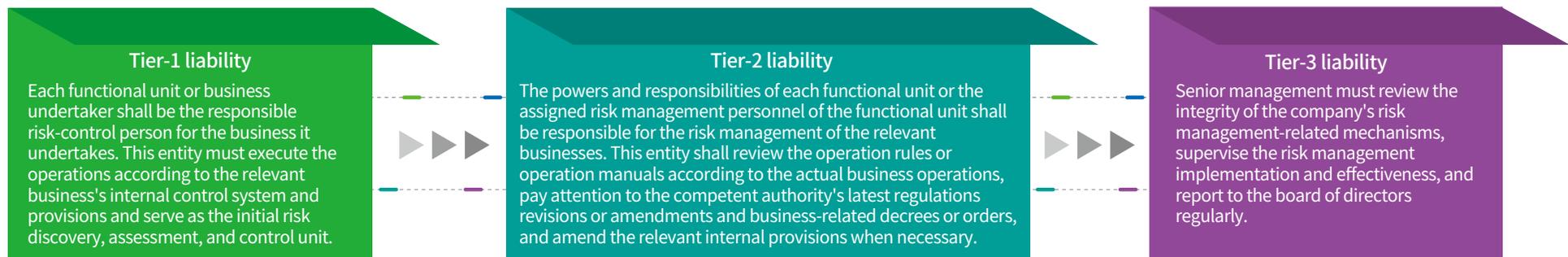
The board of directors is the highest risk management unit under GlobalWafers' risk management organizational structure. While looking to the overall operating strategy and operating environment, the board of directors aims to comply with laws and regulations, promote and implement the Company’s holistic risk management, and bear the ultimate responsibility for risk management; senior management is responsible for planning, commanding, and deploying the implementation of risk management decisions sent down by the board of directors, and coordinating interaction and communication for cross-departmental risk management; each functional unit is responsible for analyzing, managing, and monitoring risks within their respective units. Our internal auditors form an independent unit that assists the board of directors in monitoring the implementation of the risk management mechanism to ensure their effective implementation.

GlobalWafers’ risk management procedure includes identification, assessment, supervision, reporting, and response to risk. With this risk management procedure, we aim to effectively implement and facilitate the Company’s risks management strategies.



GlobalWafers has formulated an assessment methodology as its foundational framework for risk management. For measurable and quantifiable risks, we employ rigorous statistical analysis and advanced analytical techniques, managing risks through a progressive approach. With risks that cannot be easily quantified, we assess using the qualitative method, i.e., a linguistic description to express the possibility and impact of a risk occurrence. Detailed operational and risk management information are disclosed both in the Company’s annual report and on its website.

GlobalWafers’ Operation Risk Management System operates according to the level-3 division of labor Risk management structure





GlobalWafers has established an effective risk management mechanism to assess and supervise its ability for withstanding risks and state of risks sustained; it also determines risks-response strategies and compliance status of risks management procedures. We have identified ESG risks and opportunities, which we illustrate below.

Corporate Governance Aspect		Environmental Aspect		People Aspect	
Identified risks	Strategies for transforming risks into opportunities	Identified risks	Strategies for transforming risks into opportunities	Identified risks	Strategies for transforming risks into opportunities
All risks involving management and investment	<ul style="list-style-type: none"> Proactively establish a comprehensive up-, middle- and down-stream integrated supply chain to expand the operation scale and disperse operation risks via multi-angled management strategies Establish an automatic feedback production analysis system to improve process stability, optimize quality, and reduce costs Continue to cultivate advanced technology R&D, commit to enhanced performance of key materials for power components and widen the gap with competitors Invest in the development of key technologies for GaN RF components to address the market demand for IoT and G5 mobile telecommunication Establish an information security risk management structure and policy, strengthen information security management awareness, and prevent possible information security risks and losses by implementing specific management plans as well as related education and training 	Climate change risks	<p>The management is conducted in two major aspects, "mitigation" and "adaptation"</p> <p>Mitigation</p> <ul style="list-style-type: none"> Promulgate the ISO50001 energy management system to supervise the equipment for major energy use and plan energy action improvement plan Promote green products and green production to reduce energy consumption Implement water-conservation measures and increase the use of reclaimed water <p>Adaption</p> <ul style="list-style-type: none"> Strengthen the Company's capacity for withstanding extreme climate conditions (drought, floods, snow storms) Conduct energy management and enhance energy consumption efficiency as a response to increased energy costs (e.g., rising electricity bills, carbon tax, energy tax) 	Risks for occupational health and safety	<ul style="list-style-type: none"> Conduct hazard identification and risks assessment plus risk reduction measures, stipulate relevant management procedures and handling guidelines, and implement regular emergency response drills The Company has conducted regular health and safety education and training to prevent occupational hazards and protect labor safety and hygiene
Challenges for relationship maintenance and communication with internal & external stakeholders	<ul style="list-style-type: none"> Enhance the stakeholder area on the Company's website, hold regular legal seminars, and build a communication channel with our stakeholders to understand and respond to issues of concern for all stakeholders 	Risks for environmental protection	<ul style="list-style-type: none"> Install pollutant emission supervision system; devote ourselves to reduction of pollutants Strength the risk control for transforming waste into resources and reuse; use regenerated raw materials as much as possible 	Labor Health Risks	<ul style="list-style-type: none"> Regarding particular operations prone to health hazards, special physical check-ups are offered to employees who are newly recruited or undergoing job changes. Yearly special health check-ups are conducted, and labor operation environment supervision is implemented To strengthen employees' health awareness, we have held sporadic employee health management and health promotional events in order to share information on major illnesses or health and enable our employees access to comprehensive health information The factory has established a Covid Contingent Action (CCA) pandemic response team in response to COVID-19 to provide rolling adjustment of the plant's pandemic measures and plan pandemic-related employee benefits according to the development of COVID-19. The actions include providing vaccination incentives and purchasing additional employee group insurance to cover new statutory infectious diseases. The goal is to establish a friendly workplace environment, ensure employee health, and enable employees to work without worry
Strengthen the Board of Directors' Competency	<ul style="list-style-type: none"> Improve the board of directors' structure and its member composition, implement corporate governance policies and specific incentive measures, formulate relevant governance provisions, and clearly define the punishment and appeal system to enhance the sustainable value of the Company 			Risks for labor-management relationships	<ul style="list-style-type: none"> Labor-management communication: The Company attaches great importance to the rights and interests of employees. So, before any important decisions are made, the Company notifies affected employees via labor-management meetings, electronic newsletters, or personnel announcements in order to protect their rights and interests. Work hours and output management: Stipulate clear job descriptions and establish work goals. We have adopted work hours and output management to ensure the value and rationality of work, ensure that colleagues can create value under the premise of work-life balance, and reduce the risk of labor disputes. Employee complaints channel: Charge designated personnel with handling employee opinions, handle problems raised by employees in a timely manner, reduce labor-management conflicts.
Regulation Compliance Risks	<ul style="list-style-type: none"> Continue to monitor the revisions of relevant laws and regulations, ensure compliance with laws and regulations by adding and revising corresponding internal procedure specifications, and provide education and training 				

In addition, GlobalWafers has identified 3 major emerging risks: climate change, information security, and infectious pandemic/pandemic diseases. The Company has formulated corresponding risk strategies and implementation mechanisms for all aspects of its corporate operations based on possible impacts to ensure that the risks can be effectively controlled.



Climate change risks and opportunities

Climate change is one of the key environmental issues of most concern to the United Nations, governments, societies, and enterprises worldwide. GlobalWafers has complied with the framework of the Task Force on Climate-Related Financial Disclosures Recommendation (TCFD) promulgated by the Financial Stability Board to disclose climate change information, assess the risks and opportunities of climate change for the Company. Climate change information is disclose based on 4 core elements: governance, strategy, risk management, and indicators and targets.

Climate Change Governance

The GlobalWafers Sustainable Development Committee is the Company’s highest organization for climate change management. This Committee is chaired by the chairperson and has 3 subcommittees, separately charged with the environmental, governance, and social aspects. The Environmental Committee is fully supported by the board of directors. The chairperson is responsible for overseeing the Environmental Committee’s operations; reviewing the Company’s climate change vision, policies, and goals; managing climate change risks and opportunities; reviewing implementation; and discussing future plans. The chairperson is responsible for reporting the Company’s climate-related affairs to the board of directors. The report serves as a key reference to formulate the Company’s policies on sustainability.

The Environmental Committee is responsible for the following:

- 1 Assessing and categorizing company-wide strategies and goals for environmental sustainability and climate change management
- 2 Identifying risks and opportunities related to corporate environmental sustainability and manage climate change issues
- 3 Overseeing the planning and implementation of company-wide environmental sustainability and climate change management strategies
- 4 Overseeing company-wide environmental sustainability and climate change management performances



Climate Change Strategy

The United Nations Framework Convention on Climate Change (UNFCCC) proposed 2 main strategies to address global warming and climate change during the convention: the first is mitigation, meaning greenhouse gas emission reduction or increased greenhouse gas storage through human intervention to slow the speed or scale of climate change problems. The second, adaptation, meaning to seek strategies that can effectively reduce the effects of climate change by assessing its impacts and taking preventive measures to minimize damage or exploit beneficial opportunities.

To effectively implement energy conservation and carbon reduction, GlobalWafers has set 2019 as the benchmark year to set its short, medium, and long-term carbon emission reduction targets. Among the adaptation strategies, the Company has implemented simulation exercises as well as education and training for the substantial risks brought by climate change to the Company’s assets and established extensive and rigorous preventive measures and emergency response plans. Should a crisis or disaster occur, it will immediately propose the most appropriate response and recovery plan to minimize the uncertainty and possible impact of the disaster.

In terms of transition risks, the Company has followed the energy diversification trend, complied with the specifications and goals of the Renewable Energy Development Act, invested to cope with the pressures of a low-carbon economy brought by climate change; departments have started to plan and purchase renewable energy and green power certificates.

Climate Change Risk Management

After referencing the TCFD framework, the Environmental Committee reviews domestic and foreign research reports, documents, and integrates the evaluation data of various departments and subsidiaries; it then ranks the importance of risk topics by screening climate risk issues through a multiplication of the degree of financial or strategic impacts with the probability of occurrence, which gives the risk value. The goal is to formulate risk management policies for effective identification, measurement, assessment, monitoring, and control; take specific action plans to reduce the impact of related risks; and adopt specific action plans to mitigate the effects of associated risks.



📍 Climate Change Indicators and Targets

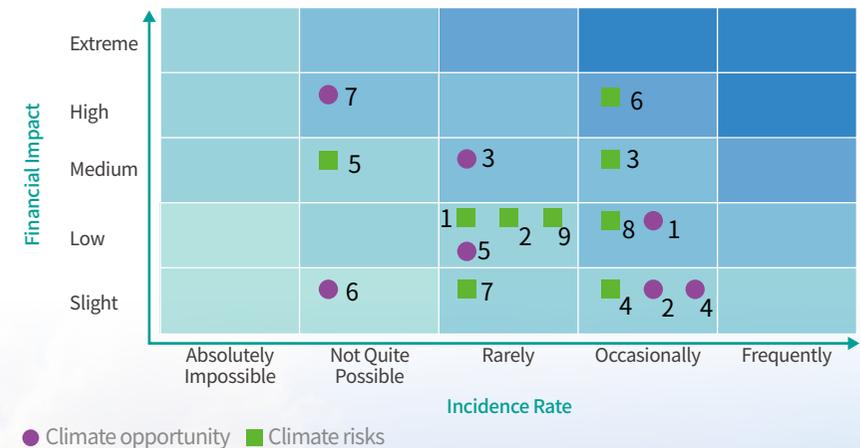
To effectively manage the impact of climate change risks and opportunities on GlobalWafers, the Company has taken practical actions to support net-zero transformation and pledged that all subsidiaries under the Group will endeavor to use 100% renewable energy by 2050. Our global production bases have formulated the schedule to fully incorporate ISO 14064 greenhouse gas inventory and third-party verification; ISO 50001 energy management system and third-party verification by 2024; and set short-, medium-, and long-term greenhouse gas reduction targets. In addition to our work to improve energy efficiency, we are signing power purchase agreements (PPA) and purchasing of Renewable Energy Certificates (RECs); the Company has also set goals for each stage of the climate blueprint: achieve 20% renewable energy adoption by 2030, 35% by 2035, and 50% by 2040. We aim to gradually accomplish our long-term goal of using 100% renewable energy by 2050 to reduce carbon emissions from power generation.

📍 Climate Change Identification and Assessment

GlobalWafers adopts the Well-Below 2°C and 1.5°C from the Nationally Determined Contributions (NDC) and Science Based Targets (SBT) as a basis for scenario analysis, conducts financial impact assessment on certain climate change risks, and continues to manage and make improvements. The latest climate risk assessment highlights the following 8 major climate risk items and explaining the impacts and countermeasures for each risk and respective opportunity: increased costs of greenhouse gas emissions, renewable energy regulations, market uncertainty, increased investment costs in new technologies, increased raw material costs, impact on company image, increased severity of extreme weather events, and rising average temperatures.

GlobalWafers has also identified feasible opportunities and developed countermeasures to reduce the preceding risk factors. The goal is to promote cleaner production, water resources management, carbon information disclosure, new/low-carbon technologies, and other project development measures.

Serial no.	Climate risks	Serial no.	Climate opportunity
1	Average temperature rise	1	Promote cleaner production
2	Extreme climate events with increased severity - water shortage	2	Water Resources Management
3	Extreme climate events with increased severity - electricity consumption increase	3	Adopt new/low carbon technologies
4	Increased raw material/transportation costs	4	Policy incentive
5	Impact the Company's image	5	Carbon information disclosure
6	Renewable energy regulations	6	Production process
7	Market uncertainty	7	Develop new products or services via R&D and innovation
8	Increased new technologies investment costs		
9	Increased greenhouse gas emission costs		



Note: The financial impact index is divided into 5 grades, and the economic impact score is 1-5 points.
 Note: The probability of risk occurrence is divided into 5 grades: 5 = frequent, 4 = occasional, 3 = very infrequent, 2 = very unlikely, and 1 = not possible.



Climate change risks and opportunities with substantial potential impact on finance or strategies					
Type	Climate risks	Description of potential financial impacts	Impact level	Coping Strategies/Cases	
Physical risks	Immediacy	Average temperature rise	Plant' s electricity consumption increases, cost and emission increase, resulting in increase in operating cost	Low	Scheduled for greenhouse gas inventory and energy management system to be fully implemented in all plants worldwide by 2023, and the greenhouse gas reduction actions will be led by senior executives
		Extreme climate events with increased severity	Water shortage caused by climate anomaly	Low	Deploy water usage system where appropriate, and promote water-saving measures in the various plants
	Increase in production electricity consumption increases greenhouse gas emission costs		Medium	Promote implementation of energy management systems and execute various energy-saving measures	
	Long-term	Increased raw material/ transportation costs	Increase in operating costs	Slight	Demand for alternative material suppliers
Transformation risks	Goodwill	Impact the Company' s image	Unable to satisfy stakeholders' expectations, causing damage to the Company' s reputation, resulting in loss in sales	Low	Promote clean production and recycling, and regularly publish Sustainability Report so that stakeholders can understand the Company' s energy conservation and carbon reduction actions
	Policy and regulations	Collection of carbon tax (fee) Relevant laws and regulations of renewable energy	Policies leading to increase in operating costs	High	Sign green energy procurement agreements and purchase renewable energy certificates, together with the climate blueprint, to achieve the goals in stages
	Technology	Increased new technologies investment costs	Products and services are replaced by low-carbon technologies to satisfy customers and the market, and new technology development leads to cost increase	Medium	Develop more energy-saving environmentally friendly products
		Market uncertainty		Low	
Market	Increased greenhouse gas emission costs	The cost of transitioning to a low-carbon economy Various equipment and increase in operating cost in response to government tax imposed	Low	Actively promote various energy conservation and carbon reduction projects	
Type	Climate opportunity	Description of potential financial impacts	Impact level	Coping Strategies/Cases	
Resource efficiency	Promote cleaner production	Reduce water and electricity consumption, reduce operating costs	Medium	Continue to promote various water-saving/electricity-saving measures	
	Water Resources Management	Increase water resource utilization, reduce water intake	Low	Improve wastewater recycling rate of factory processes	
Energy	Adopt new/low carbon technologies	Reduced operating costs	Medium	Accelerate crystal growth thermal field design and development	
Market	Policy reward	Obtain government subsidy, reduce capital expenditures	Low	Evaluate policies subsidy projects	
	Carbon information disclosure	International organizations' initiatives	Low	Transparent disclosure of carbon information to improve company image	
Resilience	Production process	Strengthen basic measures, build sustainable operation capabilities and make full use of high-efficiency materials to reduce cost	Slight	Evaluate using high-efficiency raw materials, reduce resource usage	
Products and services	Develop new products or services via R&D and innovation	Research and develop low-power and low energy consumption products to meet customers' requirements	Medium	Continue to invest in the research and development of resources, develop energy-saving products	

Based on the results of our impact level identification of climate change risks and opportunities, the high-impact climate risk issues include collection of carbon tax (fee) and renewable energy regulations. Our response strategies with regards to these include:

- ✓ Joined the RE100 Initiative (formally joined in October 2022), gradually realizing the long-term goal of using 100% renewable energy by 2050;
- ✓ Low-carbon technology transition (energy-saving action plans for facility, process optimization);
- ✓ Plan to use incentive systems or other methods to require carbon management and reduction (goal) in the supply chain in stages.



Information Security

In recent years, many notable companies both globally and within Taiwan have experienced ransomware incidents that resulted in significant losses. Consequently, companies have been quick to enhance their information security operations. GlobalWafers has continued to optimize its information security management system and enhance its information security defense capabilities in order to ensure effective information security practices, while also reducing the risk of evolving, novel information security attacks. The Company has adopted the PDCA cycle operation model to achieve its objectives and provide continuous improvement, established information security monitoring and vulnerability scanning systems to prevent external hacker intrusions and theft of internal secrets, and implemented strict software and hardware control (including the Internet and personal information equipment) to ensure personal data and internal confidential data protection and security.

The information security management and control mechanisms are implemented in 3 major aspects (as follows) to ensure effective information security protection and reduce risks.

1 Information System Security Management

- ✓ Install endpoint protection software on servers and personal computers or laptops, and automatically update virus definitions or signatures.
- ✓ Construct email security gateway equipped with information security modules such as spam filtering, malicious file detection, and phishing email detection in order to enhance email attack protection.
- ✓ Important systems and databases are regularly backed up and stored off-site to ensure data availability.
- ✓ Information system vulnerability scanning is conducted periodically, and system loopholes are fixed.
- ✓ The computer operating systems or servers are updated for securities based on the cyber risks.
- ✓ Established a firewall in the internal network and set up firewall rules to protect important information systems.
- ✓ Performed annual disaster recovery drill for important application systems.

2 Information System Access Control

- ✓ Strictly control the application system and file access setting permissions to ensure information confidentiality.
- ✓ Formulate and implement account/password complexity principles, and update passwords regularly to ensure the validity of identity authentication.
- ✓ For employees who have resigned and changed departments, the information department adjusts permissions of documents to ensure up-to-date, correct data permission and authorization.
- ✓ Established management procedures for non-employees (suppliers and contractors) to apply for accounts and access systems. Once the application is approved, access will be granted to enter the system; and handling status is recorded.
- ✓ No personal terminal devices are permitted to be connected with any external storage medium.
- ✓ Personal computers are prohibited from connecting to the Company's network and resources, and we established a device authentication management mechanism.

3 Network Security Management

- ✓ Established a firewall to protect the network's external connections, and analyzed the firewall's anomaly records to strengthen protection.
- ✓ A multi-loop mechanism is adopted to connection to the Internet and the Company's internal network interface in order to prevent disconnection.
- ✓ An information service monitoring platform has been set up to monitor network traffic and connection status, which can resolve any network related problems in real time.
- ✓ The information department delivers security reminders to all colleagues irregularly to remind colleagues to remain alert for the emails received in order to prevent the increasingly serious phishing and malicious fraud letter problems.
- ✓ All internal staff's computers are installed with anti-virus software. Once the anti-virus control platform finds a virus, it will send a notification letter to the IT personnel for computer virus removal.
- ✓ The remote connection to the internal network when the employees are out of the office is limited to those compliant with the cyber security controls. Only these employees who are required to perform the necessary tasks may connect to the Company via remote connection via an authorization, and the VPN security connection with multi-factor authentication must be applied.



Pandemic Infectious Disease

Despite the ongoing COVID-19 pandemic in 2022, GlobalWafers acted swiftly by strengthening its pandemic response measures in the factory area to help protect the health and safety of all employees and stabilize normal wafer production chain operations. The various departments joined forces to formulate pandemic response strategies for the factory area, executed comprehensive pandemic response actions, complied with the government's prevention measures, inventoried pandemic response resources, and regularly adjusted pandemic-response actions according to the global pandemic status to ensure workplace health and safety.

We took a multi-pronged approach regarding pandemic response and employee care for the factory. In addition to executing the high-standard corporate pandemic response mechanism to ensure uninterrupted production line operations, we have continued to practice multiple care measures to ensure the safety of all employees, exert a positive influence on the enterprise, and join forces with everyone to fight the pandemic.

- 1 Employee care: When the local outbreak occurred in May 2021, GlobalWafers immediately took pandemic response as its top priority and purchased the statutory infectious disease health insurance for its employees to maintain the safety and health of every colleague. The scope of protection includes statutory infectious disease coverage, statutory infectious disease inpatient medical coverage, and statutory infectious disease intensive care unit hospitalization medical coverage.
- 2 Pandemic response information: To enable employees to grasp the real-time pandemic response information correctly, the Health Management Center periodically collected the latest pandemic information at home and abroad and made rolling pandemic response measure adjustments in the factory, and made real-time announcements of the state of the COVID-19 pandemic so that employees could quickly receive correct pandemic response information.
- 3 Health monitoring: To reduce employee exposure risks, GlobalWafers has set up infrared thermometers at the entrance of each factory area and implemented entry control for risk groups such as people with fever or other symptoms and suspected exposure history. The goal is to implement employee pandemic response and entry control fully.
- 4 Visitor management: Use electronic bulletins to educate supply chain manufacturers about COVID-19 prevention measures when entering the plants, require all visitors and contractors to fully apply for entry into plants, limit the scope of activities depending on the pandemic response level, and require everyone to wear masks throughout the process to protect the safety of employees.
- 5 Pandemic response in the plants: To prevent the infection risks due to clustering, office workers have taken several contingency measures such as: checkboard seating, isolation rooms, triage, working from home, among other measures, to reduce clustering density and reduce frequency of contact among employees (Note: separate areas, work from home, and using remote systems to maintain smooth work.)
- 6 Safe dining environment: The Company has planned pandemic response dining lines, plastic table partitions, disposable lunch boxes, and divided the dining area by units to ensure worry-free meal dining safety in plants.
- 7 Disinfection in plants: The Company has formulated public area disinfection and cleaning measures, adjusted the frequency of environmental disinfection and supplied alcohol disinfectant in public spaces, increased internal ventilation, encouraged personnel to open windows in confined spaces, affixed adhesive films on top of frequently used buttons, added partitions in restaurants, posted correct hand-washing instructions in each restroom, and conducted a regular inventory to ensure that the Company has sufficient anti-pandemic materials.
- 8 Physical and mental care: COVID-19 has created a social atmosphere of anxiety and tension. In 2021, GlobalWafers introduced the Employee Assistance Program Consortium (EAPC) to provide each employee with 2 free one-to-one consultation services per year. GlobalWafers has also regularly passed out psychological growth promotion materials to help employees resolve negative emotions and stress.



03

Innovation and Service

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/Major aspects for consideration/



/Management Mechanism/

Continue to promote the quality management system, uphold the spirit of IATF 16949, actively participate in quality management efforts, and pursue a full range of improvements and precise process technology to enhance product quality.

- ✓ Each plant has established a Quality Improvement Team (QIT) consisting of members from various functional departments to ensure process research and product quality improvement. Performance reports are submitted every 6 months to the QIT results publication appraisal conference; review subjects include innovative creativity; cost-effectiveness; lean production; product competitiveness; customer satisfaction; customer complaint cause analysis, review, and improvement; and quality index process capability.
- ✓ GlobalWafers instituted the Proposal Improvement Committee to both harness and boost the collective knowledge and expertise of employees across all tiers. It enables all employees to propose improvement suggestions, inventions, ideas, or plans that may benefit the Company. The goal is to help steer Company towards a state of constant improvement and enhance the image and competitiveness of our products.

For our work in strengthening information security standards, preventing Company secret leakage, protecting the rights and interests of the Company and its customers, controlling product quality via a comprehensive customer-oriented process, and providing product manufacturing services that meet customer quality needs, the Company has obtained Taiwan Intellectual Property Management System (TIPS) AA certification. We think from customers' perspectives and emphasize customer-oriented services backed by professional technology in hope of providing services that meet or exceed customer expectations.

/Significance to GlobalWafers/

GlobalWafers adheres to its ideals of sustainable business operations and continuously working for customer satisfaction and customer information security. It also works to maintain operational performance with stable growth. We begin at customer demand and hope to develop innovative services in line with GlobalWafers' corporate ethics. In accordance with our quality policy, we are committed to making the continual improvement and excellence that allow us to provide the best quality, technology, and comprehensive services, and to ensure enhanced product quality and competitiveness. GlobalWafers aims to grow together with our customers, pursue excellence with employees, create value for shareholders, and pursue sustainable operations with all. Our ultimate objective is to provide customers with zero-defect products and services with outstanding product quality, production technology, and manufacturing.

/2022 Key Results/

- GlobalWafers has actively promoted patent layout planning in various important technical fields, and has accumulated 1,999 valid patents over the years.
- In 2021, GlobalWafers once again passed AA verification from Taiwan Intellectual Property Management System (TIPS). (The certificate is valid till 2023/12/31)
- In 2022, GlobalWafers participated in the "Taiwan Continuous Improvement Awards" organized by the Corporate Synergy Development Center, and won three Silver Tower Awards in Group Improvement Category (quality & efficiency) and Project Improvement Category. Moving forward, we will continue to improve and refine our process technologies.

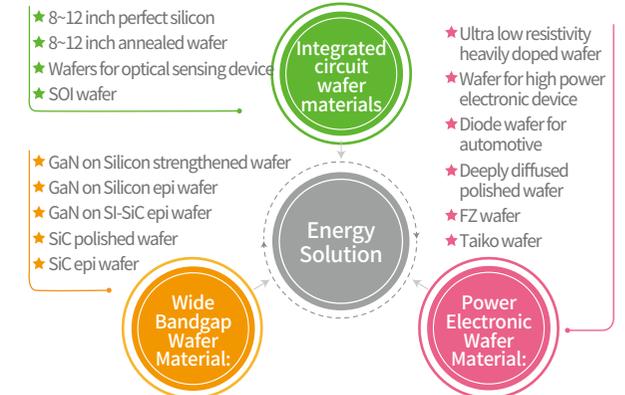


3.1 Innovation Management

GlobalWafers has implemented several expansions in response to increasing demand for semiconductor content driven by technological advancement and accelerated digital transformation in the post-pandemic era. Expansion locations include Asia, Europe, and the United States. Production capacity expansion covers 12” wafers and Epitaxial wafers (EPI), 8” and 12” silicon on insulator (SOI) wafers, 8” float-zone (FZ) wafers, Silicon carbide (SiC) wafers (including SiC Epi), gallium nitride on silicon (GaN on Si) wafers, and other large-size next-gen products. GlobalWafers is currently replacing equipment for the second phase of the Hsinchu Science Park plant to invest in 12” silicon wafers for advanced processes and expand its R&D centers towards developing advanced compound semiconductor materials, including SiC and GaN Epi. These two wide bandgap (WBG) materials are widely used in the fields of power components and RF microwave communications, including 5G, high-power components, fast charging applications, high-frequency and high-voltage, automotive electronics, photonic data communications, AIoT, and green energy, and their market demand has continued to increase significantly. At present, these products are successively entering the mass production phase, and are set to become a driving force for our achieving high growth.

In terms of product R&D, GlobalWafers aims to significantly enhance the production capacity and technology of high-end semiconductor wafers dedicated to advanced processes as well as accelerate the development of SiC wafers and semi-insulating SiC required for new technologies such as 5G, power electronics, and electric vehicles. The Company also intends to expand the purview and R&D capacity of Taiwan’s wafer R&D center, invest in domestic green energy development, and increase the green energy utilization ratio for semiconductor wafer processes. Products can be classified into three major products based on product type. The following is an explanation of development directions for these three major products:

GlobalWafers Product Development Direction



1 Integrated Circuit Wafer Materials:

Main products are 8” – 12” perfect silicon, 8” – 12” annealed wafers, optical sensor device wafers, and SOI wafers. Large-size wafers are mainly utilized for integrated circuit device manufacturing. This includes 5 major categories of devices of bipolar digital, memory, micro, logic and analog. As manufacturing processes continue to shrink and requirements on silicon wafer defects and surface cleanliness and flatness become more stringent, crystal pulling technology (for example, amount of oxygen density and micro-defects) enhancement and wafer processing technology breakthrough during the silicon wafer manufacturing process have become more important. And as wire width for IC manufacturing processes becomes smaller by the day, quality requirements on silicon wafers are also becoming more stringent. In the field of IC wafer material, GlobalWafers will continue to develop wafers compliant with advanced IC manufacturing process requirements while providing customers with the best services and options.

2 Power Electronic Wafer Material:

Amidst growing awareness of environmental protection, the demand for green energy has become a global movement, and with the increasing demand for renewable energy and the booming electric vehicle industry, the development of power electronics now tops the global agenda. Industrial automation trends, the rise in mass consumption capability and increase in demand for consumer electronics have all contributed to the development of power electronics. Industry players are now paying more attention to meeting energy-saving requirements in high-end power electronic solutions and the wide use of industry achievements, which will further help in power electronics vertical market expansion. Wafers required for power electronic components of silicon-based power semiconductors include ultra-low resistivity heavily-doped wafer, high-power power electronic wafers, automotive diode wafers, FZ wafers, and Taiko wafers. With the development of the industry and the wide applications in the market, the demand for wafer quality and quantity have also increased over the years. As the market continues to grow, the market scale of power electronics reached USD 43.3 billion in 2022, and is expected to increase to USD 94.21 billion by 2032, with a compound annual growth rate (CAGR) of 8.3% (2021-2030) during the period. (<https://www.globenewswire.com/en/news-release/2023/04/13/2646669/0/en/Power-Electronic-Market-Size-to-Surpass-USD-94-21-Bn-Revenue-by-2032.html>). Higher power density and growing demand from the automotive industry are the major market drivers of growth. Also, the material switching revolution is continuing, with GaN and SiC technologies replacing some silicon transistors and more diodes to attain higher product performance (<https://www.emergenresearch.com/industry-report/power-electronics-market>). The global demand for power semiconductors continues to grow, and GlobalWafers plays a leading role in this field. It will continue to strengthen the development of products and technologies.

3 Wide Bandgap Wafer Material:

Wide bandgap (WBG) power devices come with many advantages, including high electric breakdown field, high saturated electron drift velocity, and superior heat dissipation. These features make wide bandgap device more suitable for applications in high-power, high-frequency, and high-temperature environments. Utilization of WBG power devices can lower energy consumption during conducting and switching, and the power consumption for the system’s overall operation can be reduced by half. Additionally, given the features of lowered energy consumption and excellent heat dissipation, volume and weight for systems using WBG power devices can be dramatically reduced. Currently, new materials such as SiC, GaN and Ga2O3 are seen as the “next-gen” materials for power semiconductors. Based on TrendForce research estimates, the output value of the SiC power device market will grow 3.3 times by 2026, from US\$1.69 billion in 2022 to US\$5.33 billion in 2026 (<https://technews.tw/2023/03/09/sic-power-components-output-value>). According to research on the GaN semiconductor market by Transparency Market Research Inc. (TMR), the output value of GaN semiconductors in 2021 was US\$1.85 billion; the compound annual growth rate (CAGR) is expected to be 27.4% from 2022 to 2031, and by the end of 2031 the output value is forecast to reach US\$19.5 billion (<https://finance.yahoo.com/news/gan-semiconductor-devices-market-size-190000539.html>). Furthermore, global demand for GaN substrates will reach a market size of about US\$647 million in 2030 from US\$227 million in 2022 (<https://www.giiresearch.com/report/vmr1274370-global-gan-substrate-market-research-report.html>). GlobalWafers has invested in research for developing GaN and SiC wafers. Currently, the Company is already providing customers with silicon wafer substrates, which are exclusive for GaN on silicon and GaN on silicon/GaN on Si-SiC epitaxy wafers for their device design and development. Developments for polished SiC wafers and epiwafers will continue. For these two new materials with explosive growth, we will continue to invest in development resources. In future, GlobalWafers will be able to provide various types of wafers for energy applications and total solutions for customers.

★ Research Resources

Product development takes time, labor, and resources, as well as resources and support from numerous parties to push product development forward to fruition. That is why utilizing small resources is a prerequisite to creating maximum benefits when resources are limited.

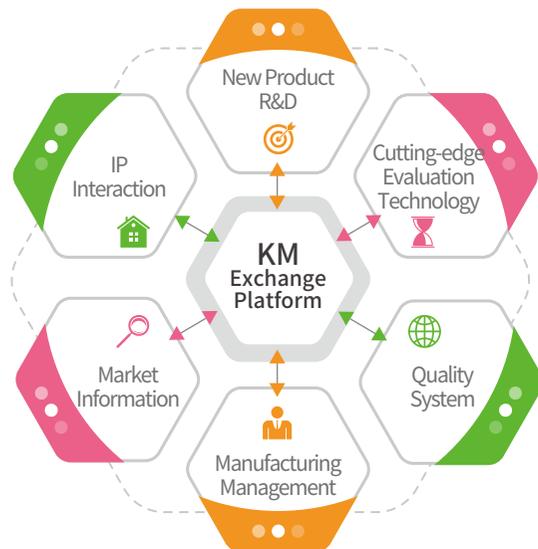
Internal Resources

GlobalWafers has a total of 17 operating production sites distributed throughout 9 countries worldwide as well as customers in Europe, Asia, and the Americas. Faced with globalized competition, staying up-to-date on information and resources sharing will be crucial for more efficient and accurate strategies. Therefore, GlobalWafers has established its inter-factory Knowledge Management (KM) exchange platform, which enables interaction amongst factories by communicating/sharing information and technologies. On this interaction platform, resources and support can be obtained for technology issues, market information and product development, manufacturing management, quality management and IP patent activities that factories need to address. In the meantime, enhancing the capabilities of factories is encouraged through internal competition mechanisms established for this interaction platform.

External Resources

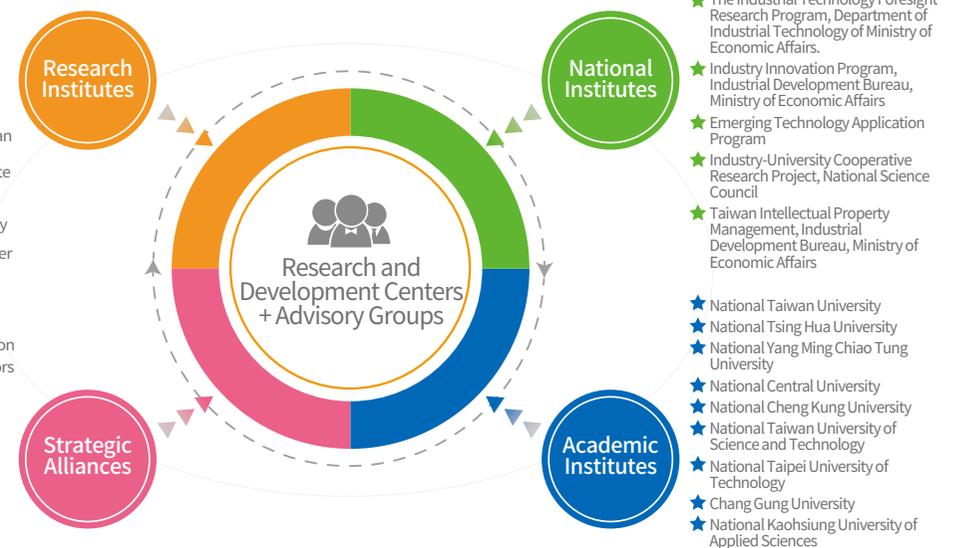
Taiwan has excellent academic resources and vast amounts of knowledge regarding fundamental research and scientific applications. Infusion of academic research energy through academia-industry collaboration expedites product development and shortens the process of time to market. It is also the case that Taiwan has a complete ICT industry chain. Through up- and down-stream integrated operations, we are able to facilitate mass production during the product development stage. Furthermore, to facilitate industry upgrades and practical application of academic research, governmental bodies subsidize academia-industry collaboration on new products and new technology development. Beginning in 2015, the Taiwanese government initiated the Taiwan Industry Innovation Platform (TIIP), and assisted industries in undergoing structural transformation via four major development strategies (enhancing product value, supplementing critical supply chain, developing systems, and incubating emerging industries). The GlobalWafers headquarters utilizes external resources through academia-industry collaborations with academic institutes, commissioned research with research agencies, as well as implementing national projects via subsidy application to national institutes and building strategy alliances with industry players. External research consultant groups composed of these external resources work together to solve technological issues arising out of the product development process and conduct verification on research products.

Internal Resources - KM Exchange Platform



External Resources

- ★ Electronic & Optoelectronic System Research Laboratories, ITRI
- ★ Material and Chemical Research Laboratories, ITRI
- ★ National ChungShan Institute of Science
- ★ Technology Institute for Information Industry
- ★ Precision Machinery Research Development Center
- ★ Actron Technology Corp
- ★ EPSTAR Corporation
- ★ WIN Semiconductors Corporation
- ★ Prohanns



Corporate sustainable operation and continued profits are every company's aim. However, century-old enterprises may vanish too when faced with global competition and technological evolution, or when losing its driving force for progressive operations. A company can follow the trends and continue to grow and profit if its operation strategies are aligned with those developments. With respect to research strategies, it is necessary to continue in-depth cultivation on core technologies and core competitiveness, supplemented with technology trends and market information for our development approach. Through this approach, the company can achieve sustainable operations by harnessing integrated internal and external resources, optimizing benefits through minimum investment, and fostering sound management of intellectual property protection and utilization.

R&D Strategy and Company Operations



Intellectual Property Management Guidelines

In 2013, GlobalWafers' intellectual property management system adopted the Taiwan intellectual property management system and passed TIPS (Taiwan Intellectual Property Management System) basic certification. We continued to pass advanced certifications in 2014 and 2015, and obtained AA-level certification in 2016, as well as from 2017 to 2022. With the promotion of TIPS, we have established intellectual property goals, provide employees with intellectual property rights education and training and enhanced information security guidelines. In so doing, we strengthen our patent deployment, reduce infringement risks, and prevent confidential information leakage, so as to protect the rights and interests of the Company and our customers. In the era of technology-based competition, intellectual property rights are a niche instrument in the competition of next-generation product development. GlobalWafers has aggressively promoted patent deployment and planning in the fields of various critical technologies and accelerated the development of our own core technologies. GlobalWafers currently has 436 valid patent applications. The total number of valid patents applied for by the Group, including those of overseas subsidiaries, has reached 1,999 (as of December 2022, including the number of patent applications in progress and received).



3.2 Product Quality

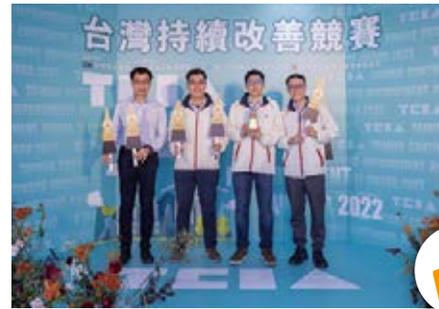
GlobalWafers, adhering to the spirit of unending improvement and excellence, provides the best quality, technology, and comprehensive services to enhance the quality and competitiveness of its products. The Company aims to grow together with its customers, pursue excellence with employees, create value for shareholders, and pursue sustainable operations with our customers.

To ensure the effective implementation of strategic operations, GlobalWafers has promulgated its Quality Policy to serve as the creed for all employees. We are committed to continuous improvement in all aspects in order to achieve the highest in quality, technology, and manufacturing excellence. Our goal is to provide customers with zero-defect products and services.

✦ Enhancement of Company Improvement Culture

Each GlobalWafers plant has actively invested in quality management activities, pursued comprehensive improvements, and refined process technologies to enhance product quality. The plants have established a Quality Improvement Team (QIT) composed of members from various functional departments to ensure process research and product quality improvement. The improvement results include innovation and creativity; cost-effectiveness; lean production; product competitiveness; customer satisfaction; customer complaint cause analysis, review, and improvement; and quality index process capability. Its goal is to aim for perfection and enhance the image and competitiveness of the Company's products through continuous improvement and progress. Zero-defects is our permanent goal and we continue to improve and grow with our customers in order to be their first choice.

In 2022, GlobalWafers participated in the Taiwan Continuous Improvement Awards and won three Silver Tower Awards in Group Improvement Category (quality & efficiency) and Project Improvement Category. We will continue to improve and refine our process technologies.



Tongxinlianjin Circle Silver Tower Award

Improvement theme :
6" arsenic unit energy-consumption improvement



IE4.0 Circle Silver Tower Award

Improvement theme :
Highly efficient, timesaving and effort-saving warehousing operations



Leitengyunben Circle Silver Tower Award

Improvement theme :
Improve hourly generation of epi wafer from ASM machine





3.3 Customer Service

GlobalWafers not only values its customers, it sees them as our important partners along the way to growth. In addition to maintaining operational performance, enhancing the company's core value, and pursuing advanced technology and stable quality, we also provide comprehensive customer service and maintain good collaboration relationships with customers in hopes that all parties can grow and prosper together, enjoy sustainable operation, and achieve social and economic values.

★ Customer Satisfaction

GlobalWafers has become the world's third largest semiconductor wafer manufacturer. A major contribution to this achievement has been customer's recognition and support. Therefore, customer service has always been central to GlobalWafers' work. In order to enhance customer relationships, improve service quality and facilitate technology innovation, we conduct customer satisfaction survey each year focusing on the top 20 profitable customers and potential key customers through questionnaire distribution or telephone interviews for the purpose of obtaining and understanding customers' needs. Issues that need to be improved are located through survey results, and improvements will be continued in order to achieve customer satisfaction as the ultimate goal.

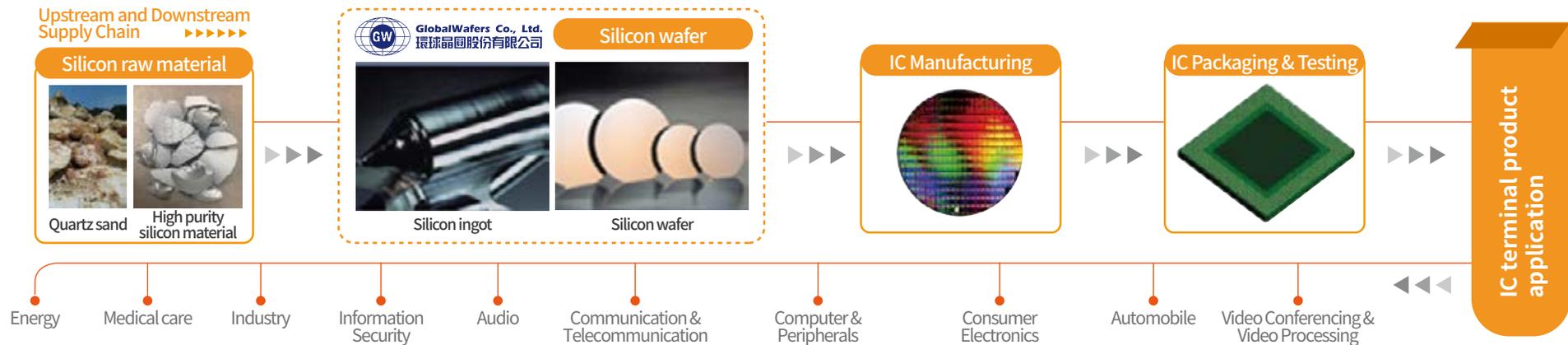
Contents for our customer satisfaction survey mainly encompass overall impression, business service, product quality, and new product openness. Based on customer's feedback, GlobalWafers business team together with other colleagues establishes an improvement plan focusing on issues revealed, and further conducts in-depth discussion with customers in order to complete the customer satisfaction survey process.

Through the efforts of GlobalWafers teams in 2022, customer satisfaction survey recovery rate reached 98%, and feedback showed that we have achieved the goals we set in both product quality and new products launched. On top of that, the survey results showed that we have won the approval of the vast majority of customers for our stable quality and pursuit of advanced technology. GlobalWafers endeavors to continuous improvement to be the preferred partner of customers' technology journey.



3.4 Sustainable Supply Chain and Management

Upstream and Downstream Supply Chain

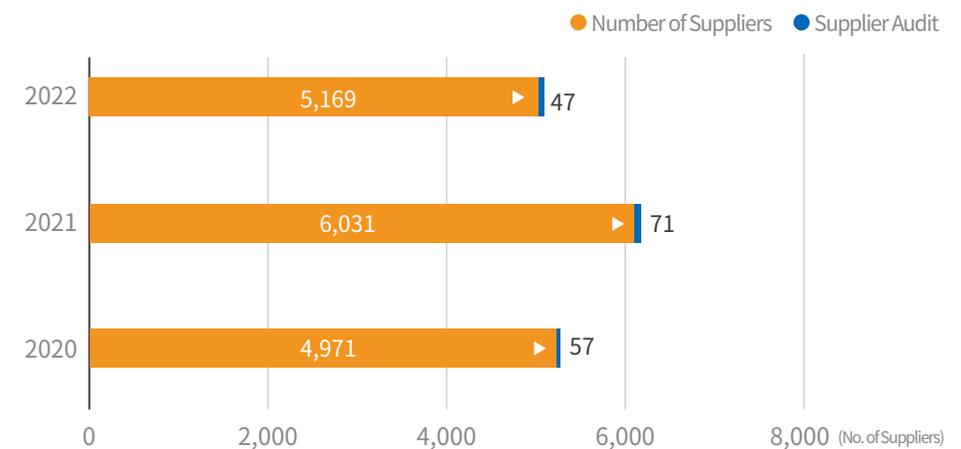


Supplier Assessment Management

GlobalWafers employs appropriate supplier assessment operations to carefully define and select qualified suppliers. A close work relationship and feedback system are also established accordingly to ensure raw material, finished products, semi-finished products, fixtures and tools, technology services, and other labor services all comply with requirements for quality, environment, safety and hygiene. Our qualified suppliers all need to comply with Ethical Corporate Management Best Practice Principles, with no dishonest behavior records for our suppliers. Each year, we form a supplier appraisal team composed of quality assurance, procurement, environmental safety, R&D, and other relevant department members to perform supplier factory audits and document reviews. We also conduct interviews with other supervisors and employees to improve the issues discovered and retain records for inspection.

Regarding on-site supplier audits, approximately 1.2% of the total number of suppliers received on-site audits in 2022, and a similar ratio of on-site supplier audits has been conducted with the past 3 years.

Number of On-Site Audit Suppliers for Global Factories





Legal and Regulatory Requirements and Risk Control of Key Materials

GlobalWafers regularly collects regulation requirements from countries as place of receipt, countries as place of delivery, as well as countries as destinations designated by customers to ensure purchased products, procedures, and services all comply with laws and regulation requirements of countries where subjects are located. In addition, when customers set special controls on specific products due to legal requirements, we will ensure such special controls are implemented and maintained, which include monitoring the suppliers.

In some countries or regions, the source or production of raw materials is subject to the corresponding local laws and regulations of the country or region involved such as the EU RoHS directive, the REACH regulations (restrictions), and the Toxic Substances Control Act (TSCA) of the United States.

To ensure the company’s quality management system continues to comply with requirements from customer and regulations, we regularly implement reviews of compliance with related information and regulations, and make a list of the company’s stakeholders and issues of stakeholder concern. We also continue to work with the Conflict-Free Minerals Plan and request suppliers to conduct reasonable due diligence on supply chains to ensure that materials provided to us by suppliers are conflict-free, for the purpose of meeting requirements from customers and regulations.

The Modern Slavery Act passed by the British government in October 2015 is applicable to enterprises with annual revenues of £36 million or more that have operating activities in the UK. Our operation activities in respective countries comply with all local laws which include various acts preventing human trafficking and slavery systems. GlobalWafers will not tolerate any form of modern slavery, and insists all its commercial transactions, business relationships, and supply chain activities comply with moral requirements—upholding integrity is our highest principle.

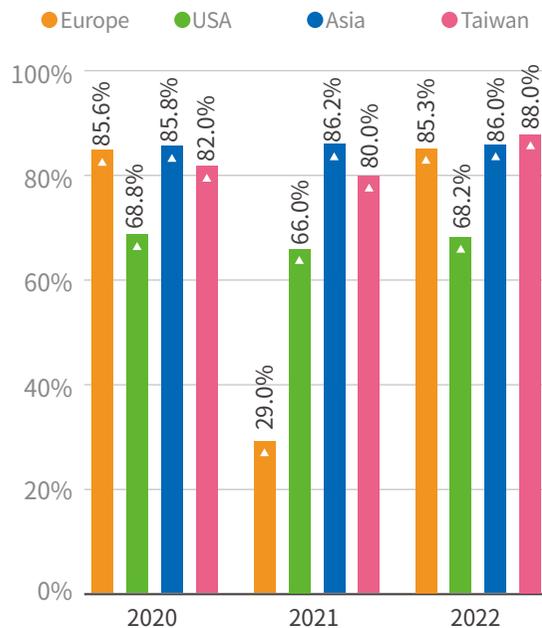
GlobalWafers has identified silicon raw materials as key materials with potential risks to operations and adopted the supplier diversification and material reserve risk control strategy.

Local Procurement

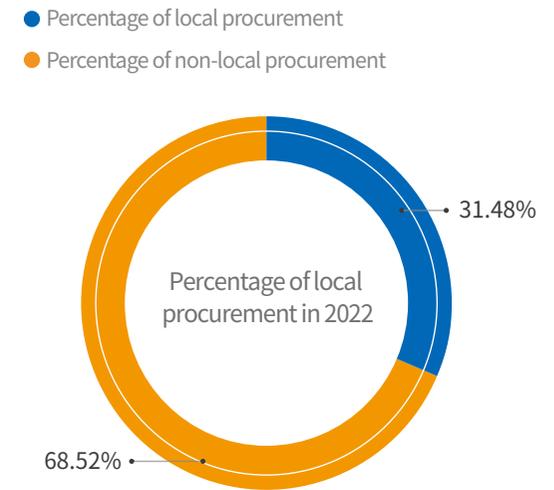
GlobalWafers’ procurements are roughly categorized into equipment, parts and components, raw materials, factory matter, and automation equipment. Factories conduct their own procurement. We aim at localized supply chains to increase supply flexibility and reduce unnecessary costs and supply chain carbon emissions, promote green industry development, and create local employment opportunities. GlobalWafers production bases are located throughout the regions of the globe. We regard the promotion of local industry development as a critical part of corporate social responsibility. We have endeavored to fulfill the local industry development promotion concept.

In 2022, there were no major changes in GlobalWafers’ supply chain. Based on the total procurement amount, Asian plants accounted for 37.94%, Taiwanese plants for 25.1%, US plants for 25.1% and European plants for 11.16%; while based on the number of local suppliers, Taiwan plants accounted for 88%, Asian plants for 86%, European plants for 85.3% and US plants for 68.2%. In addition, global statistics show that local procurement amount accounted for 31.48%.

Percentage of Local Procurement by Plants Worldwide



Percentage of local procurement in 2022



Note1: Local Procurement: The factory and its supplier are located in the same country.
 Note2: Local procurement percentage is calculated by dividing the number of local procurements by the supplier number.
 Note3: Proportion of local procurement amount is calculated by dividing the local procurement amount by the total procurement amount for the year.



04

Sustainable Environment

- 4.1 Climate Change Risks and Opportunities 62
- 4.2 Waste Management 65
- 4.3 Source Reduction 67

/Major Aspects for Consideration/



/Significance to GlobalWafers/

According to the 2022 materiality matrix, climate change risk is a major risk of the Company. In consideration of its significant impact on the operations of the Company and the rapid changes in environmental climate, frequency of droughts and floods in turn is increasing, and external stakeholders are increasingly concerned about water resource issues. In order to promptly respond to complex water resource problems, we published in 2023 our [“Water Resources Management Policy”](#), the Company’s highest guiding principle for water resource management that effectively integrates management concepts such as prevention, energy-saving, response.

Under the circular economy policy actively promoted by the government, GlobalWafers is aware that the economic and technological development will also consider importance of environmental protection, and we recognize that corporates have the responsibility to share the burden from impacts on the environment. As such, GlobalWafers actively contributes to resource recycling in line with the circular economy vision. In addition to the three Rs (Reduce, Reuse, Recycle), we focus more on the 4th R (Redesign), which ensures pre-planning of recycling effects of reduction, reuse, and re-application for the product/manufacturing process during its design stage, while continuing to enhance pollution prevention technological capability. Self-monitoring is also required in order to achieve the vision of a sustainable environment.

/Management Mechanism/

In climate change risks and opportunities, we conduct inventory and management of climate change risk and opportunity and disclosure according to Task Force on Climate-related Financial Disclosures (TCFD) framework, to allow relevant stakeholders to manage climate change risks and opportunities and financial impact in a more systematic manner.

GlobalWafers introduced the product life cycle in its promoting the ISO 14001 environmental management and ISO 50001 energy management systems. In this, our goal is to reduce raw material consumption at the source, starting from the production process and product design phases. We have implemented a environment and energy management system, set annual energy-saving and material-saving goals, and continued to implement water recycling and waste reduction measures in order to conserve our limited resources, reduce resource consumption, and achieve the GHG emission reduction. Our plants have continued to conduct material flow cost analysis (MFCA) in order to achieve effective management by identifying improvement opportunities through production process inventory.



/2022 Key Results/

- GlobalWafers announced the Company's [Water Resources Management Policy](#) as the Company's highest guiding principle in response to water resource management.
- MEMC Korea Company cooperated with external professional energy companies in promoting heat recovery projects, through aboveground and underground transmission pipelines, and stably supplying residual heat from boiler combustion to MEMC Korea Company. Besides being able to increase utilization efficiency of residual heat, it can also reduce the use of natural gas in the plant. Promoting this project can reduce production cost and achieve the dual benefit of energy-saving and carbon reduction; it is expected to reduce 20% in fuel costs and 1,000 tons of CO₂ emissions per year.
- GlobalWafers continues to take part in the Carbon Disclosure Project (CDP). In 2022 results, climate change category questionnaire remains level "B"; the water issue questionnaire category also remains at "B".
- GlobalWafers officially joined the RE100 initiative, committing to all its subsidiaries using 100% renewable energy by 2050 to reiterate the Company's determination for sustainable development.
- GlobalWafers has continually focused on energy saving and carbon reduction matters. Wholly-owned subsidiaries of GlobalWafers, Sunrise PV Four Co., Ltd., and Sunrise PV Electric Power Five Co., Ltd., are committed to delivering renewable energy services and to the continuous development of relevant technology, actively investing in the development, construction, and maintenance of solar energy plants. As of December 2022, cumulative solar capacity reached 31 MW, which is estimated to generate 36.73 million kWh of electricity per year, providing an annual reduction of 18,695 tons of CO₂ emissions, equivalent to the amount of carbon absorbed by 48 Taipei Daan Forest Parks. In 2022, GlobalWafers has invested NTD 336,173,000 in developing renewable energy plants, with an estimated annual power generation of 14.81 million kWh which is expected to reduce 7,536.04 tons of CO₂ emissions, equivalent to the carbon absorbed by 19 Taipei Daan Forest Parks.

4.1 Climate Change Risks and Opportunities

The World Economic Forum's Global Risks Report 2023 surveys the world's most severe risk perceptions for the next 10 years. Among the top 10 risks, 6 are classified as "environmental" crises, compared to 5 items classified as "environmental" in the previous year. With the failure to mitigate climate change, this ranks first in the risk ranking. The results of this survey can be seen from the results of the 2022 United Nations Climate Change Conference (COP27). With lagging reduction progress for meeting the GHG reduction goal of limiting global warming to under 1.5° C, many countries have yet to re-examine and make improvements and updates to their climate plans before COP27 based on the agreed matters in COP26.

Despite the unsatisfactory performance in the UN Climate Change Conference, GHG net-zero by 2050 is a worldwide consensus; Taiwan itself in 2023 passed the Climate Change Response Act to legislate the 2050 net-zero goal. "Net-zero" has become the ultimate goal of governments around the world, and both support and realization of net-zero transformation in enterprises seems to be inevitable. GlobalWafers officially joined the RE100 in October 2022. Our milestones in the proportion of renewable energy at each stage are 20% by 2030, 35% by 2035, and 50% by 2040, and eventually the long-term goal of using 100% renewable energy by 2050.

✦ 4.1.1 Greenhouse Gases

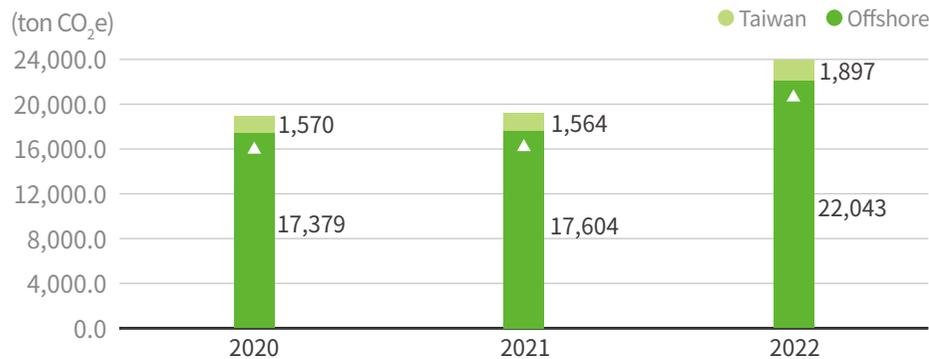
In collaboration with the country's overall GHG reduction strategy development and the global net-zero transition goal, on its own initiative GlobalWafers has promoted and completed systematic GHG emission inventory (ISO 14064--1:2018) and established an inventory list database. Its goal is to manage GHG risks and identify reduction opportunities effectively. GlobalWafers (Taiwan) has obtained a third-party verification statement for its GHG emissions. Overseas plants have voluntarily implemented GHG emissions inventories and plan to complete third-party verification by 2023, the goal being to implement an effective voluntary emission reduction action plan, decelerate global warming, and fulfill our obligations as part of the global village.

The Company has adopted the Operational Control Act for its organizational boundaries. The GHG emission outputs related to the organization's operations include direct emissions (Category 1: GHGs from process use & fuel use, septic tanks and firefighting equipment, and other emission sources), indirect omissions from energy (Category 2: purchased energy), and other indirect sources of GHG emissions (Category 3). In this report, we have disclosed the direct emissions (Category 1), indirect emissions from energy (Category 2), and other indirect emission sources. The GHG types included in the calculation cover carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, carbon tetrafluoride, sulfur hexafluoride and nitrogen trifluoride. The source of the GWP value used is from the IPCC Assessment Report (5th to 6th).

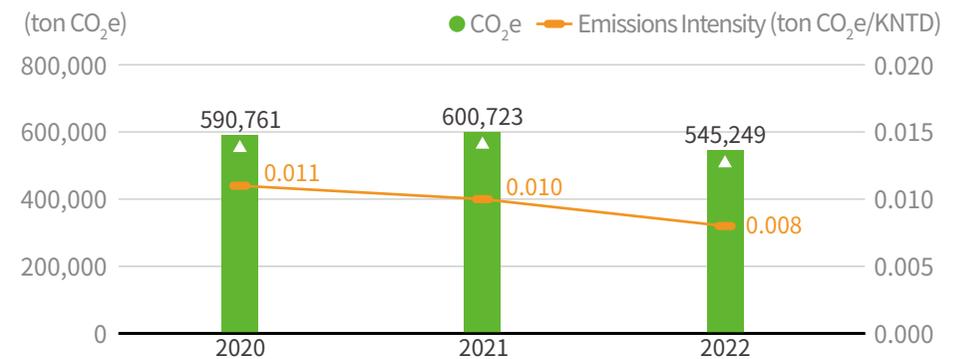


GlobalWafers' total GHG emissions for Category 1 and Category 2 in 2022 were approximately 545,200 ton CO₂e, mainly from Category 2 energy emissions. The decrease compared to 2021 is mainly due to the change in production capacity and the energy-saving and carbon reduction benefits achieved from continuous management and improvements made in the plants' energy usage. In 2022, CO₂ equivalent emission decreased by about 55,400 ton CO₂e, a 9.2% drop compared to 2021, where CO₂e in direct emissions (Category 1) accounted for 4.39% of total emission, while indirect energy emissions (Category 2) accounted for 95.61%. Taiwan's CO₂e emissions accounted for 30.29% of the total emissions, illustrating that no perfluorinated compounds (PFCs) were emitted in 2022.

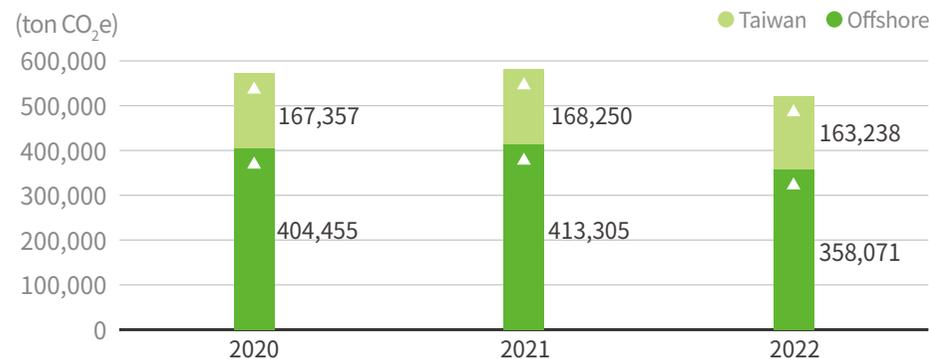
Category 1 GHG Emissions



GHG Emissions Intensity



Category 2 GHG Emissions



Note1: Taiwan: GlobalWafers Headquarters, Chunan Plant, Taisil Branch.

Note2: Offshore: GlobalWafers Japan Co., Ltd., Kunshan Sino Silicon Technology, MEMC Electronic Materials S.p.A, MEMC Korea Company, MEMC LLC, MEMC Japan Ltd., GlobiTech Incorporated, MEMC Electronic Materials Sdn. Bhd., Topsil GlobalWafers A/S.

Note3: Carbon dioxide equivalent emissions are calculated based on emission factors issued by the countries where each factory is located.

Note4: GHG emissions intensity: Category 1 & 2 total emissions (ton CO₂e) / combined revenue (KNTD).

Note5: The data disclosed in the above chart accounts for 100% of the total number of wafer production plants of GlobalWafers.

Note6: Compared with the previous year, the drop in offshore energy indirect emissions is much greater than that of electricity consumption, mainly due to the increase in accuracy of electricity emission coefficient, itself a result of overseas plants beginning to implement third-party verification in 2022.



Other Indirect Emission Sources

Unit: ton CO₂e

Emission categories	Taiwan	Offshore	Total
Category 3 Indirect GHG emission generated from transportation	5,680.57	19,183.33	24,863.90
3.1 Emission generated from upstream transportation and distribution	1,382.46	9,426.43	10,808.89
3.2 Emission generated from downstream transportation and distribution	3,487.43	8,538.31	12,025.75
3.3 Emission generated from employees commuting to work	800.11	1,182.93	1,983.04
3.4 Emissions generated by transportation of customers and visitors	Not quantified	0.07	0.07
3.5 Emissions generated by business travel	10.57	35.58	46.15
Category 4 Indirect GHG emission from products used by organization	231,821.64	125,356.70	357,178.34
4.1 Emissions from purchased goods	231,387.05	120,665.77	352,052.82
4.2 Emissions from capital goods	Not quantified	None	-
4.3 Emissions generated from solid and liquid waste disposal	434.59	4,690.93	5,125.52
4.4 Emissions generated from use of assets	None	None	-
4.5 Emissions generated from the use of services not described in the above subcategories	Not quantified	Not quantified	-
Category 5 Indirect GHG emission generated from products used by organization	-	-	-
5.1 Emissions or removal during product usage stage	None	None	-
5.2 Emissions from downstream leased assets	None	None	-
5.3 Emissions at end-of-life stage of products	None	None	-
5.4 Emission generated from investment	Not quantified	None	-
Category 6 Indirect GHG emissions from other sources	None	None	-
Total	237,502.21	144,540.03	382,042.24

4.2 Waste Management

GlobalWafers' waste management emphasizes reduction at the source. This involves minimizing waste generation by improvement of manufacturing processes and source reduction. Additionally, we prioritize recycling, re-use, and re-utilization within factories to reduce amount for newly purchased raw materials while lowering amounts of wastes generated. The Company implements commissioned clearance (including incineration, landfill, and physical treatment) to dispose of all wastes in our respective sites. There is no cross-national (offshore) waste treatment. In the past 3 years, no major waste treatment violations by vendors have been discovered; an audit mechanism has been established to ensure legal compliance of waste treatment vendors and to determine whether to continue cooperating with such vendors. There have been also no major leakages or overseas hazardous industrial waste disposal incidents from any plants.

In Taiwan, our waste generated goes through waste clearance and handling in accordance with regulations to comply with the most basic requirements from laws and regulations. Prior to commissioning waste treatment, collection by category and storage management are implemented within plants. Appropriate and legal waste clearance and handling contractors are selected based on the features of waste, after which the waste is thus handed over to the contractors for handling, clearance, and reporting where the waste is shipped all in accordance with environmental protection regulations. For the purpose of effective control over where waste is shipped and to ensure that waste has been carefully treated, audits are implemented each year based on the content of work (clearance, handling, reutilization). We emphasize factory access control for clearance agencies. For handling/reutilization agencies, audits are conducted on materials at their storage facility, treatment facility, treatment capability, operation of pollution prevention equipment, on-site safety, hygiene and firefighting management, as well as company operating conditions. Audit results are then categorized into grades to determine whether collaboration will continue, or whether audit frequency should be increased.

In addition, our waste-related impact management includes:

Preventing any significant impact caused by managed wastes

- 1 GlobalWafers has installed air pollution prevention equipment, waste (sewage) pre-treatment facilities, and proper waste storage facilities in the factory to prevent any significant impact caused by managed wastes. The operation and management of each factory in world are compliant with local environmental protection regulations for reducing the impact on the environment through proper operations and management.
- 2 GlobalWafers strictly adheres to the principle of recycling and reuse and has taken proper recycling measures and control operations to reduce the impact on environmental quality.

Treatment flow for wastes derived from our own operations

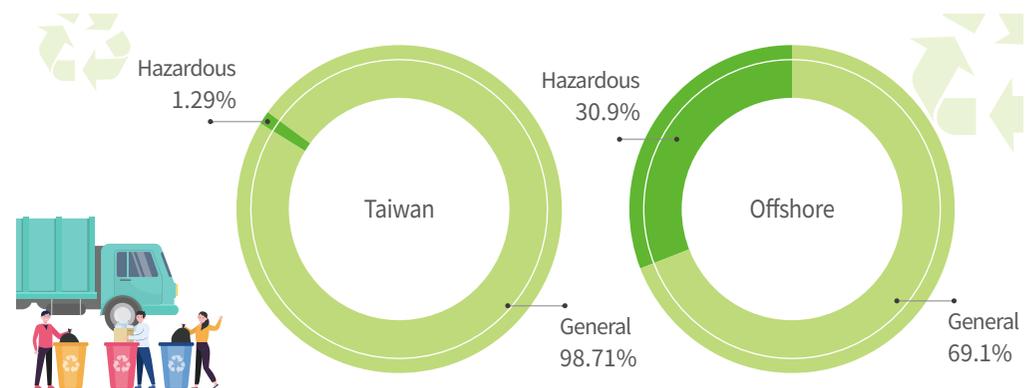
Wastes derived from our own operations can be treated by incineration, landfilling, or recycling and reuse by third-party vendors; these vendors have entered into contractual agreements with us to ensure proper waste disposal.

Collection of waste-related data

The output quantity for wastes derived from our own business activities is recorded every month, and the removal operations for the plants worldwide are implemented according to the local environmental protection regulations, and the waste will be handled by the plants themselves or commissioned by third parties.

In 2022, the waste disposal volume in Taiwan was 8,023.4 metric tons, of which general industrial waste accounted for 98.71% and hazardous industrial waste accounted for 1.29%. The waste treatment volume in overseas regions was 29,863.5 metric tons, whereby general industrial waste accounted for 69.1% and hazardous industrial waste accounted for 30.9%. GlobalWafers' waste disposal volume in the past three years showed an increasing trend each year, mainly due to the continuous expansion of production capacity.

Percentage of Industrial Waste in 2022



Note1: Taiwan: (GlobalWafers Headquarters, Zhunan Plant, Taisil Branch).

Note2: Offshore: GlobiTech Incorporated., GlobalWafers Japan Co., Ltd., MEMC Electronic Materials Sdn. Bhd., MEMC Electronic Materials S.p.A, MEMC Japan Ltd., MEMC Korea Company, MEMC LLC, Kunshan Sino Silicon Technology, Topsil GlobalWafers A/S.

Note3: The data disclosed in the above chart accounts for 100% of the total number of wafer production plants of GlobalWafers.

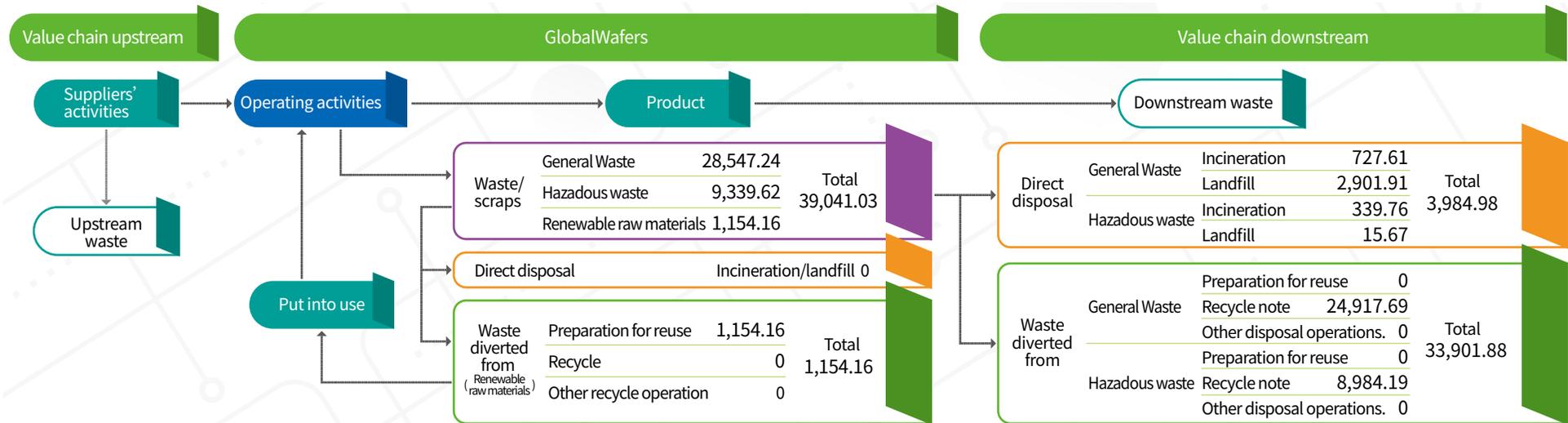


• 4.1 Climate Change Risks and Opportunities | 4.2 Waste Management | 4.3 Source Reduction

Among the waste generated by GlobalWafers' operations in 2022, general wastes (including recycled raw materials) accounted for 76.08% (29,701.4 metric tons) of the total, and hazardous wastes accounted for 23.92% (9,339.62 metric tons). Regarding waste treatment, we have prioritized waste recycling (such as recycling and reuse) operations implemented during waste disposal, which account for approximately 89.8% of the total waste disposal volume.

Note1: Preparation for reuse: Take a product or composition intended for waste and adopt the inspection, cleaning, or repair methods to reuse it for its original purpose.

Note2: Recycle: Reprocess (chemical, physical, heat treatment) waste products or components to produce new materials.

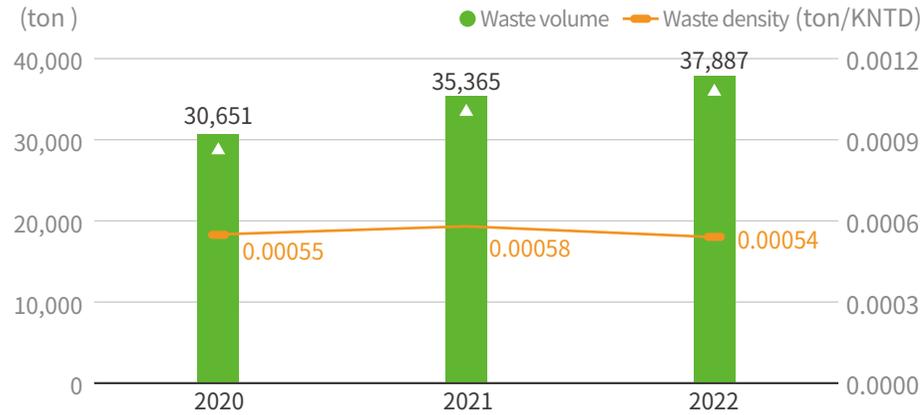


Note: Assuming that the waste is recycled at the recycling back-end after passing through the intermediate treatment processes.

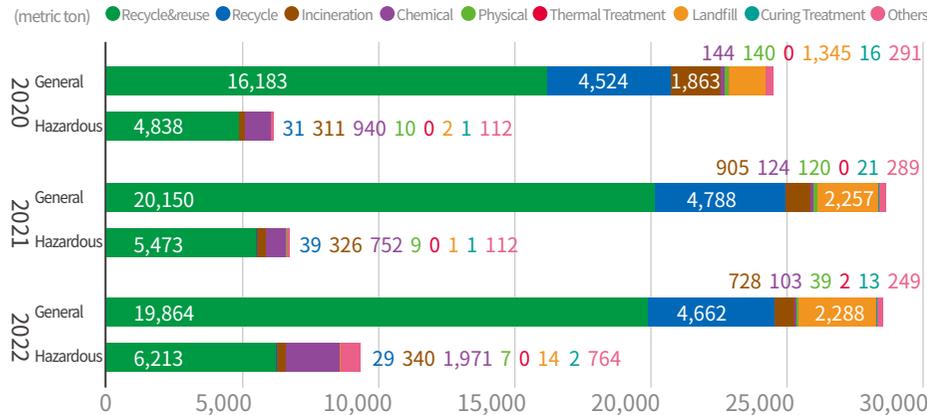
Unit: Metric Ton

Type of waste	Total output	Waste diverted from disposal			Direct disposal				
		Transfer method	On-site	Off-site	Total	Disposal method	On-site	Off-site	Total
General waste (include renewable raw materials)	29,701.40	Preparation for reuse	1,154.16	0.00	1,154.16	Incineration	0.00	727.61	727.61
		Recycle	0.00	24,917.69	24,917.69	Landfill	0.00	2,901.94	2,901.94
		Total	1,154.16	24,917.69	26,071.85	Total	0.00	3,629.55	3,629.55
Hazardous waste	9,339.62	Preparation for reuse	0.00	0.00	0.00	Incineration	0.00	339.76	339.76
		Recycle	0.00	8,984.19	8,984.19	Landfill	0.00	15.67	15.67
		Total	0.00	8,984.19	8,984.19	Total	0.00	355.43	355.43
Total	39,041.03	Total	1,154.16	33,901.88	35,056.04	Total	0.00	3,984.98	3,984.98

2020~2022 Total Waste Output from GlobalWafers



GlobalWafers' Industrial Waste Disposal Method



Note1: Taiwan: GlobalWafers Headquarters, Chunan Plant, Taisil Branch.
 Note2: Offshore: GlobalWafers Japan Co., Ltd., Kunshan Sino Silicon Technology, MEMC Electronic Materials S.p.A, MEMC Korea Company, MEMC LLC, MEMC Japan Ltd., GlobiTech Incorporated., MEMC Electronic Materials Sdn.Bhd., Topsil GlobalWafers A/S.
 Note3: Waste output and general waste, excluding recycled raw materials.
 Note4: Waste density: waste volume (ton)/consolidated revenue (KNTD).
 Note5: The data disclosed in the above chart accounts for 100% of the total number of wafer production plants of GlobalWafers.

4.3 Source Reduction

4.3.1 Raw Material Re-Utilization

By introducing the ISO 14001 environmental management system and the product life cycle, and reducing raw material consumption and waste output, GlobalWafers has achieved its goals of sustainable operation and environmental protection.

According to the manufacturing process, GlobalWafers maximizes the integration of recycled raw materials wherever possible. Recycled raw materials utilized by sites factories include silicon raw materials, cutting fluid (supporting agent), product package carton, and wafer cassette.

GlobalWafers relies mainly on silicon as its main raw material for production. During the crystal growth stage, we use the tailings recycled within the plants as much as possible to save on procurement costs and to reduce waste.



2022 Recycled Raw Materials Utilization Status

Item	Total Amount of the Year (Tons)	Total Recycled Amount of the Year (Tons)	Recycle Rate of the Year
Silicon raw material	6,126.13	1,154.16	18.84%

Note: The table includes GlobalWafers Headquarters, Zhunan Plant, Taisil Branch, GlobalWafers Japan Co., Ltd., MEMC Electronic Materials S.p.A·MEMC Korea Company

Category	Item	Percentage	Total Recycled Amount (Tons)
Re-utilization Quantity for Silicon Raw Materials	GlobalWafers Headquarters	20.52%	1,154.16 metric tons
	Taisil Branch	19.14%	
	GlobalWafers Japan Co.,Ltd.	21.33%	
	MEMC Electronic Materials S.p.A	15.53%	
	MEMC Korea Company	18.18%	
	Taisil Branch	59.1%	
Re-utilization Quantity for Cutting Fluid (Supporting Agent)	MEMC Electronic Materials S.p.A	69.3%	3,801.99 metric tons
	MEMC Korea Company	59.3%	
	MEMC Japan Ltd.	66%	
	GlobalWafers Headquarters	96.82%	
	Taisil Branch	9.12%	
	GlobalWafers Japan Co.,Ltd.	24%	
Product Package Carton	GlobalWafers Headquarters	18.44%	37,763 pc
	Taisil Branch (Hybox)	92.57%	
	MEMC Japan Ltd.	46.64%	
	MEMC Korea Company	55.71%	
Wafer cassette	GlobalWafers Headquarters	96.82%	958.3 metric tons
	Taisil Branch	9.12%	
	MEMC Japan Ltd.	46.64%	
	MEMC Korea Company	55.71%	



4.3.2 Energy Management

As stated in the previous chapter on organization inspection results of GHG emissions, the main source for GlobalWafers' GHG emissions is electricity. Therefore, GlobalWafers' current top priorities include reducing electricity utilization and enhancing energy efficiency. Through the introduction of ISO 50001 energy management system, GlobalWafers monitors and measures significant energy-consuming equipment, establishes improvement action plans, and conducts regular performance tracking for improvement measures to achieve continuous improvement, energy-saving, and carbon reduction. At present, 75% of operation sites has been imported into the system, while the remaining overseas factories are slated to fully implement the ISO 50001 energy management system by 2024. We also expect to bolster corporate innovation capabilities, reduce environmental footprints associated with our products and services, and augment our corporate image and competitiveness through our concerns over environmental protection and sustainable issues.

Compared with 2021, total of electricity usage of all GlobalWafers sites in 2022 was 1,172,109 MWh, which was a decrease by about 15,090 MWh from the previous year. Purchased electricity accounted for approximately 90.93% of energy use. As for renewable energy, in addition to some plants of GlobalWafers that have solar power generation systems for self-use, some plants have externally purchased renewable energy (hydropower & biomass). GlobalWafers' renewable energy usage ratio was about 2.27%^{Note}. By continuing to impose energy-conservation measures, the total amount of electricity savings among Taiwan sites reached to 5,270,154kWh. In 2022, there were 27 energy-conservation measures, including investment in energy-saving air conditioning, unit efficiency improvements, machine improvements, energy-saving lighting, etc., were added in Taiwan sites, with a total investment of NTD 31,100,692 and achieved electricity savings of 2,324,334 kWh, which could reduce 1,183.1 ton CO₂e. In addition, offshore plants are successively promoting energy-conservation measures, with a total of 20 new energy-conservation projects implemented in 2022 and US\$53,087 in investment (about NT\$16,985,302), saving 2,018,206 kWh of electricity, which could reduce 927.5 ton CO₂e. After the Group executed energy-conservation projects for the entire year, carbon emissions were reduced by 3,610.1 ton CO₂e.

Note: Renewable energy use ratio = renewable energy (MJ)/total energy used (MJ)

Total Electricity Consumption by Plants Worldwide



Note1: Taiwan: GlobalWafers Headquarters, Chunan Plant, Taisil Branch

Note2: Offshore: GlobalWafers Japan Co., Ltd., Kunshan Sino Silicon Technology, MEMC Electronic Materials S.p.A, MEMC Korea Company, MEMC LLC, MEMC Japan Ltd., GlobiTech Incorporated., MEMC Electronic Materials Sdn. Bhd., Topsil GlobalWafers A/S.

Note3: The data disclosed in the above chart accounts for 100% of the total number of wafer production plants of GlobalWafers.

Energy Usage

Unit: MJ

Energy Type	Item	2020	2021	2022	
		Taiwan	Taiwan	Taiwan	Offshore
	Externally purchased electricity	1,183,643,478	1,206,543,762	1,154,530,714	3,065,061,703
	Renewable energy (solar power)	21,525	42,496	76,420	105,287,309
	Natural gas	20,898,797	20,754,905	24,925,829	265,855,091
	Diesel	86,994	213,797	235,093	24,718,626
	Gasoline	0	0	0	38,960
Total		1,204,650,795	1,227,554,960	1,179,768,055	3,460,961,689

Note1: Taiwan: (GlobalWafers Headquarters, Zhunan Plant, Taisil Branch)

Note2: Offshore: GlobalWafers Japan Co., Ltd., Kunshan Sino Silicon Technology, MEMC Electronic Materials S.p.A, MEMC Korea Company, MEMC LLC, MEMC Japan Ltd., GlobiTech Incorporated., MEMC Electronic Materials Sdn.Bhd., Topsil GlobalWafers A/S.

Note3: Only Taiwan region is disclosed for 2020 - 2021, while offshore data is disclosed beginning 2022.

Note4: Conversion unit: 1 degree of electricity = 3.6 MJ; 1 cubic meter of natural gas = 33.494 MJ; 1 liter of diesel = 35.169 MJ; 1 liter of gasoline = 32.657 MJ.

Note5: In 2022, the disclosed data accounted for 100% of the total number of GlobalWafers' production plants.



Energy-conservation Measures

Category	Energy-saving items	Energy Saving Calculation Period	Annual energy savings (kWh)	Annual energy savings (GJ)	Carbon emission reduction equivalent (ton-CO ₂ e)	Electricity bill savings (NT\$)	Setup cost (NT\$)
GlobalWafers Headquarters & Chunan Plant							
Air Condition Energy Saving	Polished office air-conditioning improvement	01/01~12/31	20,160	72,576	10.3	51,031	145,000
	B1 Zhong Cang inverter box air-conditioning project	05/01~12/31	49,056	176,602	25.0	124,175	370,000
	4F office inverter air-conditioning project (continued)	01/01~06/30	2,379	8,564	1.2	6,022	-
	Switch to level 1 energy-saving air-conditioning for Zhong Cang small office (continued)	01/01~06/30	500	1,798	0.3	1,264	-
Machine Efficiency Enhancement	Slicer crystal rod length-trim breakthrough energy-saving project (continued)	01/01~05/31	2,987	10,753	1.5	7,561	-
	Old air compressor replacement (continued)	01/01~10/31	465,210	1,674,756	236.8	1,162,327	-
	Decrease energy consumption for heavily phosphorus-doped products (continued)	01/01~09/30	122,082	439,495	62.1	309,026	-
	Prefix 4 water pump A and 4R chemical cleaning pump replaced by IE3	11/01~12/31	1,539	5,540	0.8	3,895	197,000
	Heat exhauster windmill 15hp variable frequency energy-saving windmill/add inverter for 10HP windmill (continued)	01/01~10/31	44,640	160,704	22.7	112,997	-
	Air compressor head replacement and improvement project	02/01~12/31	153,408	552,268	78.1	388,321	2,000,000
	3R water pump A switched to IE3 pump (continued)	01/01~10/31	7,696	27,705	3.9	19,480	-
	Upgrade of wastewater discharge Pump B	12/01~12/31	364	1,310	0.2	909	100,000
	Cutting fluid mixer operation control	03/01~12/31	2,006	7,220	1.0	5,011	86,000
Machine Improvement	Full energy-conservation thermal field (13 furnaces) (continued)	01/01~12/31	561,600	2,021,760	285.9	1,403,158	-
	Energy-saving cover plate process development (continued)	01/01~04/30	41,472	149,299	21.1	103,618	-
	Automatic cleaning machine wafer thinning division energy-saving improvement (continued)	01/01~09/30	6,795	24,462	3.5	16,977	-
	TENCOR6220 solid-state laser evaluation report	04/01~12/31	10,014	36,050	5.1	25,348	510,000
	Full energy-saving thermal field introduction (15 furnaces)	06/01~12/31	1,134,000	4,082,400	577.2	2,833,299	13,000,000
	PC change to small PC (TC) energy-saving proposal (16 units) (continued)	01/01~11/30	13,464	48,470	6.9	34,081	-
	Office computer virtualization *5 (continued)	01/01~02/28	1,131	4,072	0.6	2,826	-
	Office computer virtualization *15	06/01~12/31	1,196	4,306	0.6	2,988	72,000
	A005 scrubber aging combined benefits	12/01~12/31	10,770	38,772	5.5	27,262	857,500
	Crystal growth ice machine operation in line with process scheduling optimization	08/01~12/31	16,800	60,480	8.6	41,975	600,000
	Crystal growth disconnection assisted by AI judgment instead	11/01~12/31	2,333	8,400	1.2	5,830	2,000,000
	Polycrystalline furnace high-efficiency heat treatment process development	04/01~12/31	23,040	82,944	11.7	57,565	1,000,000
Vacuum Unit ESG project water seal pump controller	11/01~12/31	15,466	55,676	7.9	38,641	72,000	



• 4.1 Climate Change Risks and Opportunities | 4.2 Waste Management | 4.3 Source Reduction

Category	Energy-saving items	Energy Saving Calculation Period	Annual energy savings (kWh)	Annual energy savings (GJ)	Carbon emission reduction equivalent (ton-CO ₂ e)	Electricity bill savings (NT\$)	Setup cost (NT\$)
Energy Saving on Lighting	Switch diffusion area traditional light to LED light proposal (continued)	01/01~10/31	1,368	4,923	0.7	3,462	-
	Light and energy-saving solution for grinding and cleaning machine	07/01~12/31	362	1,303	0.2	916	4,000
	Floor light energy saving improvement (continued)	01/01~04/30	6,457	23,246	3.3	16,134	-
	3F automatic storage lighting improvement (continued)	01/01~04/30	2,400	8,640	1.2	5,996	-
	Lobby energy-saving lighting improvement	05/01~12/31	649	2,335	0.3	1,642	20,000
	G1 (microwave energy-saving fluorescent lamp) energy saving (continued)	01/01~10/31	1,188	4,278	0.6	3,008	-
	3F big office energy-saving lighting improvement	03/01~12/31	6,515	23,452	3.3	16,277	17,980
	1F chemical warehouse lighting improvement	02/01~12/31	1,023	3,683	0.5	2,556	3,920
	Switch off lighting of visual inspection room during break	11/01~12/31	240	864	0.1	600	1,000

Taisil Branch

Air Compressor Energy Saving	IT server room' s boxed type water-cooled air-conditioning replaced with high efficiency environmentally friendly model	07/01~12/31	188,709	679,352	96.1	474,094	1,857,000
Machine Improvement	Change the 32-inch bottom thermal field design to improve the thermal insulation effect (continued)	01/01~11/30	806,123	2,902,043	410.3	2,025,223	-
	32 inch uses side insulation material with better insulation effect (continued)	01/01~11/30	400,194	1,440,698	203.7	1,005,407	-
	Increase the number of 200mm LPHZ machines (continued)	01/01~12/31	393,108	1,415,189	200.1	987,605	-
	300mm WIRESAW Slurry Recycle System (IHI) stirring motor inverter replacement (continued)	01/01~03/31	746	2,686	0.4	1,874	-
	200 mm wafer polisher LED tube replacement (continued)	01/01~11/30	6,413	23,087	3.3	16,111	-
	Replace with new in-line heater to improve 200 mm Lapper Wafer Cleaner (w102) heating efficiency of in-line heater (continued)	01/01~09/30	7,548	27,173	3.8	18,963	-
	300 mm EPI CENTURA uses low energy dry pump (continued)	01/01~09/30	50,319	181,148	25.6	126,416	-
	Change the 32-inch bottom thermal field design to improve the thermal insulation effect	08/01~12/31	163,929	590,144	83.4	411,839	459,000
	32-inch CUSP crystal growth furnace uses side insulation material with better insulation effect (Toyo Osaka gas)	02/01~12/31	303,920	1,094,112	154.7	763,538	5,081,120
	Change filling head design of 32-inch process to save processing time	05/01~12/31	205,781	740,812	104.7	516,984	1,496,000
	EBINB02 exchanges HID lamps to LED lamps at backside module	04/01~12/31	2,448	8,813	1.2	6,150	970,000
	Improve 200 mm wire saw slurry pipeline	06/01~12/31	5,828	20,981	3	14,642	53,800
	Install control switch for 200 mm Wafer Polisher fluorescent tube	10/01~12/31	2,236	8,050	1.1	5,618	19,372
	Replace a new internal heater to improve the heating efficiency of 200 mm Post-SBD Cleaner(w631) in-line heater	10/01~12/31	2,544	9,158	1.3	6,391	108,000
Taiwan Total	Electricity		5,270,154	18,972,555	2,682.6	13,217,033	31,100,692



• 4.1 Climate Change Risks and Opportunities | 4.2 Waste Management | 4.3 Source Reduction

Category	Energy-saving items	Energy Saving Calculation Period	Annual energy savings (kWh)	Annual energy savings (GJ)	Carbon emission reduction equivalent (ton-CO ₂ e)	Electricity bill savings (USD)	Setup cost (USD)
MEMC Electronic Materials S.P.A(MER)							
	Graphite degassing reduction (CZA)	03/01~12/31	124,000	446,400	27.3	10,151	0
	Taller Upper Chamber on 20" CZ puller (CZB)	07/01~12/31	21,000	75,600	4.6	1,719	8,511
	Efficiency optimization of water wells network (second inverter, maintenance on Well#1, etc.)	09/01~12/31	117,000	421,200	25.7	9,578	31,915
	Optimization of HVAC and air treatment control in Canteen&CZA department	10/01~12/31	60,000	216,000	13.2	4,912	31,915
	Automatic stabilization of the main distribution voltage@380Vac (+/- 3%)	10/01~12/31	20,000	72,000	4.4	1,637	10,638
	CCZ puller energy usage rate reduction	07/01~12/31	196,000	705,600	43.1	16,045	1,064
	Low power puller HZ expansion 2022 3 puller	12/01~12/31	25,000	90,000	5.5	2,047	31,915
	Energy usage efficiency improvements (ISO 50001 plan) - Step 2022	07/01~12/31	40,000	144,000	8.8	3,275	21,277
MEMC Electronic Materials S.P.A(NOV)							
	LED lamp replacement	07/01~12/31	100,000	360,000	42.8	8,186	21,277
	Power Quality RE44	10/01~12/31	35,000	126,000	15.0	2,865	34,043
	Energy usage efficiency improvements (ISO 50001 plan) - Step 2022	07/01~12/31	40,000	144,000	17.1	3,275	21,277
MEMC Korea Company							
	Improving automatic operation of AHD-516&534(Power)	01/01~12/31	91,015	327,654	41.6	7,451	0
	Belt Press Operation Hour Reduction (HSS Sludge Return Down)	01/01~12/31	100,740	362,664	46.0	8,247	0
	Fab#2 AHD Supply/Exhaust Optimization	01/01~12/31	310,011	1,116,040	141.7	25,379	0
	Heat energy recycle (#6 comp-or motor heat -> hazardous substances storage)	01/01~12/31	36,417	131,101	16.6	2,981	0
	#2 Cooling tower pump efficiency optimization (45m ->28m Down)	01/01~12/31	53,738	193,457	24.6	4,399	784
Kunshan Sino Silicon Technology							
	1#350RT chiller replaced with magnetic levitation frequency conversion ice machine	02/01~12/31	470,370	1,693,332	331.1	38,506	205,207
	3#110Kw+1#75kw Old air compressor replacement	10/01~12/31	87,777	315,997	61.8	7,186	102,604
	High-efficiency T8 LED lamp replacement	09/01~12/31	32,317	116,341	22.8	2,646	11,543
MEMC Electronic Materials Sdn.Bhd.							
	Install 6 units of variable speed drive (VSD)for 11kW chiller cooling tower fan to control fan speed based on cooling tower water (condenser water) supply temperature	09/01~12/31	57,821	208,156	33.8	4,733	19,119
Offshore total	Electricity		2,018,206	7,265,542	927.5	165,218	553,087

Note1: The electricity carbon emission for Taiwan region is calculated based on 0.509(kg CO₂e/kWh); MEMC Electronic Materials S.P.A(MER) based on 0.22(kg CO₂e/kWh); MEMC Electronic Materials S.P.A(NOV) based on 0.428(kg CO₂e/kWh); MEMC Korea Company based on 0.457(kg CO₂e/kWh); Kunshan Sino Silicon Technology based on 0.704(kg CO₂e/kWh), and MEMC Electronic Materials Sdn.Bhd. based on 0.585(kg CO₂e/kWh).

Note2: After weighted calculation, the electricity fee of each factory is calculated at 2.5313 NTD/kWh for GlobalWafers Headquarters, 2.4985 NTD/kWh for the Chunan plant, and 2.5123 NTD/kWh for the Taisil Branch. As it is difficult to calculate for the offshore regions, it is calculated by converting the average amount of plants in Taiwan into US dollars.



📌 4.3.3 Water Resources Management

Due to the extreme global climate, the risk of climate change has become a key issue that enterprises must face in their operations, making water resource management critical.

Water Intake, Discharge, and Consumption Volume

📌 Management of water intake-related impacts

The water sources for GlobalWafers' plants worldwide are third-party water supply, surface water, and groundwater sources. The water source of each base is fresh water ($\leq 1,000$ mg/L total dissolved solids). The water in the Taiwan area is taken from the tap water supplied by the Taiwan Water Company, and the water sources are Baoshan Dam #1 and #2 and Yongheshan Reservoir. None of the water sources are classified as national or international nature reserves or sensitive water bodies.

GlobalWafers' total water intake in 2022 showed a downward trend compared to 2020 and 2021. The water intake in 2022 was 19,763.6 million liters (km^3), which was a decrease of 1,132.3 million liters (km^3) compared to 2021. In terms of water intake impact, the amount of intake in Taiwan region was about 2,297.4 million liters (km^3) in 2022.

Moreover, we have adopted wri aqueduct water resource risk assessment from the Water Resources Risk Assessment Tool of the World Resources Institute. The water resource risk assessment results for our global factories indicated that mainland China's factory is rated as "High - Medium risk (3)" for water sources. The other bases are rated as "Low - Medium risk (1-2)," meaning there are no water source stress issues. The proportion of our total water intake/total water consumption and high water stress areas are 1.69% and 2.08%, respectively. Nonetheless, each factory has adopted internal water management and external cooperation strategies to reduce the impact that operational activities have on water resources.

📌 Management of water discharge-related impacts

In order to ensure compliance with the standard for water discharge quality, GlobalWafers' plants have implemented pollution prevention according to local laws and regulations. Besides reducing the amount of process pollutants and conducting water recycling and water pollutant treatment using high-efficiency equipment, self-tests are also conducted and wastewater testing regularly outsourced for long-term tracking and monitoring of the discharge water quality to ensure the plants' discharge water quality is able to comply with local effluent standards. In addition to the original scheduled substances, the main substances of concern in Taiwan plants, besides existing controlled substances, new pre-treatment equipment targeting fluoride ions is used to reduce emission concentration and reduce harm to the water body discharged into. GlobalWafers' total water discharge in 2022 was 16,825.2 million liters (km^3), a slight decrease compared to 17,347.6 million liters (km^3) in 2021.

Water Resource Management and Conservation

Global rainfall has become extremely unstable in recent years, and water supply stability has become a challenge due to extreme climate problems. GlobalWafers is dedicated to reusing recovered water in response to the water shortage risks caused by global climate change. The total volume of water recovered by our plants worldwide in 2022 was 5,256.2 million liters (km^3). In 2022, the plants in Taiwan recovered and reused 1,915.9 million liters (km^3) of water, which accounted for 36.45% of the total water volume recovered. All sites water recovery rate in 2022 was 21.01%, which was a slight decrease of 1.35% from 22.36% in 2021. Regarding Taiwan's water recovery rates in 2021 and 2022 were 55.55% and 45.47%, respectively, which had better performance comparing with other sites.

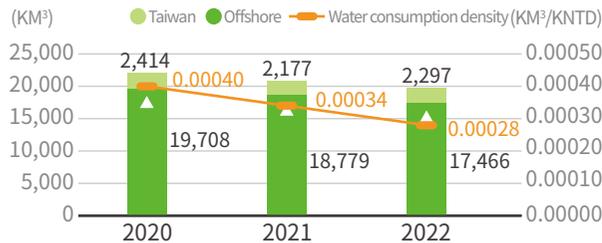


2020~2022 Water Intake, Discharge, and Consumption Volume

Unit: million liters (kM³)

Item	2020			2021			2022			
	Taiwan	Offshore	Water resource stressed areas	Taiwan	Offshore	Water resource stressed areas	Taiwan	Offshore	Water resource stressed areas	
Water withdrawal quantity	Surface water	0	1,250.3	0	0	1,269.4	0	0	1,261.2	0
	Underground water	0	10,810.2	0	0	9,492.5	0	0	8,274.2	0
	Seawater	0	0	0	0	0	0	0	0	0
	Third-party water	2,414	7,647.4	310.3	2,117	8,016.9	341.8	2,297	7,930.8	334.1
Total	22,121.9		310.3	20,895.9		341.8	19,763.6		334.1	
Water discharge quantity	Surface water	0	6,631.8	0	0	5,656.7	0	0	4,634.6	0
	Underground water	0	0	0	0	0	0	0	0.0	0
	Seawater	0	4,652.8	0	0	4,738	0	0	4,435.1	0
	Third-party water	1,981.6	4,819.8	267.3	1,731.3	5,221.6	300.6	1,869.9	5,885.6	273.0
Total	18,086.1		267.3	17,347.6		300.6	16,825.2		273.0	
Water consumption quantity	432.4	3,603.4	43	385.7	3,162.6	41.2	427.5	2,510.9	61.2	
Total	4,035.8		43.0	3,548.3		41.2	2,938.4		61.2	

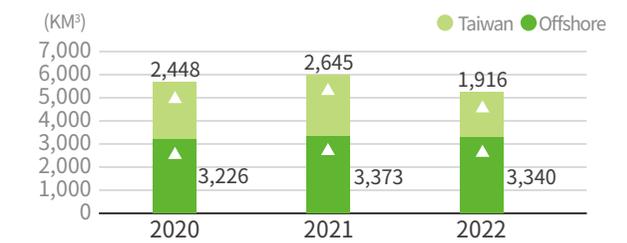
Total Water Withdrawal Quantity



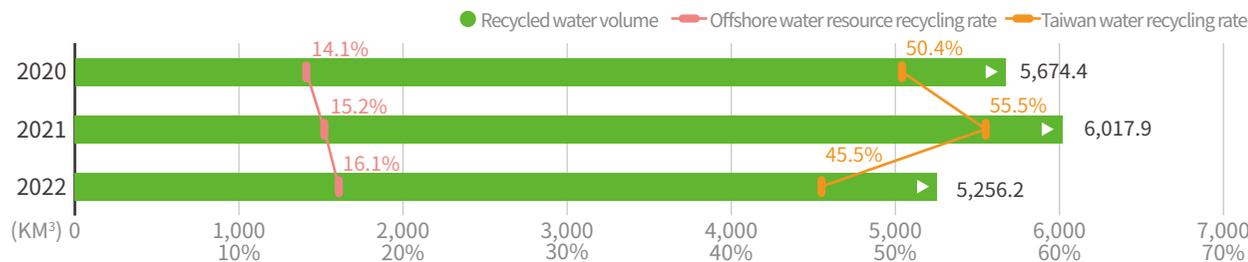
Total Water Discharge Quantity



Recycled Water Reuse Quantity



Water Resource Recycling Rate



Note1: Taiwan: (GlobalWafers Headquarters, Zhunan Plant, Taisil Branch)

Note2: Offshore: GlobiTech Incorporated., GlobalWafers Japan Co., Ltd., MEMC Electronic Materials Sdn. Bhd., MEMC Electronic Materials S.p.A, MEMC Japan Ltd., MEMC Korea Company, MEMC LLC, Kunshan Sino Silicon Technology, Topsil GlobalWafers A/S

Note3: Water consumption density: water consumption (KM³)/consolidated revenue (KNTD)

Note4: The data disclosed in the above chart accounts for 100% of the total number of wafer production plants of GlobalWafers.



05

Friendly Workplace

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/Major Aspects for Consideration/



/Significance to GlobalWafers/

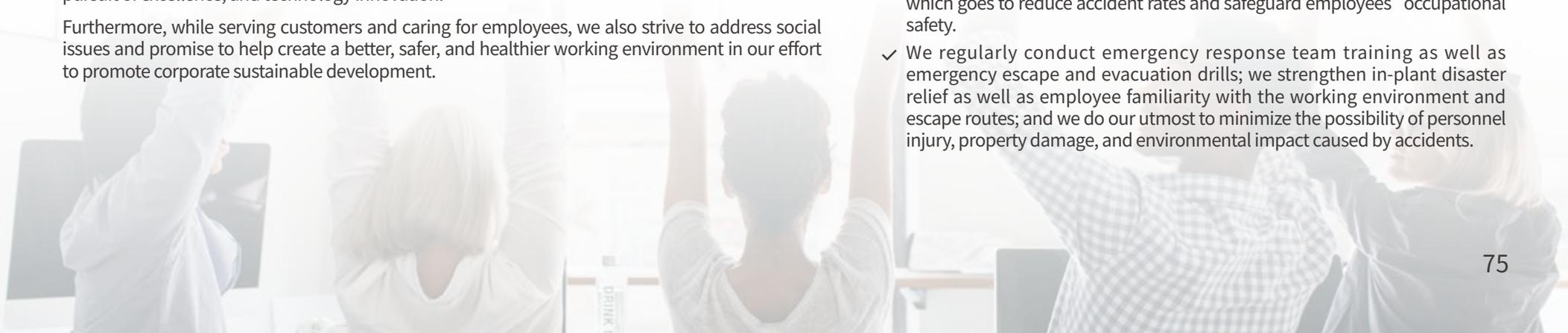
The overall industrial environment is intricately linked to the broader global situation. The world has witnessed dramatic changes in recent years, including wars, health crises, geopolitical tensions, and the impact of declining birth rates. These challenges have tried and tested organizational operations, but they have also offered considerable opportunities. As it deals with these challenges, GlobalWafers has remained steadfast in its role as a professional wafer material supplier while maintaining advantages in sustainable development, which is of top importance to us as a company. For GlobalWafers, employees are assets of paramount importance. We are committed to empowering our employees, assisting them in developing their careers, enabling individuals to grow together with the Company, and continuously improving employee retention and engagement. This enables the organization to adapt flexibly to the rapidly changing environment and is a key to our development.

GlobalWafers continues to invest in diverse talent development programs, develop multiple recruitment channels, foster young talent in the industry, and enhance employees' learning motivation through a comprehensive performance and compensation-linked system. This brings talent development plans in line with our organizational strategic goals of self-improvement, pursuit of excellence, and technology innovation.

Furthermore, while serving customers and caring for employees, we also strive to address social issues and promise to help create a better, safer, and healthier working environment in our effort to promote corporate sustainable development.

/Management Mechanism/

- ✓ We established our [human rights policy](#) based on international human rights standards and the Responsible Business Alliance (RBA) standards. We adhere to labor laws and regulations in all operation locations and fulfill our corporate social responsibility.
- ✓ We implement a variety of human capital development programs. Externally, we engage in industry workforce talent initiatives such as industry-academia collaboration, talent development projects, providing internship opportunities, and establishing scholarships for master's and doctoral students. Internally, we provide support for on-the-job education, employee welfare savings trusts, contract signing for key executives, successor planning, job rotation opportunities, and a dual-track promotion system to enhance employees' personal management and professional skills. This, in turn, improves employee retention and engagement and helps us achieve our goal of sustainable development of human capital.
- ✓ We provide smooth internal and external communication channels to gather the opinions of stakeholders and offer a sound mechanism for reporting and resolving unlawful infringement. This includes holding regular labor-management meetings and providing various communication channels and reporting mechanisms so as to understand the opinions of employees and other stakeholders and find actual resolutions to their problems.
- ✓ We have established an Employee Caring Program (ECP) team composed of cross-departmental members. The objectives of the ECP team are to integrate and plan the overall welfare measures for employees, improve the general welfare of the Company, and enable colleagues to choose the appropriate resources and use them properly when encountering personal problems.
- ✓ By promoting occupational health and safety management systems, safety education training, and safety culture activities, we enhance employees' safety awareness and strengthen their professional literacy and discipline, which goes to reduce accident rates and safeguard employees' occupational safety.
- ✓ We regularly conduct emergency response team training as well as emergency escape and evacuation drills; we strengthen in-plant disaster relief as well as employee familiarity with the working environment and escape routes; and we do our utmost to minimize the possibility of personnel injury, property damage, and environmental impact caused by accidents.





/2022 Key Results/

Community (Employee) Care

- In response to the high transmissibility of the Omicron Coronavirus variant and the large number of cases in Taiwan, GlobalWafers' Taiwan sites encouraged employees to receive the COVID-19 vaccination to help reduce the risk of severe illness and death. Incentives have been provided to employees who complete their vaccinations.
- GlobalWafers' Taiwan sites organized the environmental education activity Wennei Community Guanyidu Ecological Trip to cultivate knowledge, skills, attitudes, and values related to environmental protection among community residents and our employees. With this activity, the Company aimed to raise awareness of the environment and promote actions toward sustainable development through citizen education.
- Beach cleaning and forest conservation events were conducted by the Taiwan sites of GlobalWafers.
- In response to the government's Tea Offering campaign, the Chunan Plant of GlobalWafers provided drinking water stations to the public, reducing plastic bottle waste.
- GlobalWafers' Taiwan sites adopted public toilets through the sponsorship program held by Environmental Protection Administration, utilizing more resources to establish higher-quality public restrooms and providing cleaner restroom spaces for the public.
- GlobalWafers Japan, GlobalWafers' overseas plant, has consistently focused on environment protection and collaborated with local governments to support sustainable development activities. In 2022, GlobalWafers Japan participated in the cleaning activity organized by the Seiro Town Hall (Niigata Prefecture Office).

Talent Cultivation

- Sustainable talent development: Fund the Universal Talent Program of the Office of International Affairs, NYCU (Ukraine's commitment to achieving 100% renewable energy use by 2050) with a total of NTD 1,000,000.
- Industry-academia collaboration: The Company assigns professional talent to participate in industry-academia collaboration and research commissioned by research institutes; it also forms strategic alliances with the sector, whereby it jointly resolves technical issues encountered in the product development process, while enhancing the professional skills of employees. In 2022, there were 16 ongoing collaboration projects, and on average 7 people participated in each project; the cumulative number of participants was more than 112. Schools that we worked with include National Taiwan University, National Tsing Hua University, National Yang Ming Chiao Tung University, National Central University, National Taiwan University of Science and Technology, National Taipei University of Technology, and Chang Gung University.
- Talent cultivation projects: GlobalWafers and National Yang Ming Chiao Tung University jointly established the workforce talent development base for semiconductor and key technology industries. A total of 3 recruitment events were held in 2022 and had approximately 90-120 participants, matching talent in different fields.
- College internships: From 2017 to 2022, GlobalWafers has successfully cultivated over 40 students together in collaboration with multiple colleges between 2017 to 2022. Students were given opportunities to gain valuable practical experience at the Company and face real-world problems outside of academia. Students, who interned at R&D, manufacturing, and other support departments, came from National Tsing Hua University, National Central University, National Yang Ming Chiao Tung University, and National Taiwan University of Science and Technology, and majored in electronics, industrial engineering, machinery, and psychology.
- Scholarships for master's and doctoral students: GlobalWafers established Regulations Governing Applications for Scholarships for Master's and Doctoral Students and continues to fund scholarships for professional talent in related fields. Recipients of the scholarships will become employees of the Company after graduation.
- Subsidies for on-the-job training: GlobalWafers established an on-the-job training policy and fully subsidizes on-the-job training of employees with excellent performance and the willingness to learn, thus encouraging their personal career development.
- Signing contracts with key executives: GlobalWafers signs contracts with managers equipped with ability in strategic planning or irreplaceable special competencies; this helps us retain talent and ensure the sustainable development of the Company's human capital.
- Fellow Program: GlobalWafers has its own Fellow Program within the group, and many employees who were nominated for the program are leading experts in their field. The Fellow Program adheres to a strict operating and selection process for selecting employees. At present, there are 77 outstanding employees who have gained recognition through this program.
- GlobalWafers is committed to creating the same career opportunities for both genders and encourages all employees, regardless of gender, to continue to develop their families and careers at the Company. GlobalWafers' chairperson, Doris Hsu, was awarded as Asia's Power Businesswomen in 2022 by Forbes.



5.1 Employee Care

5.1.1 Human Resources

A diversified talent pool is the cornerstone of any enterprise’s growth. At GlobalWafers, we greatly value the right to select talent and work autonomy, and we are committed to creating results together with our employees. In light of the challenges brought by globalization, technological progress, organizational development, and demographic changes, we have developed short-, medium-, and long-term human resource management plans to meet our corporate goals and achieve our objectives of attraction, integration, retention, evaluation, and development. In sum, we have a structured interview process to effectively recruit knowledge-based talent; we attach great importance to employee potential and personal development; we hold job rotations to cultivate worker versatility; we form work teams to formulate and execute projects; we are committed to creating a safe, happy, and healthy environment; we uphold the basic rights of every employee; we developed a performance-linked reward system; and we encouraged employees and supervisors to jointly set and achieve personal goals. To help our employees create higher value, we will continue to provide them with high-quality human resource services.

In 2022, GlobalWafers had a total of 7,291 employees. Among them, male employees accounted for 76.67%, and female employees for 23.33%. In terms of permanent and non-permanent employees, permanent employees accounted for 92.44%, and non-permanent employees accounted for 7.56%. Regarding employment types, the non-fixed term (general employees) accounted for 87.38% of permanent employees, and fixed-term accounted for 12.62%. The number of employees in Taiwan accounted for 23.47%, while foreign employees accounted for 3.76%, and overseas employees accounted for 0.03%. Regarding management level in Taiwan, the total number of supervisors is 241, of which 77.18 % are males, and 22.82% are females. There were, in terms of management ranks, 39 high-level supervisors (department level or higher), 102 managers or deputy managers, 27 director-level personnel, and 73 sectional-level personnel. Additionally, there were 175 overseas high-level supervisors (department level or higher), and 185 junior managers. The percentage of relevant ranks will be disclosed in a separate chart due to the lack of standardized job titles to that used in Taiwan.

Man Power Structure in Global Factories

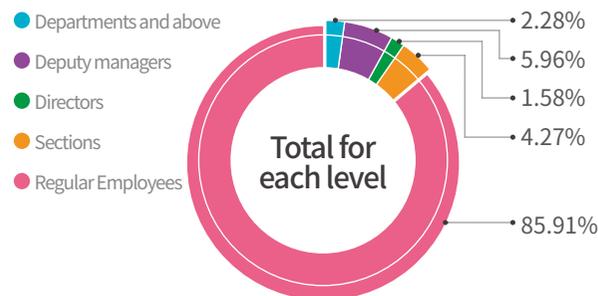
		Year	2020	2021	2022
Workforce structure					
By gender	Male		5,326	5,446	5,590
	Female		1,600	1,649	1,701
Permanent/Non-permanent (All are formal employees)	Permanent		6,484	6,755	6,740
	Non-permanent		442	340	551
By employment contract	Non-fixed term		5,912	6,095	6,371
	Fixed term (contractors, interns, migrant workers, seasonal)		1,014	1,000	920
By nature of work	Direct		4,089	4,426	4,535
	Indirect		2,837	2,669	2,756
By education level	Doctorate degree		57	62	67
	Masters		499	493	543
	Bachelor’s Degree		1,451	1,752	1,556
	Senior high school and vocational school		4,492	4,344	3,515
	Junior high school and below		427	444	1,610
By age	< age 30	Male	945	995	1,062
		Female	367	386	431
	30-50 years old	Male	3,007	2,950	2,911
		Female	908	902	913
	> age 50	Male	1,357	1,501	1,617
		Female	342	361	357
Foreign Employees			-	234	274
Overseas staff			-	2	2
Total			6,926	7,095	7,291



• 5.1 Employee Care | 5.2 Occupational Safety and Emergency Response | 5.3 Social Participation

All Levels (Taiwan)	Male	Female	Total	Percentage
Departments and above	35	4	39	2.28%
Deputy Managers	71	31	102	5.96%
Directors	21	6	27	1.58%
Sections	59	14	73	4.27%
Regular Employees	1,034	436	1,470	85.91%
Total	1,220	491	1,711	100.00%

All Levels Executive Percentage (Taiwan)



Percentage by Rank (Offshore)



In 2022, GlobalWafers recruited 1,053 new employees in Taiwan. In terms of gender, new male employees account for 10.37% of the total, and women account for 4.47%. In terms of age, new recruits <30 years old had the highest ratio and accounted for 9.26%, followed by new recruits between age 30-50 at 4.81%. The new employment rates were 11.8% and 14.84%, and the resignation rates were 9.23% and 13.45%, respectively, during 2021 and 2022. When employees submit a resignation letter, the HR department immediately schedules an exit interview to understand the reasons for the resignation. This also enables the HR department to provide active assistance in adjustments and detailed explanations concerning work contents, personal characteristics, and identify problems to achieve talent retention.

➤ Statistical Analysis for New Employees

Year	2020									2021									2022								
	Taiwan			Offshore			Taiwan			Offshore			Taiwan			Offshore											
Region	Male (no. of people)	Female (no. of people)	Percentage	Male (no. of people)	Female (no. of people)	Percentage	Male (no. of people)	Female (no. of people)	Percentage	Male (no. of people)	Female (no. of people)	Percentage	Male (no. of people)	Female (no. of people)	Percentage	Male (no. of people)	Female (no. of people)	Percentage	Male (no. of people)	Female (no. of people)	Percentage	Male (no. of people)	Female (no. of people)	Percentage			
< age 30	48	20	3.02%	282	59	1.26%	113	51	7.10%	223	72	1.35%	103	67	4.00%	358	129	2.38%	530	199	3.67%	246	119	2.20%			
age 30-50	68	33	4.28%	62	28	1.21%	104	71	6.53%	99	42	0.79%	102	48	2.87%	143	48	0.89%	107	55	3.29%	120	67	1.24%			
Age 50 and above	3	2	0.19%	20	10	0.39%	3	2	0.13%	22	15	0.28%	1	3	0.18%	29	22	0.41%	0	4	0.24%	76	49	0.90%			
Total	119	55	7.48%	364	97	1.89%	220	124	13.82%	344	129	2.42%	206	118	7.05%	530	199	3.67%	183	94	5.62%	442	235	4.33%			

➤ Statistical Analysis for Resigned Employees

Year	2020									2021									2022								
	Taiwan			Offshore			Taiwan			Offshore			Taiwan			Offshore											
Region	Male (no. of people)	Female (no. of people)	Percentage	Male (no. of people)	Female (no. of people)	Percentage	Male (no. of people)	Female (no. of people)	Percentage	Male (no. of people)	Female (no. of people)	Percentage	Male (no. of people)	Female (no. of people)	Percentage	Male (no. of people)	Female (no. of people)	Percentage	Male (no. of people)	Female (no. of people)	Percentage	Male (no. of people)	Female (no. of people)	Percentage			
< age 30	37	19	2.33%	118	63	1.23%	68	31	1.95%	106	64	1.20%	76	35	2.09%	246	119	2.20%	183	94	5.62%	442	235	4.33%			
age 30-50	75	31	4.72%	54	38	1.05%	105	52	3.27%	87	33	0.62%	107	55	3.29%	120	67	1.24%	107	55	3.29%	120	67	1.24%			
Age 50 and above	9	3	0.57%	57	17	1.11%	7	7	0.44%	48	31	0.58%	0	4	0.24%	76	49	0.90%	0	4	0.24%	76	49	0.90%			
Total	121	53	7.61%	229	118	2.30%	180	90	11.31%	241	128	2.40%	183	94	5.62%	442	235	4.33%	183	94	5.62%	442	235	4.33%			

Note: The percentage of new and resigned employees is based on the percentage of the total number of employees at the end of the previous year



Hiring People with Disabilities

Regarding social care, GlobalWafers supports employment of people with disabilities and has established channels for that express purpose. As of 2022, GlobalWafers employs a total of 84 people with disabilities, which accounted for 1.15% of all employees. We are committed to practicing DEI in the workplace, aiming to respect and preserve the differences of every employee, and creating inclusive organizational values.

5.1.2 Remuneration and Benefits

Employees are a critical force in the growth and success of any company. We provide competitive remuneration and benefits to attract and retain talent from all areas, as well as offering substantial rewards for our employees' hard work and their contributions to the Company.

GlobalWafers has developed internal and external audit mechanisms, regular workforce system reviews, and current labor market status observations to continuously improve workforce development systems and help employees realize their potential, develop their strengths, and grow together with the Company. The goal is to let the colleagues know that GlobalWafers is willing to share business results with every colleague and maintain a good team relationship, enhance employee cohesion and identity, create a culture of positive growth, and become a working environment that professional workers desire.

Each year, GlobalWafers measures the market salary level via annual salary surveys and makes appropriate adjustments to employee salaries with reference to objective data, such as the overall economic indicators and price indices. Meanwhile, the salary standards of colleagues are judged based on work-related items, such as position, seniority, and professional ability, so as to ensure equal pay for equal work and prevent any bias based on gender, age, or other factors.

➤ Number of full-time employees as well as the average and median salary of non-supervisory positions in 2022

	Item	2021	2022	Difference compared to the previous year
Non-supervisory positions	Number of full-time employees (persons)	1,563	1,593	1.92%
	Average salary (NT\$ thousand)	1,205	1,307	8.46%
	Median salary (NT\$ thousand)	1,124	1,228	9.25%

Note 1: Full-time employees refer to those whose working hours have reached the normal working hours or statutory working hours stipulated by the Company; or rough average working hours have exceed 35 hours per week for those without set normal working hours.

Note 2: Full-time non-supervisory employees refers to the number of full-time employees after subtracting the supervisor positions, part-time positions, and those eligible for exemption from statistics from all employees. Employees in supervisory positions refer to Company managers or "managers" within the scope as defined by the regulations of the competent authority: President and equivalent; deputy president and equivalent; associate manager and equivalent; head of the financial department; head of the accounting department; and other persons who have the authority to manage the Company's affairs, provide authorization signatures, and are consistent with the scope of insiders (managers) and (managers) declared by the annual shareholders meeting report.

Note 3: "Salary" refers to the employee's salary attributable to the current year according to the accrual basis, and is based on their powers and responsibilities. It includes recurring salary (monthly basic salary, fixed allowance, and bonus), overtime pay (regardless of taxable or tax-free), and non-recurring salary (non-monthly allowances, bonuses, employee compensation, etc.).

Note 4: The number of employees listed above is based on the weighted average statistical concept (the average number of employees for each month), and only covers GlobalWafers' Hsinchu plant, Chunan plant, and the Taisil Branch.

➤ Connection Between Appraisal and Remuneration

We conduct performance reviews on all employees each year in which we assess employees' commitment to work, duties, responsibilities, and contribution. Our goal is to make a salary adjustments under considerations of future development and market salary levels and offer cash rewards and bonuses for encouragement based on performance results. This helps us to ensure employees' remuneration and development accord with the Company's finance and performance, while also encouraging employees to make breakthroughs and create personal value in GlobalWafers.

➤ Comprehensive Benefits System

At GlobalWafers, we hope to continue helping employees achieve a harmonious and fulfilling life, and we want to see them play important roles in their careers. Therefore, we provide six major guarantees for full-time employees at various locations of operation, including life insurance, medical insurance, disability insurance, parental leave, retirement system, and employee stock ownership. These basic protections enable employees to dedicate themselves to their work and be willing to grow together with GlobalWafers.

We provide employee labor and health insurance, labor retirement and group insurance, employee meal subsidies, annual travel subsidies, employee health exams, gifts for the three major festivals and their birthday, wedding and funeral subsidies, hospitalization subsidies for injuries and illnesses, club activities subsidies, education and training subsidies, on-site physicians, cancer condolences, pandemic protection measures, vaccine subsidies, employee welfare savings trust, workplace psychological counseling, and other related benefits to help employees reach a balance between work and life.

➤ Rewards to Excellent Employees

The Company has established various rewards schemes to encourage proactive and outstanding workers, e.g., an outstanding achievements reward, project submission reward, and patent reward. The Taiwan region also implements an annual model employee selection activity, whereby employees with model performance are selected and publicly praised for recognition. The goal is to build a more positive and active corporate culture, and to strive to fulfill the promise of continuous improvement.

➤ Group Insurance

The Company's group insurance includes term life insurance, accidental injury insurance, aviation accident insurance, major burns insurance, medical injury insurance, hospitalization medical insurance, cancer insurance, and pandemic insurance. We aim to provide comprehensive protection to maintain the safety and health of employees.

➤ Employee Stock Ownership Trust

In Taiwan, the Company provides as a reward 100% of the amount corresponding to the employees' monthly deposit. The goal is to encourage employees to enjoy the steady returns of shareholder value through regular, fixed investments in the Company's stocks. In doing so we seek to uphold the employees' independent rights, improve their benefits, and assist them in planning for retirement. In 2022, the employee engagement rate was approximately 46%.

☑ Childbirth Support System: Maternity Leave, Parental Leave

GlobalWafers encourages both male and female employees to actively participate in the growth of their children. All operating sites provide systems for maternity leave and parental leave to support employees in their balance between career development and child care responsibilities.

In Taiwan, employees are entitled to prenatal check-up leave, paternity leave, tocolysis leave, maternity leave, and flexible working hours, allowing them to balance work and childbirth needs with peace of mind. After childbirth, regardless of gender, employees who have been employed for at least six months can apply for unpaid parental leave until their child reaches the age of three, should there be a need to take care of their children.

In addition to providing working hours and leave, the health center offers maternal protection measures for female employees throughout the three stages of pregnancy: before, during, and after childbirth. Regular care is provided to monitor the health of female employees, and breastfeeding rooms are available to provide additional rest and breastfeeding time for the care of infants.

In overseas operating sites, for example, in Japan parental leave can be utilized until the child reaches the age of three. During the leave period, employees can receive subsidies from the government. Upon returning to work, employees can shorten their working hours by up to two hours per day until their child graduates from primary school. Wages are not paid for this period. This not only supports employees but also eliminates personnel turnover caused by child care responsibilities, encouraging employees to remain in the workplace and utilize their strengths.

GlobalWafers complies with parental-related leave in local laws and regulations in all its global locations or provides leave superior to the requirements. Some factories are in OECD countries such as Denmark, Italy, and the United States, where well-established paid maternity and parental leave systems are in place. Results of empirical studies by scholars in various countries show that parental leave policies are greatly beneficial to enhancing women's labor force participation. For the factories in Asian countries such as Malaysia, South Korea, and China, parental leave systems compliant with local laws are provided, and the support system is continuously optimized to align with International Labor Organization standards.

From 2020 to 2022, a total of 117 GlobalWafers personnel applied for parental leave.

➤ Pension System

We appropriate pension funds in accordance with the laws in countries where our operations are located. In Taiwan, we follow the Labor Standards Act and Labor Pension Act in establishing labor retirement guidelines. We have also set up a labor pension reserve supervision committee and reserve an appropriate amount of labor pension each month to allow laborers to apply for pension and to safeguard employees' rights.

We not only provide benefits but also ensure the benefits are flexible and adaptable. Our goal is to grasp the needs of frontline workers by increasing employee engagement. After a series of investigations, the factory location in Novara, Italy launched the "Take Away, from the factory to home", a program selected by employees that combines health and convenience. Through the handy app "Appetie," employees are able to view the nutritional content of all meals and order their favorite meals directly using their smartphones. After getting off work, employees can also take meals home directly from the workplace to share with their families. We not only advocate work-life balance but also hope that work can be integrated into employees' lives to promote harmony between family life and work.

In addition, the MEMC Japan Ltd. factory in Japan also signed a formal contract with a kindergarten affiliated with Kiyohara Industrial Park to prioritize the children of corporate employees in the park. We will continue to provide a comfortable environment so employees can work with peace of mind.



➤ Execution Results of Unpaid Child Care Leave Application

Item	Gender	Total number/ratio			
		2020	2021	2022	
		Taiwan	Taiwan	Taiwan	Offshore
Total employee staff number eligible for unpaid child care leave	Male	58	60	41	1,024
	Female	16	24	21	340
Total number of employees who took unpaid child care leave	Male	4	2	7	54
	Female	8	11	8	23
Total number of reinstated employees upon the expiration of their child care leaves	Male	4	2	6	52
	Female	6	10	7	21
Total number of employees who resumed their duties upon the expiration of their child care leaves	Male	2	2	2	51
	Female	6	8	6	19
Ratio of employees who resumed their duties upon the expiration of their child care leaves (reinstatement rate)	Male	50%	100%	33.3%	98.1%
	Female	100%	80%	85.7%	90.5%
Total number of employees still in service 12 months after expiration of their unpaid child care leaves	Male	_Note 1	2	_Note 1	46
	Female	7	5	7	21
The ratio of employees still in service 12 months after expiration of their parental leaves (retention rate)	Male	_Note 1	100%	_Note 1	_Note 2
	Female	87.5%	83.33%	87.5%	_Note 2

Note 1: “ - ” means no one meets the criteria
 Note 2: “ - ” No comparable data from last year

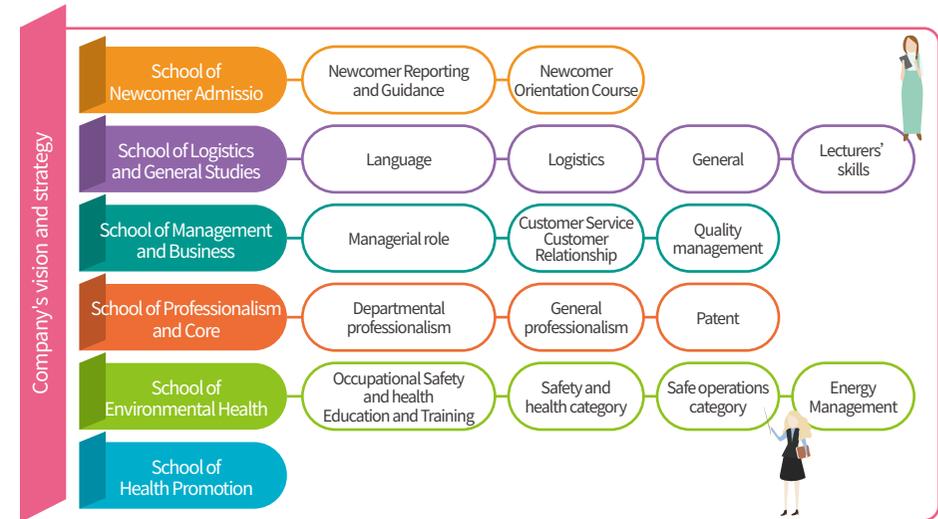
★ 5.1.3 Talent Cultivation

5.1.3.1 Talent Pool Development

As a company operating in the semiconductor industry, GlobalWafers places great emphasis on the development and management of its talent pool. We assess the growth of our talent pool from two perspectives: risk and strategy. Considering risk, we have not experienced any significant events such as major acquisitions or large-scale layoffs in the past three years. Considering strategy, we established a framework with four quadrants that take into account the current and future development of both internal and external factors. Diverse strategies are devised for each quadrant, but are all geared to achieve the goal of having a comprehensive and adequate talent pool.

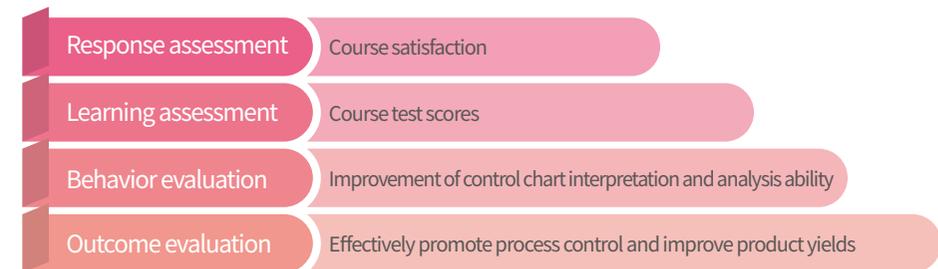
Internally, we plan annual training and development programs based on our operational strategy and consider talent cultivation and technology inheritance as our focus. To strengthen our talent pool and stay abreast of talent dynamics and development trends, the Company organizes various courses and research projects which allow our personnel to keep abreast with real-time international technological trends and new knowledge, while supplementing training with job substitutes, job rotation, and on-the-job training to fortify various professional capacities of our employees. Besides, we provide a wide range of internal training resources through a training system that includes six categories: new employees, logistics and generation education, business administration, professional core, EHS, and health promotion. The goal is to provide employees with training courses appropriate to the different stages of their career development; to enable the Company and personnel to adapt to the rapid global changes; and to help everyone staying up-to-date with the most current knowledge, technology, and skills.

➤ GlobalWafers provides a comprehensive and diverse learning environment



➤ Training effectiveness review framework - based on SPC Introduction and Application related courses (example)

The purpose of this course is to enable trainees to understand the core tools of SPC statistical process control and to develop and apply control charts in their daily work. The main training subjects are R&D personnel, quality assurance personnel, etc.

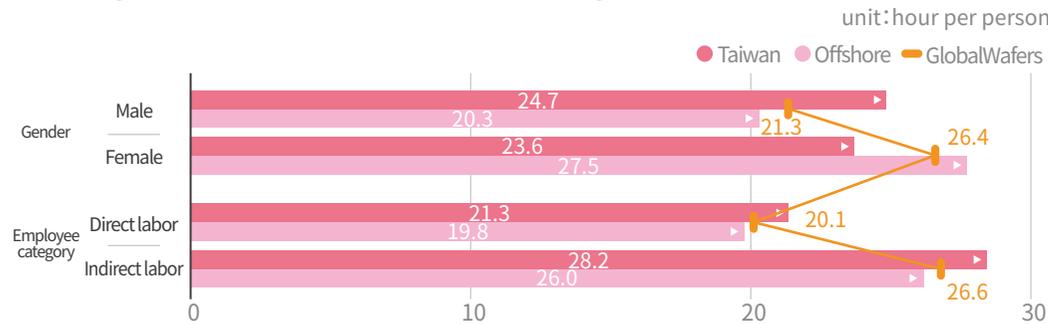


In 2022, our plants' average hours of education and training for men and women according to gender were 21.3 hours and 26.4 hours, respectively. Based on employee classification, the average hours of education and training received by direct and indirect personnel are 20.1 hours and 26.6 hours, respectively. The total training hours for GlobalWafers in 2022 is 163,754.9 hours.

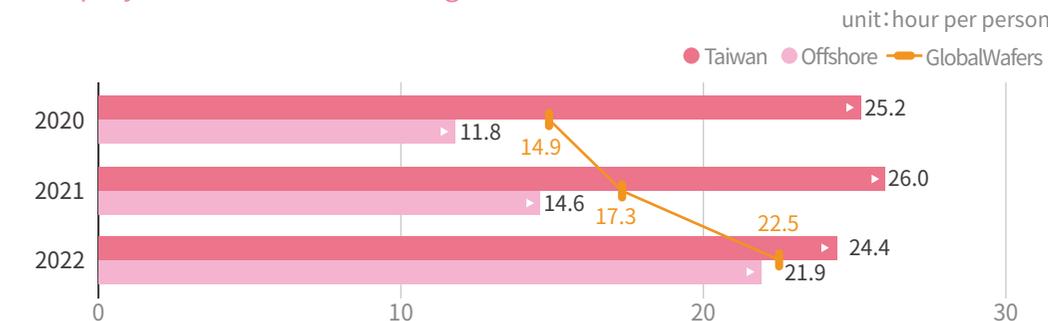
➤ Number of People and Hours for Education and Training from 2020 to 2022

Training type	2020				2021				2022			
	Number of sessions	No. of people	Classes Total Hours	Total class hours	Number of sessions	No. of people	Classes Total Hours	Total class hours	Number of sessions	No. of people	Classes Total Hours	Total class hours
Competency training for new recruits	126	921	747	7,547	295	1,092	1,571	9,259	441	1,422	3,284	26,529
Professional competency training	1,670	14,308	5,462	47,371	1,426	12,513	24,830	57,709	1,580	15,471	5,463	80,770
General management competency training	425	33,335	781	46,481	767	39,749	6,482	55,624	747	29,832	13,235	56,456
Total	2,221	48,564	6,990	101,398	2,488	53,354	32,883	122,592	2,768	46,725	21,982	163,755

➤ Average Employee Education and Training Hours in 2022



➤ Employee Education & Training Statistics



Note1: The education and training statistics table covers GlobalWafers Headquarters & Chunan Plant, GlobiTech Incorporated., GlobalWafers Japan Co., Ltd., Kunshan Sino Silicon Technology, Taisil Branch, MEMC Electronic Materials Sdn. Bhd., MEMC Electronic Materials S.p.A., MEMC Japan Ltd., MEMC Korea Company, MEMC LLC, Topsil GlobalWafers A/S.

Note2: Direct personnel: personnel who actually engaged in production-related operations such as technical workers and foremen at the production site.

Note3: Indirect personnel: workers who do not directly involved in production such as supervisors, product designers, accountants, procurement, or engineers.

To overcome development and technical bottlenecks, we designed an effective talent development program to identify professional skills, management techniques, general knowledge, certifications, and other requirements for organizational members. GlobalWafers collaborates with external training institutions to provide the necessary classroom or online courses. When necessary, the HR department and training institutions work together to establish suitable training objectives and methods, offering courses that meet practical needs to enhance the effectiveness of training. This enables organizational members to enhance their individual capabilities and break through bottlenecks in their work.

To develop the abilities in our high-level executives and managers, we collaborate with external professional organizations such as the Chinese Professional Management Association to provide necessary training and nurture potential senior managers.

On top of that, we also focus on the development of R&D personnel. We send personnel to participate in industry-academia collaboration, research projects commissioned by research institutes, and we form strategic alliances with the industrial sector. Through these collaborations, we aim to jointly address technical issues in the product development process and enhance the capabilities of our organization members. There were 16 ongoing collaboration projects in 2022, and on average, 7 people participated in each project: the cumulative number of participants reached more than 112. Schools that we worked with include National Taiwan University, National Tsing Hua University, National Yang Ming Chiao Tung University, National Central University, National Taiwan University of Science and Technology, National Taipei University of Technology, and Chang Gung University. We have developed a well-established Fellow Program within the group, and many employees nominated for the program are leaders in their fields. Members are selected by a rigorous operating and selection process into the Fellow Program. At present, we have 77 outstanding talent gain recognition through the program.



We continue to assess potential talent gaps, and externally, between 2017 and 2022, GlobalWafers has cultivated a cohort of over 40 students together with colleges. The practical experience they gained at the Company was also a trial run in dealing with real-world problems. Students were from National Tsing Hua University, National Central University, National Yang Ming Chiao Tung University, and National Taiwan University of Science and Technology, and their majors spanned electronics, industrial engineering, machinery, and psychology. They became interns in R&D, manufacturing, and other departments. Furthermore, we established Regulations Governing Applications for Scholarships for Master’s and Doctoral Students and continues to fund scholarships for professional talent in related fields. Recipients of the scholarships will become employees of the Company after graduation. We believe that nurturing the talent required by the industry is the key to ensuring our long-term prosperity and development, in addition to accumulating our own talent capital. Furthermore, we are committed to talent matching, aiming to achieve the best fit between individuals and positions. In 2022, the Company and National Yang Ming Chiao Tung University jointly established a talent development base for semiconductor and key technology industries. A total of three recruitment events were held and had approximately 90-120 participants.

For all members of the organization, we encourage continuous personal career development within the workplace. We have established an On-the-Job Training Policy which includes measures such as tuition subsidies and flexible work hours; this comprehensively supports organizational members who demonstrate good performance as well as a willingness to pursue further education and higher degrees.

5.1.3.2 Performance Appraisal and Feedback Mechanism

At GlobalWafers, department supervisors collaborate with their subordinates to establish mutual agreement on individual objectives, and together, they determine how performance should be evaluated based on these goals. Specific strategies need to be developed for evaluating performance in certain roles, such as support departments, research and development departments, management positions, or on-site operators. Monthly, quarterly, or semi-annual meetings or in-person discussions are conducted to review goal achievements and reach consensus on the strategies to be taken. In addition to focusing on the attainment of specific targets, we also emphasize feedback and guidance. Through these practices, organizational members gain an objective understanding of their performance and explore opportunities for improvement. Finally, on an annual basis, top executives and valued employees come together to participate in the target-setting process to achieve shared operational objectives. We believe that having a unified mission can help the organization operate more efficiently and sustainably.

★ 5.1.4 Human Rights

As GlobalWafers continuously pursues product quality, innovative technologies, and the growth of operational locations, we also see our greater impact on the world. In our pursuit for development, we have an obligation to prudently and conscientiously conduct human rights due diligence. This involves identifying potential negative impacts on stakeholders such as employees, suppliers, customers, communities, and the environment resulting from our operational activities. We establish corresponding policies and measures to manage and mitigate human rights risks while ensuring our operations comply with legal and regulatory requirements.

For material human rights issues, we have established the following management principles:

- 1 Continue to ensure diversity, inclusiveness, and equal opportunity, and prohibit any form of discrimination (including gender (including sexual orientation) race, class, age, marital status, language, ideology, religion, political party, nationality, place of birth, appearance, facial features, and physical and mental disability)
- 2 Ban forced labor and child labor
- 3 Create a safe and healthy work environment
- 4 Providing fair and reasonable salaries and work conditions
- 5 Provide channels and environments for employees to freely express their opinions, and respect employee’s freedom of association

📌 Human Rights Due Diligence

According to the United Nations Guiding Principles (UNGPs) on Business and Human Rights, all companies have a responsibility to respect human rights. Human rights due diligence is an essential component of GlobalWafers operational policies and activities. We follow the framework below to ensure the inclusion of core elements recommended by international human rights organizations:





(1) Identification and Assessment

Subject	Risk Issue	Description	Common Assessment Factors	Individual Assessment Factors	Assessment Tools
GlobalWafers and its subsidiaries, suppliers	Labor regulations	We implement our fundamental commitment to comply with labor-related laws and regulations, including recruitment, interviews, contracts, employment, working hours, overtime, leave, wages, insurance, pension, workplace safety, gender-friendly practices, job transfers, disciplinary actions, and even employee resignations, retirements, or terminations.	<ul style="list-style-type: none"> Number of employees receiving human rights-related education and training and training hours Whether suppliers have signed the Supplier's Code of Conduct 	<ul style="list-style-type: none"> Number of cases fined by competent authorities for violating labor laws and regulations 	<ul style="list-style-type: none"> Compliance with labor laws RBA SAQ Employee health examinations Employee grievance mechanism Employer-employee meetings Employee assistance program (EAP) Internal control system Maternity protection-related hazard assessment Supplier risk assessment and on-site audits Supplier's Code of Conduct and Supplier Commitment Letter
	Child labor	Employing child labor in any operational activities is prohibited. "Child labor" refers to individuals aged 15 to under 16 who are employed.		<ul style="list-style-type: none"> Whether identity checks are conducted during the recruitment process 	
	Forced labor	Work or services provided involuntarily by any individual is prohibited, including but not limited to the following forms: abuse of vulnerable positions, deception, restriction of movement, isolation, physical violence and sexual violence, threats and intimidation, retention of identity documents, withholding of wages, debt bondage, harsh working and living conditions, and excessive overtime.		<ul style="list-style-type: none"> Number of substantiated cases involving human rights-related complaints 	
	Working conditions	Ensure that employees work in a healthy and safe environment, including ensuring that weekly working hours do not exceed 60 hours, wages comply with all relevant wage laws, avoid harsh or inhumane treatment of employees, and ensure the operation of occupational health and safety systems.		<ul style="list-style-type: none"> Number of employees working more than 12 hours a day and continuously working for more than 6 days Number of cases fined for violations of regulations related to working hours, wages, and occupational safety and health Number of occupational accident cases Identification of abnormal workload and risk assessment 	
	Discrimination and harassment	Prohibition of discrimination or harassment in recruitment and work, affecting wages, promotions, rewards, and training opportunities, based on race, color, age, gender, sexual orientation, gender identity and expression, ethnicity or nationality, disability, pregnancy, religious belief, political stance, group background, veteran status, protected genetic information, or marital status.		<ul style="list-style-type: none"> Number of substantiated cases involving human rights-related complaints 	
	Human trafficking	Prohibition of engaging in recruitment, purchasing, pledging, transportation, delivery, receipt, concealment, harboring, mediation, or accommodation of domestic and foreign individuals using their inability, ignorance, or coercion against their will.		<ul style="list-style-type: none"> Number of employees participating in unions and associations 	
	Freedom of assembly and association	Employees and/or their representatives are able to openly communicate with management about working conditions and management practices without fear of discrimination, retaliation, threats, or harassment, and to share their thoughts and concerns.		<ul style="list-style-type: none"> Number of protected persons 	
	Equality and equal pay for equal work	Equal labor remuneration should be provided to workers of different genders, identities, residences, or employment forms for the same job under the same working conditions, as long as the quantity and quality of labor provided are the same.			
Maternity care	Measures taken to protect female workers from maternal health hazards include hazard assessment and control, physician consultations, risk classification management, job suitability arrangements, and other related measures.				



(2) Action and Effectiveness

Subject	Risk Issue	Mitigation Measures	Remediation Measures	Implementation Results
GlobalWafers and its subsidiaries, suppliers	Labor regulations	<ul style="list-style-type: none"> Establish work rules and publicly announce them in easily accessible and prominent locations. When training new employees, provide education and training on work rules and regulations in their native language to ensure that employees fully understand their labor rights. Through internal control systems and internal audits, regularly review and revise all rules and regulations to ensure compliance with labor laws and regulations. Establish diverse communication channels to promptly understand and improve issues in the workplace. Employee complaints channel: Pub_GWC_HR@sas-globalwafers.com & Wecare@sas-globalwafers.com Employee whistleblowing hotline: 03-5772255 # 2398 In the event of changes in labor conditions, consult the Company's internal legal department to ensure the protection of employee rights. 	<ul style="list-style-type: none"> The HR and Compliance department conduct investigations, taking into full consideration the personal interests of employees, and under the premise of full confidentiality. They communicate with department supervisors and individuals involved, and report to top management after the communication is completed, as well as implement compensatory and corrective actions. If any non-compliance with labor laws and regulations is discovered through any form of audit activity, the root cause is immediately understood and improvements are made within a specified timeframe. Employee complaints are handled by the HR Department, and if necessary, a committee is established for adjudication to ensure fairness. 	<ul style="list-style-type: none"> No illegal incidents have occurred at any of the locations of operation
	Child labor	<ul style="list-style-type: none"> Strictly verify identification documents during the recruitment process and ensure through interviews and observations that no child labor under the age of sixteen is hired. Employees under the age of eighteen shall not be engaged in any work that may harm their health and safety, nor shall they engage in night work. 	<ul style="list-style-type: none"> Remedial measures will be implemented for six months or until the child labor reaches the age of 16. If child labor is discovered, immediately remove them from the work position, return the child labor to their place of residence, parents, or guardians, and compensate for their education expenses. Arrange medical examinations for child labor to ensure that their physical health is not affected during work. If any health issues arise, the Company will fully bear the medical and living expenses. 	<ul style="list-style-type: none"> No illegal employment of child labor has occurred at any of the locations of operation
	Forced labor	<ul style="list-style-type: none"> It is clearly stipulated in the Personnel Appointment Regulations that the employment of forced, threatened, or involuntarily labor is strictly prohibited. Following the RBA framework to establish a Supplier's Code of Conduct and ensure that all suppliers are committed to the adherence. On a monthly basis, analyze employee attendance for time management to ensure the well-being of employees. Daily system alerts are implemented to prevent excessive work hours, and the HR Department and department supervisors jointly develop measures to ensure the implementation of preventive and remedial actions. Regularly hold meetings with foreign migrant worker agencies to ensure that they do not charge unreasonable fees or unlawfully withhold identity documents. 	<ul style="list-style-type: none"> Implement multi-skilled training to increase workforce flexibility and avoid excessive reliance on individual employees, which can lead to excessive workloads. Implement rotating rest days to ensure employees' work-life balance and personal well-being. If incidents of charging unreasonable fees to foreign migrant workers are discovered, immediately cease such practices and compensate the workers for any excess amounts charged. If non-compliance issues are found with suppliers, prompt them to make immediate improvements and assess the possibility of continued collaboration. 	<ul style="list-style-type: none"> No investigations by competent authorities have been conducted at any operating locations regarding forced labor complaints In 2022, GlobalWafers conducted a self-assessment using the RBA Self-Assessment Questionnaire (SAQ) at all locations, and no high-risk situations were identified. The Company's self-assessment score was 86.3, which is low risk
	Working conditions	<ul style="list-style-type: none"> Salary surveys are conducted each year to align salary levels with the current market and with the various economic indicators used in the analysis, making appropriate adjustments to employee salaries and providing competitive starting salaries. Employee Assistance Programs (EAPs) provide employees with free, professional, and highly confidential consultation services in five areas: psychological, managerial, legal, health, and financial. Implement regular health examinations for employees. Ensure the operation of occupational health and safety systems, such as establishing hazard assessment and grading mechanisms, setting up emergency response teams in each factory, and providing comprehensive occupational health and safety education and training. Establish an EHS organization and an Occupational Health and Safety Committee led by the highest-ranking executive in each factory. Establish the "Employment and Management Measures for Interns from Domestic and Foreign Colleges and Universities" to provide internship opportunities for college and university students. 	<ul style="list-style-type: none"> Human-factor risks: Irregular workloads (working hours): Comply with legal regulations, combine medical examination reports, stress surveys (questionnaires), risk assessments, health education consultations, and coordinate work schedules with supervisors to assist with employees' adaptation. Provide professional EAPs to intervene and assist employees in resolving issues in their life and mental health aspects. Provide health check-ups superior to legal requirements, identify high-risk groups through health examinations, and carry out ongoing monitoring and control. Arrange for professional occupational health physicians to provide services at the factory. In the event of occupational accidents, immediately initiate formal investigation and counseling procedures, with comprehensive assistance provided by relevant units, such as insurance claims, emergency assistance, adjustment of working hours, and psychological counseling. Implement flexible working hour systems, allowing employees to choose their working hours based on personal needs to ensure a balance between work and family life. 	<ul style="list-style-type: none"> In 2022, there was a total of 15,192 participants and cumulative 18,591 training hours in human rights-related education and training In 2022, 11,519 participants took part in occupational safety and health-related education training



Subject	Risk Issue	Mitigation Measures	Remediation Measures	Implementation Results
GlobalWafers and its subsidiaries, suppliers	Discrimination and harassment	<ul style="list-style-type: none"> Conduct annual education and training for all employees on avoiding discrimination and harassment, making the attendance of supervisors is mandatory, to prevent coercion, bullying, and workplace violence resulting from power imbalances. Ensure employment opportunities for individuals with disabilities. Establish the Regulations for Establishing Measures of Prevention, Correction, Complaint and Punishment of Sexual Harassment and display the Prevention of Workplace Violence declaration in a prominent location to clearly demonstrate GlobalWafers' determination to eradicate such incidents. 	<ul style="list-style-type: none"> The HR Department will initiate this and form a committee to protect the parties involved, make necessary adjustments to working conditions, hold meetings, make judgments, provide re-education, and offer required resources to safeguard the rights of the parties involved and prevent recurrence. 	<ul style="list-style-type: none"> In 2022, 84 individuals with disabilities were employed, accounting for 1.15% of the total workforce No discrimination incidents occurred at any of the locations of operation In 2022, a complaint that was determined by senior management as harassment was received at an overseas factory. Immediate protective measures were taken, and the training materials for preventing sexual harassment were promptly revised in the relevant departments
	Human trafficking	<ul style="list-style-type: none"> RBA SAQ self-assessment are conducted at each location of operation annually to assess the risks, management systems, and identify and correct human trafficking activities in business operations. 	<ul style="list-style-type: none"> The RBA SAQ is used to identify whether human trafficking is a high-risk issue for GlobalWafers. If so, management measures and action plans are developed immediately to ensure that there is no human trafficking in any production processes. 	<ul style="list-style-type: none"> No incidents of human trafficking were found at any of the locations of operation
	Freedom of assembly and association	<ul style="list-style-type: none"> Employees are encouraged to form clubs and participate in group activities organized by the Company. 	<ul style="list-style-type: none"> Regulations are formulated to ensure the reasonableness of club activities and provide operational subsidies for clubs. Elections for representatives from both labor and management are held regularly. Employer-employee meetings are held to facilitate full communication between employees and the Company on working conditions, benefits, and other matters on an equal platform. 	<ul style="list-style-type: none"> In 2022, labor representatives for employer-employee meetings at the Hsinchu and Chunan plants were elected through an online platform In 2022, the number of employees who joined the labor union reached 2,192, a 3.7% increase compared to 2,113 in 2021
	Equality and equal pay for equal work	<ul style="list-style-type: none"> The Salary, Allowance and Bonus Regulations was established and job descriptions set to determine salaries based on objective criteria rather than subjective judgments. Supervisors can use Employee Assistance Programs (EAPs) to seek advice on management issues, effectively avoiding work-life imbalances and treating all employees equally. 	<ul style="list-style-type: none"> In addition to defining salary ranges based on the job nature to ensure equal pay for equal work, annual performance evaluations are conducted and salary packages adjusted for high-performing employees. Linking compensation closely to performance ensures that salaries are determined based on objective criteria, regardless of individual circumstances. 	<ul style="list-style-type: none"> GlobalWafers conducts annual evaluations of market standards and individual performance for salary adjustments
	Maternity care	<ul style="list-style-type: none"> The "Maternal Health Protection Management Regulations" is established to identify and track the working conditions of employees during breastfeeding, ensuring a secure working environment for female employees during the breastfeeding period. Breastfeeding Rooms are set up in each plant for employees who have the need. 	<ul style="list-style-type: none"> In accordance with the regulations of the competent authority, without violating their willingness, the working hours, location, and content of eligible employees can be adjusted. Additionally, risk assessments and tracking for risks that were not immediately identified is conducted to ensure the well-being of employees. 	<ul style="list-style-type: none"> In 2022, there were 14 individuals in Taiwan who received maternity care measures through identification, classification, and implementation

(3) Stakeholder Engagement

GlobalWafers maintains continuous communication through various communication channels with all its stakeholders, including: employees, suppliers, customers, communities, and investors. We proactively disclose information on human rights due diligence through official websites, media, sustainability reports, and annual reports of shareholder meetings. The information is provided in both Chinese and English, allowing easy access and understanding for stakeholders from around the world; information includes our corporate commitments, due diligence processes, policies and actions, and identification and assessment. GlobalWafers upholds the core values of integrity and is committed to the authenticity of the information it discloses.

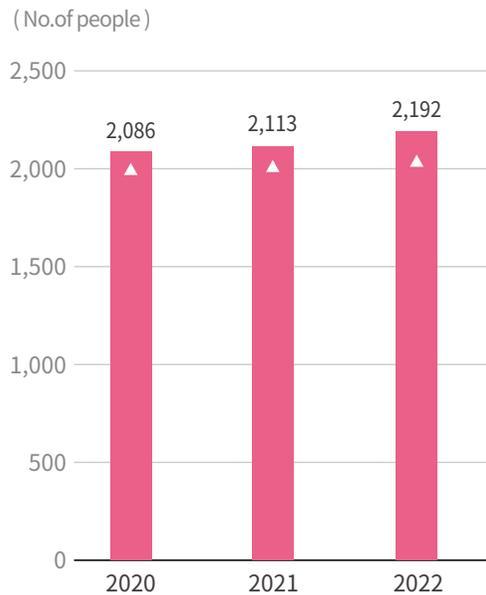
At most locations of operation, human rights education training is provided to new employees. In 2022, a total of 15,192 people received human rights education training, for a total training duration of 18,591 hours. Additionally, courses on workplace violence and sexual harassment prevention and abatement are also held annually for in-service employees. Training is provided to individuals associated with GlobalWafers' operations, such as suppliers. In addition to disclosing relevant human rights information on the official website, the [Supplier's Code of Conduct](#) is provided as an enforcement standard.



➤ Union

The number of union employees at GlobalWafers in 2022 was 2,192, which accounts for 28.9% of the total number of employees. There is no union in Taiwan, and the operating sites for unions are in Japan, South Korea, Italy, and the United States.

➤ No. of People Participating in Unions



Note1: GlobalWafers Headquarters, GlobalWafers Chunan Plant, GlobiTech Incorporated., GlobalWafers Japan Co., Ltd., Kunshan Sino Silicon Technology, Taisil Branch, MEMC Electronic Materials Sdn. Bhd., MEMC Electronic Materials S.p.A., MEMC Japan Ltd., MEMC Korea Company, MEMC LLC, Topsil GlobalWafers A/S

5.2 Occupational Safety and Emergency Response

➤ 5.2.1 Safe Environment

GlobalWafers strives to create a better, safer, and healthy working environment to promote sustainable development for the Company. In order to construct a safe working environment, all colleagues must participate in safety and health management activities through review, audit, communication, education and training, as well as health management, and must adopt the corrective measures in a timely manner in addition to complying with relevant local safety and health regulations. Supervisors at all levels must provide sufficient resources and support; and departments are also encouraged to actively propose improvement and training topics while taking the initiative to make "zero work injury & zero disaster" a basic self-requirement that is part of our basic attitude. In this, our goal is to raise the awareness of oneself, the environment, the machines, and the products during the process in order to strengthen the overall safety of colleagues, manufacturers, and guests while creating a sustainable business environment.

All GlobalWafers plants in Taiwan have successively introduced occupational health and safety management systems Note (ISO 45001) and used the systematic management mechanism (P → D → C → A) to fulfill the continuous spirit of improvement for occupational safety and health management. Its goal is to eliminate work environment hazards, reduce hazard risks, ensure all hazards are within the effective control range, continue to prevent occupational disasters, and fulfill the duty to ensure employee safety and health. Each year, the Company conducts internal audits to inspect the management system implementation and entrusts third-party verification units to perform external certification and system inspections in order to ensure management system effectiveness.

Note: Occupational health and safety management system reporting scope: The scope of the management system validation is based on the production sites, with the exception of MEMC Korea Company and Kunshan Sino Silicon Technology, which have not yet been implemented, all other operation sites have been implemented with 87.5% of the system. The management system is implemented for the aforementioned scope and the workers of the job or workplace under its control.

➤ Occupational Health and Safety Worker Participation

In Taiwan, the Company has established Occupational Health and Safety Committees according to the plant regions. The committees are composed of management, engineering, technical, and labor representatives as well as medical staff and safety and health personnel. The labor representative ratio is higher than that required by laws and regulations, and it accounts for over 1/3 of the total number of committee member seats. A regular Occupational Health and Safety Committee meeting is convened once every 3 months and is responsible for the deliberation, coordination, and promotion of occupational health and safety related issues; and allowing employees to participate, consult, and communicate regarding the performance of the occupational health and safety management system.

➤ Occupational Safety & Hygiene Committees for Respective Factories in Taiwan Region

Item	GlobalWafers	Taisil Branch
Committee (Number of People)	20	37
Labor Representatives (Number of People)	7	19
Labor Representatives Percentage	35%	51.4%

➤ Consultation and Communication of Workers

GlobalWafers has established communication mechanisms such as employee suggestion boxes, labor-management meetings, communication meetings, employee relations systems, internal meetings between various departments, and website announcement boards to facilitate consultation and participation as well as listen to the needs and expectations employees and stakeholders. The Company has also provided education, training, and consultations to improve health and safety, environmental protection, and energy conservation awareness and competency.

Moreover, GlobalWafers also actively communicates with other workers who are not our employees to establish contractor partnerships as well as operation management methods, as well as to implement our commitment to health and safety. In addition to requiring contractors to comply with the safety and health management laws and regulations, contractors must also meet the Company's qualifications for construction personnel, equipment and materials, and safety protection before signing contracts with the Company. The Company informs the contractors of any regulations for the working environment, project hazard risks, or relevant safety and health before they enter the Company; and requires them to participate in safety meetings convened by the safety and health management personnel.

➤ Hazard Identification, Risk Assessment, and Accident Investigation

We have identified potential hazards in all company operations, including workers and workers under the control of the Company. Our goal is to evaluate the potential risks and injury hazards in machines, equipment, chemicals in the operation, limited space, warehouse stacker, and to identify and implement hazard assessment and control improvement.

The main risk assessment models for routine and non-routine operations in the plant include Job Safety Analysis (JSA), Failure Modes and Effects Analysis (FMEA). Qualified personnel are trained by each unit to perform hazard identification and risk assessment for their operations and activities, and the identification results are regularly reviewed annually.

We have established various workplace safety and health management procedures, work standards, special hazard work controls, chemical management standards, and work environment monitoring provisions to serve as guidelines for colleagues. Our objectives in this are to prevent occupational injuries and diseases, promote employees' physical and mental health, create a high-quality and safe, and healthy working environment, eliminate hazards, reduce environmental safety and health risks, and provide employees with a safe working environment. In addition, GlobalWafers has instituted protocols for addressing incident reports and overseeing implementation of corrective actions for non-conformities. Whenever an incident arises, irrespective of the severity, it is investigated, and the investigators include management, supervisors, operators, and labor representatives related to the incident, and these personnel must be qualified in incident investigation education and training. The incident investigation is tasked with finding the root cause, and must re-examine and adjust the hazard risk assessment; remedial and improvement measures taken should be able to eliminate the cause of the incident and prevent its recurrence, and by safety and health personnel must also follow up and review on such implementation.

If any immediate danger is discovered in the workplace, the worker must stop the operation and retreat to a safe location on his/her own without endangering the safety of other workers, and immediately notify the on-site supervisor without receiving any unfavorable punishment from the Company.

📌 Special Hazardous Operation Control

The Company has established the operation control measures for projects with high potential risks, such as special operations at elevated heights, hot and/or confined spaces, working done while hanging, and fire-fighting interruption sites. Colleagues must apply in advance before executing such special operations, and they must also conduct work safety inspections in advance to ensure work safety. Daily patrol inspection systems must be implemented to detect anomalies in advance, avoid potential hazards, strengthen safety and health, prevent accidents, and achieve the disaster prevention objective in the work environment.

📌 Chemical Control

The Company continues to conduct risk assessment of all chemical operations in the plants; it established a chemical database and safety data sheet area, fully understands high-risk operations, and develops risk mitigation plans to protect labor health and safety.

The safety and health unit has gained a full understanding of the chemical risks and management measures in the factory via the safety data sheet information provided by the chemical supplier and Chemical Control Banding (CCB) tool; it also conducts regular chemical reporting to the competent authority pursuant to laws and regulations. The chemical machines at the work site are equipped with local exhaust devices, affixed with chemical GHS labels in both Chinese and English, and the work area is equipped with a safety data sheet (SDS) to give colleagues a full understanding of chemical storage, hazards, and preventive measures during operations. In addition, highly flammable chemicals are stored in safety explosion-proof cabinets after use to reduce the chemical risks. In addition to providing personal protective equipment according to the different features of the work area, colleagues are also arranged to conduct respiratory protective equipment snugness test every year to ensure proper protective equipment effectiveness.

Chemical GHS Hazard Labeling and Safety Data Sheet (SDS)



📌 Respiratory Protection Plan

The Company referenced respiratory protection plans, measures, guidelines, and manuals to formulate the Respiratory Protection Plan Procedures. We also test respiratory protective equipment fit each year to evaluate whether employees are using and wearing protective equipment correctly, if the respiratory protective equipment can meet the tightness factor required by regulations, and to ensure the masks can completely fit the employees' face shapes. We required users to complete the physiological self-assessment questionnaire before the test. If there is a potential risk discovered in the physiological test, the medical department will arrange an interview with an occupational doctor in the factory to reduce the risk of exposure to respiratory hazards.



▲ Fit Test (Quantitative)



▲ Fit Test (Qualitative)

📌 Monitoring of Operation Environment

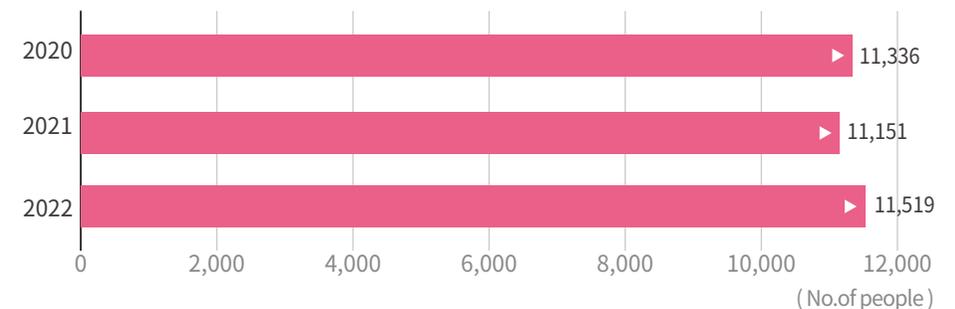
To ensure workplace safety, the Company appointed qualified industrial and mining sanitation technicians and work environment monitoring agencies to study the operation monitoring plan on a regular basis pursuant to the Regulations Governing Labor Work Environment Monitoring Implementation, and it performs risk classification management for health risk hazard chemicals defined by the Standards of Permissible Exposure Limits at Job Site and met the national standard CNS 15030 in reference to the Hazardous Chemicals Assessment and Classification Management Measures,. The Company exceeded the legal requirement in terms of gaining a full understanding of the possible hazardous exposures for colleagues in the working environment. The working environment monitoring results are publicly disclosed on the Company's bulletin board and inspected to ensure compliance with the laws and regulations. Any anomalies found in the monitoring results are corrected immediately to ensure a safe working environment for colleagues.

📌 5.2.2 Occupational Safety and Health Worker Training

We have listed the following safety and health education training as compulsory courses for new and on-the-job employees: Hazardous substance identification, emergency escape drills, personal protective equipment wearing, fire training operations, mechanical protection, human musculoskeletal injury prevention, AED & CPR first aid training, etc. Through training and publicity, employees will gain proper environmental safety and health knowledge as soon as they enter the job and reduce or eliminate any possible hazards or accidents. Employees engaging in special operations such as stackers, aerial work vehicles, hoisting cranes, must receive professional training in order to obtain qualification certificates, and must wear the relevant personal protective gears in order to perform their work. The same requirements are also implemented for contractors. In 2022, we held fire drills, emergency response training, AED & CPR first aid training, and several occupational safety and health education and training. Trainings for occupational safety-related license personnel are also handled in accordance with relevant laws and regulations and are managed and regularly tracked by our education and training system.

We have also provided education and training for employees engaging in operations in which there is noise, organic solvents, and specific chemical substance exposure conditions that are particularly hazardous to health; we also issued appropriate safety protection equipment and implemented pre-employment physical exams as well as in-service annual physical exam health management to ensure the safety and health of employees at work. There has been no occupational disease involving employees engaged in special operations. In 2020 and 2021, over 11,336 and 11,151 employees have received safety and health education and training, respectively; that number exceeded 11,519 in 2022. These numbers show the Company's commitment to advocating employee safety awareness.

Number of people who received safety and health education and training



Note: The statistics cover GlobalWafers Headquarters, GlobalWafers Chunan Plant, and Taisil Branch

📍 Contractor Management

The Company has formulated the contractor management measures to prevent personnel hazards or equipment loss caused by the relevant contractor operations in the Company. It categorizes construction operations into general operations and special hazardous operations (open-fire, confined space, hanging, elevated, and other high-risk operations), and strictly controls construction applications and risks. In addition to requiring contractors to assign supervisors to monitor the work on-site during construction, the project leader must also perform on-site supervision and management. Safety and health management personnel must conduct irregular inspections to ensure all operations conform to safety, health, and environmental protection regulations; and to strengthen the construction safety management for contractor workers in the plant.

Moreover, GlobalWafers has also continued to promote occupational safety proposal competitions in recent years to create a comfortable and safe working environment. The award-winning units are selected based on the proposal contents and weighted scores, and are recognized by the safety and health committee every quarter and are given bonuses for encouragement. The goal is to inspire employees to raise their safety and health awareness, promote active participation, and reduce occupational disaster incidents.

★ 5.2.3 Emergency Response

The purpose of emergency response management is to enable immediate handling of emergency accidents in the plant, stop the expansion of disasters; enable correct and effective response strategies in case of an abnormal emergency; and minimize personal injury, property damage, and environmental impact resulting from such incidents. The Company has conducted emergency response team training, emergency escapes, and evacuation drills every year to strengthening-plant disaster relief as well as the colleagues' knowledge and familiarity with the working environment and escape lines. In addition, all plants in Taiwan have poison response personnel in accordance with the law. The emergency response training held in 2022 included emergency response equipment operation training, toxic chemical substances and chemical leakage treatment drills, earthquake drills, cardiopulmonary resuscitation, Heimlich maneuver emergency rescue training, firefighting emergency evacuation, and cooperate with the fire department to conduct fire drills for chemical warehouse fires.



▲ Firefighting emergency escape training



▲ First aid training

▲ Chemical spill response drill



5.2.4 Occupational Disaster Management

Disabling Injuries

Pursuant to the Occupational Safety and Health Act, the Company has established the Occupational Disaster Prevention Plan and Injury, Disease, Incident Reporting Procedure to serve as guidelines for incident investigation and handling. We have also established preventive and improvement measures to manage, track and report occupational injuries and diseases to ensure the safety of employees.

When an accident occurs, the department head along with safety and health personnel conduct accident investigation and analysis, and the accident unit shall be responsible for tracking and handling the accident until the case is closed. The safety and health management unit shall report occupational disaster statistics to the Occupational Safety Department of the Ministry of Labor every month.

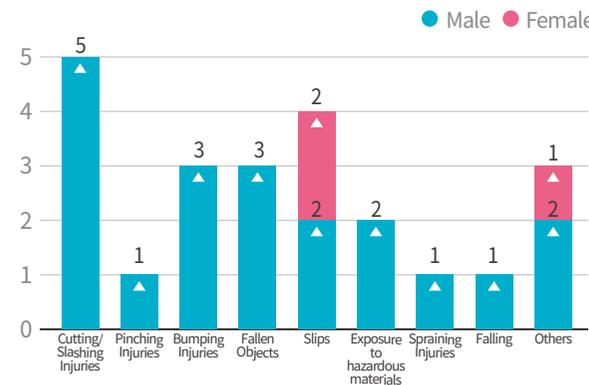
GlobalWafers has regularly implemented occupational safety and health education and training for employees and contractors to effectively prevent occupational disasters; and conducted work environment inspections and internal/external audits to review the Company's environmental, safety, and sanitary operations. The goal is to ensure environmental safety for workers and achieve the zero-accident target.

Our occupational hazard statistics analysis data are generated based on disability injuries statistics indicator published by the Ministry of Labors and GRI. With one million work hours being the base line, our statistics are based primarily on the Disabling Frequency Rate, (FR), Disabling Severity Rate (SR), Occupational Disease Rate (ODR) and Absence Rate (AR) (with disabling injury statistics excluding traffic accidents outside factories).

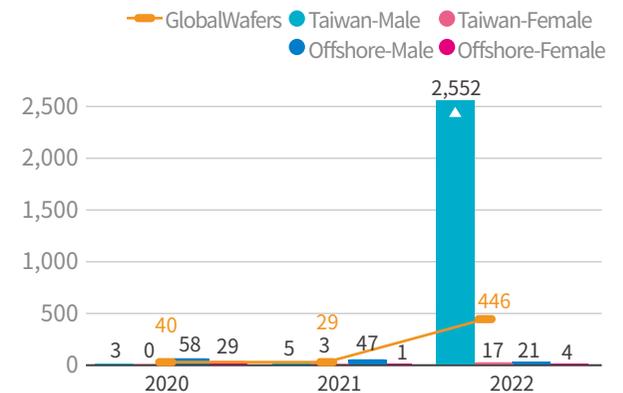
In 2022, there were seven work-related injuries and disability incidents in Taiwan and 16 work-related injuries and disability incidents at overseas plants. Cut-related accidents accounted for 21.74% of the total work-related injuries, and followed by fall and sprain injuries, which accounted for 17.39%. The disability injury rate in plants worldwide is 1.60 (1.83 for men and 0.88 for women), and the severe disabling injury rate is 446 (583 for men and

8 for women). There were no occupational diseases or work-related deaths. There was one case of duty-related death in Taiwan this year. According to the occupational disasters statistics for the past three years, the disabling injury rate and the disabling injury severity rate in 2022 showed a significant increase compared to 2021, mainly due to a fatal case. In addition, no work-related injuries occurred among contractors operating in various plants at home and abroad in 2022.

Statistics of Work Injury Types in 2022



Disabling Severity Rate (SR)



Note1: Taiwan: (GlobalWafers Headquarters, Chunan Plant, Taisil Branch).

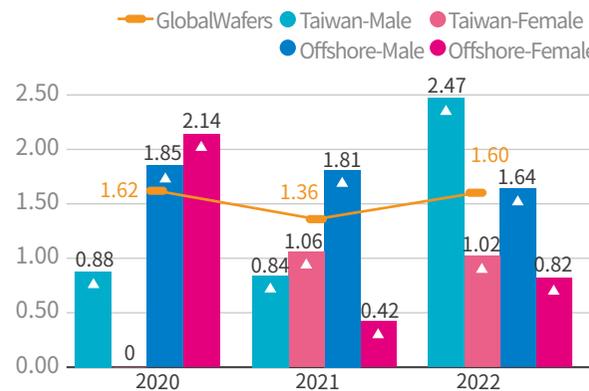
Note2: Offshore: GlobiTech Incorporated., GlobalWafers Japan Co., Ltd., Kunshan Sino Silicon Technology, MEMC Electronic Materials Sdn. Bhd., MEMC Electronic Materials S.p.A., MEMC Japan Ltd., MEMC Korea Company, MEMC LLC, Topsil GlobalWafers A/S.

Note3: Disabling Frequency Rate (FR) = total number of disabled employees × 106 / Total work hours.

Note4: Disabling Severity Rate (SR) = Total number of work days lost to injuries × 106 / Total work hours.

Note5: Total work hours: Mandatory work days in respective factories × mandatory work hours × total number of employees for that factory.

Disabling Frequency Rate (FR)



Occupational Disaster Statistics	GlobalWafers (Taiwan)					
	2020		2021		2022	
	Employees	Workers who are not employees	Employees	Workers who are not employees	Employees	Workers who are not employees
No. of people	1,592	92	1,674	88	1,711	110
Work Hours	3,158,528	271,790	3,321,216	265,810	3,408,312	320,011
No. of disability injuries	2	0	3	0	7	0
Days of disabling injuries	6	0	14	0	6,218	0
Death toll due to work	0	0	0	0	1	0
No. of severe occupational accidents	0	0	0	0	0	0
No. of recordable occupational injuries	10	0	10	0	34	0
Recordable occupational injury rate (IR)	0.633	0	0.602	0	1.995	0
Occupational disease rate (ODR)	0	0	0	0	0	0

Note1: Other non-employee workers: Refer to workers who are not employees but whose work and/or workplace are controlled by the organization. Divide the total number of workers for the year by 365 to calculate the average number of people entering the plants every day.

Note2: Work hours: Employees - calculated based on the actual work hours of the year. Other non-employee workers - calculated based on the total number of workers for the whole year, followed by 8 hours per day.

Note3: Severe occupational disasters: Injuries in which workers are unable or cannot recover to their pre-injury health status within 6 months after the occupational injuries.

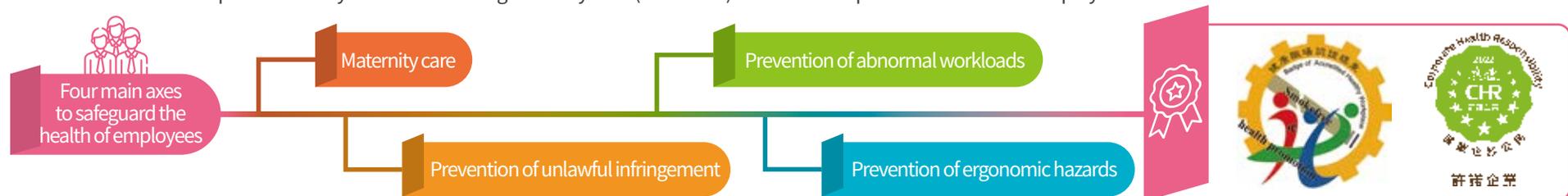
Note4: Recordable occupational injuries: Refer to occupational injuries that caused death, loss of work, restricted work, or work transfer; emergency care or higher-level medical treatment; loss of consciousness; and serious injury or illness diagnosed by a doctor.

Note5: Recordable occupational injury rate (IR): (recordable occupational injury number / total working hours) * 200,000

Note6: Occupational disease rate (ODR): (total number of occupational diseases / total working hours) * 200,000

✦ 5.2.5 Healthy Workplace

Employees are the most valuable assets of GlobalWafers. We regard employee health as the key element to Company success and sustainable development, and to that end we are committed to creating a safe and comfortable working environment. Take Taiwan sites as example, the sites have set up medical rooms equipped with full-time nurses and contracted specialists in occupational medicine and continue to promote the 4 core protective measures: maternity protection, prevention of ergonomic hazards, prevention of abnormal workload, and prevention of unlawful infringement in the workplace. The goal is to protect colleagues' physical and mental health, create a happy and healthy workplace environment with diversified health care programs, as well as to provide health seminars and various types of health promotion activities. In 2022, GlobalWafers was awarded the Health Promotion Certification Mark by the Health Promotion Administration, MOWH, as well as the CHR Healthy Corporate Citizenship Promise Enterprise certification label from Health Magazine, which showcases the Company's commitment to creating a benchmark for a happy and healthy workplace. GlobalWafers has gradually introduced and provided occupational health services in accordance with the Occupational Safety and Health Management System (ISO 45001) framework to protect the health of employees.



➤ Four main ways to protect the health of employees

Pillars	Execution direction	2022 results
Maternity care	Conduct health risk assessments for pregnant female employees who want to return to the workplace after childbirth, offer physician consultation and care services, and provide expecting mothers with a good maternity package to protect the physical and mental health of pregnant, postpartum, and breastfeeding colleagues.	Level-I management: 14 people Level-II management: 0 people (7 people from GlobalWafers; 7 people from Taisil Branch) Health risk assessment completion rate: 100%
Prevention of abnormal workload	Based on employee health examination data, Flemingham Risk Assessment Scale, overwork scale, and other data to analyze the high-risk overload groups and provide factory medical consultation and protection guidance measures for such groups. The nursing staff regularly distributes health messages to help prevent overwork and continue implementing employee tracking and care.	Tracking management: 237 people (69 people from GlobalWafers; 168 people from Taisil Branch)
Prevention of unlawful infringement in the workplace	To provide a healthy and positive workplace, we conduct risk assessment for the entire factory once every two years. Positivity courses like unlawful violation and spiritual growth are arranged to construct an excellent work environment.	All new recruits have completed the education and training on workplace unlawful infringement prevention and sexual harassment within 30 days of arrival. Physical lectures are organized, and we also issue health-related articles monthly to care for our employees' physical and mental health.
Prevention of ergonomic hazards	We conduct ergonomic hazard risks surveys on all departments based on their work content/operations. Operation observation, personnel interviews and medical treatment record investigation are conducted to screen and identify priority improvement targets (operation). Then, based on operating hours, loading of weight, postures and work conditions, a quantitative risk assessment is made for the risk grade calculation (KIM) to gradually improve the operation/construction by the year and to prevent the ergonomic hazards.	-

Maternity Health Protection

In our endeavor to safeguard the well-being of our female colleagues, we have instituted a maternal health protection plan and implemented the maternal health risk assessment. This plan and assessment help protect the health of female colleagues of childbearing age in the workplace, as well as to prevent female colleagues who are pregnant or have a child of less than 12 months old from exposure to health hazards at workplaces that may affect embryonic development or affect the health of mothers and infants during pregnancy or lactation. The Company has implemented hierarchical management and work adjustments, after referencing comprehensive evaluations from professional medical doctors, to provide exclusive parking spaces, breastmilk collection rooms, and care armbands for pregnant colleagues, all to create a friendly working environment for working mothers. To encourage pregnant colleagues to report pregnancy as soon as possible so they can receive immediate maternal workplace health assessment and initiate protective measures, the Company has started offering the Good Pregnancy Pack - a breastfeeding pillow (moon pillow) in 2021. The goal is to create a mother-friendly workplace environment so colleagues can feel at ease while nurturing new life at work.



▲ Exclusive parking spaces and care armbands for pregnant colleagues



▲ Breastfeeding Room



▲ Good Pregnancy Pack



Prevention of Diseases Triggered by Irregular Workloads

In order to lower risk of illness stemming from factors such as work shifts, nighttime schedules, extended working hours, and other non-standard workloads, we have established plans to counteract health implications of work-related burdens. The summarized analysis is conducted based on all employees' health examination data, work hours, and overwork questionnaire results. Hierarchical management is implemented, and high-risk groups are listed accordingly through occupational doctor interviews, health guidance, and relevant preventive measures. We have also delivered regular health and fatigue prevention articles to help reduce disease risks and ensure colleagues' physical and mental health.

Ergonomic Hazards Prevention

In an effort to prevent human-factor hazards and mitigate the occurrence of repetitive musculoskeletal injuries, a human-factor hazard prevention plan has been established to issue a comprehensive musculoskeletal injury survey questionnaire. The goal is to investigate and screen suspected medium- and high-risk hazard cases, conduct on-site job evaluation by occupational health managers and provide professional medical doctor interviews and guidance, as well as to recommend improvements based on the evaluation results.

Health Promotion and Reinforcement of Health Concepts

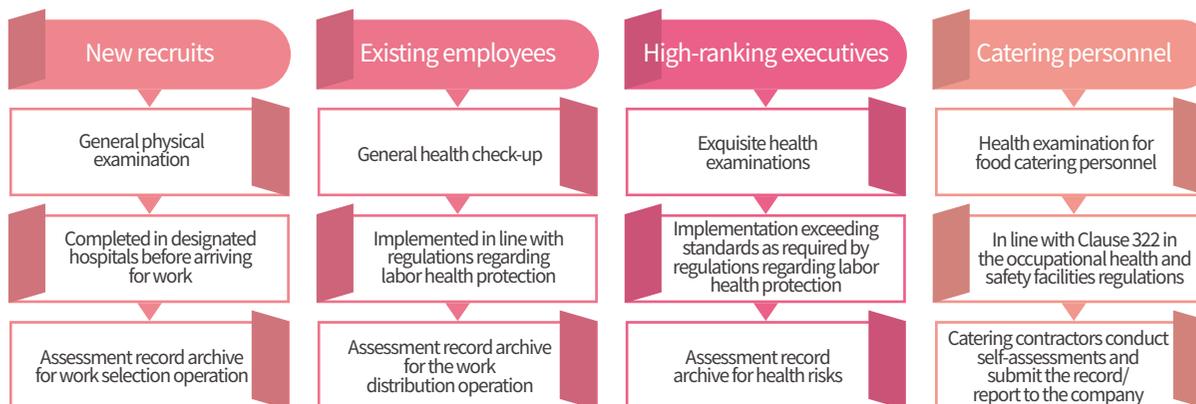
GlobalWafers has instituted a varied range of healthcare initiatives for our employees. Each year, the Company formulates a health management and improvement plan in order to maintain the health of employees according to the overall employee health exam data analysis. Physical and health exams are also provided to operators of different ethnic groups. All the implementation items and frequency exceed the regulation requirements. Free medical institution cancer screenings for colorectal cancer, cervical cancer, mammography, oral cancer, etc., are also provided to employees to implement overall employee health management. Upon completion of health check operations, professional on-site medical personnel conduct follow-up tracking for any abnormal results. This data serves as a key reference for health improvement activities and health promotion initiatives.

Prevention of Unlawful Infringement in the Workplace

To provide a friendly workplace environment, the plants have established the workplace unlawful infringement protection management measures to prevent physical or mental violations due to other people's behavior when performing duties; we also have a workplace unlawful infringement prevention statement on the factories' announcement board and provide multiple complaint channels to employees. We conducted regular workplace unlawful infringement risk assessments; plan the relevant safety measures based on the survey results; and regularly conduct seminars on workplace unlawful infringement prevention, sexual harassment prevention, and interpersonal relations to ensure employee safety at work and protect their physical and mental wellbeing.

Our health care centers perform statistical analysis based on the annual health exam results, plan health promotion activities and lecture topics for the year, arrange consultations with the clinic service physicians, and collaborate with the medical and healthcare services provided by the Hsinchu Science Park employee clinic to promote preventive medicine and disease prevention while strengthening health awareness for colleagues.

In 2022, GlobalWafers promoted numerous health management events with up to 4,944 participants. The events include cancer screening, health lectures (Nutritional Lifestyle to Boost Immunity, Eating Healthy When Eating Out, Prevention of Osteoporosis), and emergency rescue courses to help employees build correct health care knowledge and improve health care awareness. There is also an annual employee influenza vaccination activity to enhance employees' defenses and reduce the chance of workplace cluster infections. The Company also holds regular blood drives and offers gift cards as participation rewards to encourage employees to donate blood, embrace charity work, and engage in the spirit of care. In addition, our overseas sites have developed a wide range of health promotion measures based on the local culture and environment, such as: arrangement of health seminars, cancer screenings, flu vaccination, sponsorship of sports activities and employee participation, free bicycle rentals, employee family walks, quitting smoking activities. GlobalWafers continues to refine our health promotion system through the exchange of information within the Group to protect the health of our organization members.



To ensure workplace environment safety, the Company has established the emergency response staff in addition to the emergency personnel for each shift as required by the law. The Company's plants contain 24-hour automatic external defibrillator (AED) and emergency rescue kits to give first-line rescue personnel to have sufficient and complete rescue equipment when performing rescue work. The Company also holds annual CPR+AED practical operation skills courses, In-plant Emergency Rescue Response Measures and Chemical Splash Cleanup Course, and arranges for emergency rescue personnel and staff to participate in such courses. The goal is to enable plants to effectively and immediately take appropriate emergency rescue measures in case of an accident, establish a safe workplace environment, and obtain the safe workplace certificate from the Ministry of Health and Welfare.

Moreover, the Company has established a comprehensive pandemic response mechanism and set up an active infectious disease notification system to prevent the threat of infectious diseases in the workplace and ensure continuous and normal company operations. The Company also posts the latest domestic and foreign epidemic information on the internal website on an irregular basis to remind colleagues to strengthen personal hygiene and their pandemic response knowledge. We hold free influenza vaccination activities in the plants each year to strengthen employees' flu resistance and provide pandemic response kits for colleagues to carry along during business trips to provide pandemic and disease prevention information as well as health promotion, as well as to help to protect colleagues from the threat of disease while out on business trips.

➤ 2020~2022 health promotion / emergency rescue events

Unit: No. of people

Year	2020	2021	2022
GlobalWafers	4,136	4,589	7,223



▲ CPR and AED Training Courses



▲ Influenza vaccination, lecture on a nutritional life to enhance immunity, seminar on prevention of osteoporosis

Certain group Tracking and Health Care

GlobalWafers' health centers provide comprehensive health care; healthy nutrition consulting services; and consultation to high-risk groups, maternal health protection groups, and new recruits whose physical and health exams showed abnormal results. The Company also arranges physician consultation and care as well as psychological support according to individual need.

In addition, the Company will also provide care to colleagues who have suffered a public injury or traffic accident by offering psychological support, insurance claims service instructions, and on-site physician consultation to help colleagues return to work as soon as possible.

➤ Number of services for certain groups and number of people tracked

Number of service sessions	2020	2021	2022
GlobalWafers - Taiwan	1,298	1,247	1,690

Number of people were tracked	2020	2021	2022
GlobalWafers - Taiwan	1,113	915	1,069

Note: ※ GlobalWafers - Taiwan include the Hsinchu Plant / Chunan Plant, and Taisil Branch

※ Definition of certain group:

- (1) Abnormal workload prevention (GWC: Follow the current year to track B2 level or higher based on the management method for abnormal workloads prevention / TEM: doctor suggested interviews, Framingham Risk Score 10% or more + overload in the overload scale)
- (2) Maternity (tracking the case received in the current year), (3) Disability (track the current year, once every 2 years), (4) Newcomers (GWC: those who have received an abnormal physical examination guide leaflet / TEM: those with level 3 or higher physical examination classification), (5) Special grade 2, (6) Annual health checkup (GWC: those with level 4 or higher according to the physical examination scale / TEM: those with level 3 or higher physical examination classification), (7) Work injury (statistics based on the day of occurrence), (8) Psychology (GWC: Mental Health Scale score of 19 or higher or suicidal intent / TEM above the medium load).

Health Information & Health Promotion Platform

To enable employees to gain the correct health care knowledge, the health center provides employee disease information and consulting services. A health management website and electronic bulletin board are set up within the Company, and we deliver or post various health information on an irregular basis for the reference of our colleagues. For health promotion / healthcare activities and health knowledge, employees can learn the latest information and activities through the website and grasp the latest health related information in real time.



▲ E-bulletin updates Health Information sporadically



▲ Health news column and marquee provide health and pandemic response propaganda

Physical and Mental Balance and a Blissful Workplace

GlobalWafers believes that employees are the Company's most important assets. Only with healthy employees can we raise corporate productivity. Therefore, we are committed to creating a safe, healthy, and friendly workplace.

From 2021, GlobalWafers has introduced the Employee Assistance Program Center (EAPC) to provide comprehensive care for employees. Service items include emotional management, interpersonal relationship, legal, work career, family parent-child, financial, and other diversified consultation services. Each employee can receive 2 free one-to-one consultation services every year. Nurses will actively refer those with high scores on the mood thermometer questionnaire to EAPC, and regularly track and care their status. We also provide new recruit training programs, contact description cards, and deliver mental health education articles regularly. The goal is to help employees relieve their stress and tackle problems at their roots via professional counseling services, which helps them feel at ease and work confidently.



Employee Assistance Program Center (EAPC)		2021	2022
Live chat E-mail consultation service	All regions*	23 people	38 people
One on one Expert advisor consultation	GlobalWafers - Taiwan	8 people	7 people
Total number of consultations		31 people	45 people
Professional consultants for colleagues		100%	97%
Overall satisfaction with on-site psychological counseling			

* The scheme covers the parent company Sino-American Silicon Products Inc. To protect user privacy, EAPC does not provide differentiated statistics.

5.3 Social Participation

GlobalWafers continues to assess the risks and opportunities of business locations, and dedicates efforts to caring for local underprivileged groups, such as low-income households, children, and persons with disabilities. Our efforts include actions and education for local environmental protection. To encourage employees to participate in social welfare, the Company matches donations on a 1:1 basis. (The Company donates the same amount as the employees.) Our goal is to combine our donations to offer more care and warmth to more places in need.

Hsinchu Wujian Center Nutritional Supplement Program

GlobalWafers Group is committed to assisting disadvantaged groups in society. Recognizing the challenges faced by disadvantaged families and their children, which can have a severe impact on their physical and psychological development, we have arranged to provide practical nutritional supplements. This program aims to meet the nutritional needs of children in their crucial developmental stage, alleviate the financial burden on families, and help these children maintain normal development both physically and mentally. This program serves as a dedicated support for disadvantaged families, enabling them to continue functioning normally.



Angel Family Relaxation Service

The term "Angel" is transliterated to "愛奇兒" in Mandarin and refers to children with developmental disabilities. According to statistics from the Ministry of Health and Welfare, there are approximately 810,000 "Angel" families nationwide facing difficulties in caregiving.

This charity fundraising drive provided assistance to allow their parents to take a break, and to serve as a welcome and timely relief for Angel families. Apart from sharing the caregiving responsibilities, it enabled these families to continue moving forward. When these families felt the burden was shared through the resources we provided, and when they no longer felt isolated, it strengthened our determination to continue prioritizing and assisting disadvantaged groups in society.



Care for the Disadvantaged Children

In recent years, due to the impact of the pandemic, families have faced income shortages,

and there has been a decrease in part-time job opportunities for high school students. Consequently, families are under increasing pressure to cover the expenses of the new school semester.

In response to this, the center has increased the distribution of scholarships for high school students, aiming to encourage children with better academic performance to continue forging ahead.

With the encouragement of scholarships, these students can demonstrate a positive spirit of learning in adversity and become an important force for future financial independence.



Protectors of Families of PVS Patients

Established in 1986, Genesis Social Welfare Foundation is the only social welfare organization in Taiwan dedicated to caring for economically disadvantaged PVS individuals. Internally, the Group initiated an employee fundraising campaign to donate to the Genesis Social Welfare Foundation, providing assistance to disadvantaged in overcoming difficulties. This initiative not only encourages employees to care about and value disadvantaged groups in Taiwan's society but also aims to help those in need through donations. This serves as a strong support for these disadvantaged families, allowing them to continue functioning normally.



Hsinchu Children Safety Protection & Home Safety Improvement Plan

For us, home is the warmest and most comfortable place, but also the safest. However, economically disadvantaged families often face difficulties in repairing or replacing outdated and energy-consuming appliances or inadequate interior facilities.

To help surmount these difficulties, the plan provides economic support and regular care visits from social workers to families facing sudden economic difficulties due to illness, emergencies, or family changes. The program aims to assist these families in improving their room interior facilities and addressing safety issues, enabling them to overcome life's challenges smoothly.



Site Layout Fundraising Plan for SAS & GWC Donation Charity Event

This fundraising campaign supported the Association for Victims Support in organizing the 2022 Show Your Love Charity Market. The funds were used for the on-site expenses of the event, including theme design and layout, equipment rental, and materials for interactive promotion areas. The Show Your Love Charity Market aims to encourage victims to regain hope, learn skills to regain self-reliance, and emerge from adversity to embrace a new life. Through the market, victims can sell their handcrafts and food products, cultivating skills and creating a stable source of income, while also engaging with the wider community. This enables their products to be seen by the public, allowing them to reintegrate into society and become self-reliant.



White Cane Action

Since its establishment over thirty years ago, the Taiwan Foundation for the Blind has been continuously dedicated to providing comprehensive services for the visually impaired. Despite the challenges posed by the pandemic, including fundraising difficulties and the daily hardships faced by visually impaired individuals, the foundation does not give up on any opportunity. It focuses on issues related to visual impairment and strives to create a friendly and accessible environment.

This project aims to provide the Love for the Taiwan Foundation for the Blind with funds to purchase white canes and offer one-on-one orientation and mobility training courses. These initiatives help visually impaired individuals move towards independent living and alleviate the burden on their families.



Yilan Rural Tribal Community Family Education Program (Book Van/Cooking for Families at Home)

In collaboration with World Vision Taiwan, we have been involved in caring for disadvantaged communities in Taiwan over a number of years. This time, the focus is on supporting the Rural Tribal Community Family Education Program in Yilan. The funding gathered through this project will provide scholarship assistance to students in Nan' ao Township, support the Book Van in delivering knowledge and happiness, and build stronger family relationships through parent-child cooking.

※ Book Van: In resource-limited rural areas, World Vision operates the Book Van, bringing together local resources to provide community-based services. Through interactive teaching methods such as parent-child reading, character education, educational promotion, and DIY baking and crafts, this initiative enhances positive interaction and good reading habits within the family.

- ※ **Cooking for Families at Home:** The Cooking for Families at Home program offers services to specific households, where parents and children can cook meals together and engage in parent-child reading activities. This program strengthens positive interaction within the family and provides opportunities to repair family relationships. It offers a glimpse into the real interactions within the family during the activities, while providing insights and offering more suitable individualized services.
- ※ **Education Assistance Program:** This program provides pre-enrollment assistance funds to 26 students from the Nan' ao tribal communities in Nan' ao Township, relieving economic pressure on disadvantaged families and enabling children to continue pursuing their educational dreams.



Hsinchu Family Support Center - Winter Charity School Fair [Taiwan Fund for Children and Families 55 Dancing with Happiness]

In the post-pandemic era, all while safeguarding our lives and maintaining a positive attitude towards pandemic response, the Hsinchu Family Support Center has been supporting disadvantaged families for the past 55 years, committed to helping families and children overcome life's challenges.

For the 13th consecutive year, they are sponsoring the Winter Charity School Fair, and participated in a joyful dance with disadvantaged families.



GWC Earth-Friendly Beach Cleanup Event

GlobalWafers adheres to environmental conservation and giving back to the village by adopting and maintaining the coast of Longfeng fishing port and actively participating in environmental protection activities. In 2022, the Company held a beach cleaning event. We hope to encourage colleagues, their relatives, and friends to participate in environmental protection through these events, arouse their environmental and ocean protection awareness, do their part for the environment, and convince others to help reduce plastics and other wastes and contribute to environmental protection.



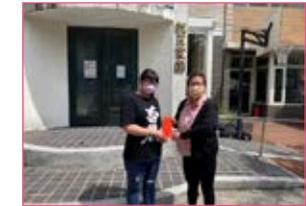
Wenwei Community Guanyidu Sustainable Environmental Education Trip

This is an eco-tourism initiative that promotes responsible travel, emphasizing environmental conservation and the well-being of local residents. GlobalWafers organizes employees and community members to participate in the activity, which places its focus on ecological conservation and a commitment to achieving sustainable development as the ultimate goal.



Mid-Autumn Festival moon cake donation charity event

GlobalWafers delivers Mid-Autumn Festival mooncake gift boxes to colleagues every year. The Company has also launched an employee love fundraising event and matched the donations from colleagues to provide care for the disadvantaged and fulfill our corporate social responsibility for charity and public welfare.



Foreign Sites

📍 (MEMC Electronic Materials S.P.A Donation)

During Christmas, MEMC Electronic Materials S.P.A donated funds for Christmas baskets to the local nonprofit organizations Banco Alimentare and Jugenddienst. These organizations are dedicated to collecting food and redistributing surplus food from agricultural and industrial production to charitable institutions across the region, providing assistance to impoverished families and those in need.



📍 (MEMC Electronic Materials Sdn.Bhd. Blood Donation Drive)

Every year, a large number of patients require blood transfusions for medical treatment or surgical procedures. Their selfless acts of blood donation can save lives. This year, we participated in two blood donation drives organized by the National Blood Centre of Malaysia. A total of 75 employees successfully donated blood for this charitable cause.



📍 (GlobalWafers Japan Co., Ltd. Cleanup Activity)

GlobalWafers' overseas site, GlobalWafers Japan Co., Ltd, has consistently focused on the environment and collaborated with local governments to support sustainable development activities. It participated in a "cleaning activity" organized by the Seiro Town Hall (Niigata Prefecture Office), Japan.



➤ 2022 Feedback and Participation

Donation Activities	Recipient Organization	Quantity
2022 Mid-Autumn Festival moon cake donation charity event	Shihguang Nursing Home, Huakuang Mental Development Center, and Hiangyuan Memorial Correctional Home	NT\$70,000
Hsinchu Wujian Center Nutritional Supplement Program	World Vision Taoyuan/Hsinchu/Miaoli Branch	NT\$277,000
Angel Family Relaxation Service	Angel Heart Family Social Welfare Foundation	NT\$350,200
Learning and Development Care for the Disadvantaged Children in Yilan	Yilan Center of Taiwan Fund for Children and Families	NT\$226,800
Gentle Protectors of Families of PVS Patients	Genesis Social Welfare Foundation - Miaoli Branch	NT\$378,600
2022-2023 Hsinchu Children Safety Protection & Home Safety Improvement Plan	World Vision Taoyuan/Hsinchu/Miaoli Branch	NT\$284,800
2022 Site Layout Fundraising Plan for SAS & GWC Donation Charity Event	Hsinchu Branch of the Association for Victims Support	NT\$311,700
"Good Neighbor of the Blind" White Cane Action	Taiwan Foundation for the Blind	NT\$181,900
2023 Rural Tribal Community Family Education Program (Book Van/Cooking for Families at Home)	World Vision Taiwan Yilan Branch	NT\$203,000
Winter Charity School Fair [Taiwan Fund for Children and Families 55 Dancing with Happiness]	Hsinchu Family Support Center	NT\$10,000
Chunan Guanyidu Ecological Park Environmental Education and DIY Activities	Employees/Dependents/Community Residents	A total of 100 participants
Beach Cleanup Event	Longfeng Fishing Port, Miaoli County	A total of 174 people participated in helping remove 600 kg of garbage



Annex

GRI

GRI Guideline Index	101
Sustainable Accounting Standards Board SASB Establishment Standards (Semiconductor Industry Category Indicators) Index	105
Independent Assurance Statement	107



GRI Guideline Index

Statement of Use	GlobalWafers Co., Ltd. has compiled the Report in accordance with GRI Standards. The disclosure period of the Report is 2022 (January 1, 2022 to December 31, 2022)
GRI 1 used	GRI 1: Foundation 2021
Applicable GRI Sector Standards	No applicable GRI Sector Standards

Index No.	Description	Corresponding chapters	Page No.	Note/Reasons for non-disclosure	External assurance
The organization and its reporting					
2-1	Organizational details	About GlobalWafers - Company Profile	13		◎
2-2	Entities included in the organization’ s sustainability reporting	About GlobalWafers - Company Profile	13		◎
2-3	Reporting period, frequency and contact point	About This Report	03		◎
2-4	Restatements of information	4.2 Waste management	65	Data error occurred in GWJ plant’ s waste from 2020 to 2021 due to the different definitions in different regions. The information was amended by adjusting GWJ ’ s previous two years of data, and 2020~2021 total waste generated and relevant diagram were thereby amended.	◎
2-5	External assurance	External Verification Statement	107		◎
Activities and workers					
2-6	Activities, value chain and other business relationships	3.3 Customer Service 3.4 Sustainable supply chain management	57 58		◎
2-7	Employees	5.1.1 Human Resources	77		◎
2-8	Workers who are not employees	5.2.2 Occupational Safety and Health Worker Training	89		◎
Governance					
2-9	Governance structure and composition	2.1 Sustainable organization 2.2 Corporate governance	28 29		◎
2-10	Nomination and selection of the highest governance body	2.2.1 Governance structure	29		◎
2-11	Chair of the highest governance body	2.1 Sustainable organization 2.2 Corporate governance	28 29		◎
2-12	Role of the highest governance body in overseeing the management of impacts	2.2.1 Governance structure	29		◎
2-13	Delegation of responsibility for managing impacts	2.1 Sustainable organization	28		◎
2-14	Role of the highest governance body in sustainability reporting	2.1 Sustainable organization	28		◎
2-15	Conflicts of interest	2.2.1 Governance structure	29		◎



Index No.	Description	Corresponding chapters	Page No.	Note/Reasons for non-disclosure	External assurance
Governance					
2-16	Communication of critical concerns	2.2.1 Governance structure	29		⊙
2-17	Collective knowledge of the highest governance body	2.2.1 Governance structure	29		⊙
2-18	Evaluation of the performance of the highest governance body	2.2.1 Governance structure	29		⊙
2-19	Remuneration policies	2.2.1 Governance structure	29		⊙
2-20	Process to determine remuneration	2.2.1 Governance structure	29		⊙
2-21	Annual total compensation ratio	Minimum disclosure	-	The year's highest total remuneration is the Group's confidential information	⊙
Strategy, policies and practices					
2-22	Statement on sustainable development strategy	2.1 Sustainable organization	28		⊙
2-23	Policy commitments	Governance and Operation	25		⊙
2-24	Embedding policy commitments	Governance and Operation	25		⊙
2-25	Processes to remediate negative impacts	1.2 Stakeholder engagement and response	22		⊙
2-26	Mechanisms for seeking advice and raising concerns	2.2 Corporate governance	29		⊙
2-27	Legal Compliance	2.2 Corporate governance	29		⊙
2-28	Membership of associations	About GlobalWafers - Company Profile	13		⊙
Stakeholder engagement					
2-29	Approach to stakeholder engagement	Materiality and Stakeholder Engagement & Analysis	18		⊙
2-30	Collective bargaining agreements	5.1.4 Human rights	83		⊙
GRI 3					
3-1	Process of Determining Major Issues	1.1 Identify issues	19		⊙
3-2	List of Major Issues	1.2 Evaluate degree of concern and degree of impact	22		⊙
3-3	Management of major issues	1.3 Prioritize reporting based on degree of significant of impact	22		⊙
Category: Economy					
Economic performance					
201-1	Direct Economic Value Generated and Distributed by Organizations	2.3 Operation performance	42		⊙
201-2	The financial impact, other risks and opportunities that climate change caused on organizational activities	2.4 Risk management	44		⊙
Procurement Practices					
204-1	Proportion of spending on local suppliers	3.4 Sustainable supply chain management	58		⊙
Anti-Corruption					
205-2	Communication and training about anti-corruption policies and procedures	2.2.2 Ethics and integrity	35		⊙
205-3	Confirmed incidents of corruption and actions taken	2.2.2 Ethics and integrity	35	No occurrence of corruption incidents	⊙



Index No.	Description	Corresponding chapters	Page No.	Note/Reasons for non-disclosure	External assurance
Category: Environment					
Materials					
301-2	Recycled input materials used	4.3.1 Reuse of Raw Materials	67		⊙
301-3	Reclaimed products and their packaging materials	4.3.1 Reuse of Raw Materials	67		⊙
Energy					
302-1	Energy consumption within the organization	4.3.2 Energy Management	68		⊙
302-4	Reduce Energy Consumption	4.3.2 Energy Management	68		⊙
Water					
303-1	Interactions with water as a shared resource	4.3.3 Water Resources Management	72		⊙
303-2	Management of water discharge-related impacts	4.3.3 Water Resources Management	72		⊙
303-3	Water withdrawal quantity	4.3.3 Water Resources Management	72		⊙
303-4	Water discharge quantity	4.3.3 Water Resources Management	72		⊙
303-5	Water consumption quantity	4.3.3 Water Resources Management	72		⊙
Emissions					
305-1	Direct (scope 1) GHG emissions	4.1.1 Greenhouse Gas	62		⊙
305-2	Energy indirect (Scope 2) GHG emissions	4.1.1 Greenhouse Gas	62		⊙
305-5	Reduction of GHG emissions	4.1.1 Greenhouse Gas	62		⊙
305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	4.1.1 Greenhouse Gas	62		⊙
Waste					
306-1	Waste Generation and Significant Waste Related Impacts	4.2 Waste management	65		⊙
306-2	Management of significant waste-related impacts	4.2 Waste management	65		⊙
306-3	Waste generated	4.2 Waste management	65		⊙
306-4	Waste diverted from disposal	4.2 Waste management	65		⊙
306-5	Waste directed to disposal	4.2 Waste management	65		⊙
Environmental Compliance					
307-1	Non-compliance with environmental laws and regulations	2.2.4 Legal Compliance	38		⊙



Index No.	Description	Corresponding chapters	Page No.	Note/Reasons for non-disclosure	External assurance
Category: People					
Labor-Management Relationship					
401-1	New employee hires and employee turnover	5.1.1 Human Resources	77		⊙
401-2	Benefits provided to full-time employees that are not provided to temporary or parttime employees	5.1.2 Remuneration and Benefits	79		⊙
401-3	Parental leave	5.1.2 Remuneration and Benefits	79		⊙
Occupational Safety and Health					
403-1	Occupational health and safety management system	5.2.1 Safe Environment	87		⊙
403-2	Hazard identification, risk assessment, and incident investigation	5.2.1 Safe Environment	87		⊙
403-3	Occupational health services	5.2.5 Healthy Workplace	92		⊙
403-4	Worker participation, consultation, and communication on occupational health and safety	5.2.1 Safe Environment	87		⊙
403-5	Worker training on occupational health and safety	5.2.2 Occupational Safety and Health Worker Training	89		⊙
403-6	Promotion of worker health	5.2.5 Healthy Workplace	92		⊙
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	5.2.1 Safe Environment 5.2.2 Occupational Safety and Health Worker Training	87 89		⊙
403-8	Workers covered by an occupational health and safety management system	5.2.1 Safe Environment	87		⊙
403-9	Work-related injuries	5.2.4 Occupational Disaster Management	91		⊙
403-10	Work-related ill health	5.2.4 Occupational Disaster Management	91		⊙
Training and Education					
404-1	Average hours of training per year per employee	5.1.3 Talent cultivation	81		⊙
Diversity and Equal Opportunity					
405-1	Diversity of governance bodies and employees	2.2.1 Governance structure 5.1.1 Human Resources	29 77		⊙
Non-discrimination					
406-1	Discrimination incidents and improvement action taken	5.1.4 Human rights	83	No occurrence of discrimination incidents	⊙
Customer Privacy					
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	3.1 Innovation management	53	No complaints regarding customer privacy violation or customer data loss	⊙
Socioeconomic Compliance					
419-1	Non-compliance with laws and regulations in the social and economic area	2.2.4 Legal Compliance	38		⊙



Sustainable Accounting Standards Board SASB Establishment Standards (Semiconductor Industry Category Indicators) Index

Disclosure Topics	Index No.	Disclosure Index	Nature	Corresponding chapters/description	Page No.
GHG emissions	TC-SC-110a.1	Global Total Emission Volume (Scope 1) Total emissions from perfluorinated compounds	Quantitative	4.1.1 Greenhouse Gas ※ Non-semiconductor process, no utilization or emission of perfluorinated compounds	62
	TC-SC-110a.2	Discuss long- and short-term strategies or plans for managing Scope 1 emissions, emission reduction targets, and performance analysis	Qualitative	4.1.1 Greenhouse Gas ※ The proportion of emissions in Scope 1 is lower than that in Scope 2. Therefore, the Company has set a reduction target for Scope 2, which has a higher proportion of emissions	62
Energy Management in Manufacturing	TC-SC-130a.1	Total Energy Consumption Ratio accounted for by electricity grid compared to total energy consumed Ratio accounted for by renewable energy compared to total energy consumed	Quantitative	4.3.2 Energy Management	68
Water Resources Management	TC-SC-140a.1	Total water intake and ratio of areas with high water stress Total water consumption and ratio of areas with high water stress	Quantitative	4.3.3 Water Resources Management	72
Waste	TC-SC-150a.1	Hazardous waste generated in the manufacturing process and the ratio recycled	Quantitative	4.2 Waste management	65
Employee Health and Safety	TC-SC-320a.1	Describe how to assess, monitor, and reduce employee exposure to hazardous environments	Qualitative	5.2.1 Safe Environment	87
	TC-SC-320a.2	Total monetary damages due to legal incidents related to employee health and safety	Quantitative	2.2.4 Legal Compliance	38
Recruit and manage global professional talents	TC-SC-330a.1	Explain (1) foreign employees and (2) ratio of overseas employees	Quantitative	5.1.1 Human Resources	77



Disclosure Topics	Index No.	Disclosure Index	Nature	Corresponding chapters/description	Page No.
Product Lifecycle Management	TC-SC-410a.1	Ratio of product revenue including IEC62474 substances	Quantitative	<ul style="list-style-type: none"> Our stakeholders are mainly concerned about the RoHS directive and REACH Substances of Very High Concern (SVHC) from the Company's products, and the test results of the products meet the standards We test products according to the stakeholders' expectations and requirements, so we do not test IEC 62474 substances for products. But most of the declared substances are the same as the RoHS directive and REACH SVHC substances 	—
	TC-SC-410a.2	The processor's overall system-level energy efficiency: (1) Server (2) Desktop (3) Notebook	Quantitative	Not terminal product manufacturer, no corresponding content	—
Raw material procurement	TC-SC-440a.1	Describe the risk management method for critical materials used	Qualitative	3.4 Sustainable supply chain and management	58
Intellectual property protection and competitive behavior	TC-SC-520a.1	Total monetary damages attributed to legal events related to anti-competitive conducts	Quantitative	2.2.2 Ethics and integrity	35
Activity Indicators	TC-SC-000.A	Total output	Quantitative	2.3 Operation performance	42
Activity Indicators	TC-SC-000.B	Percentage of output from self-owned factories	Quantitative	2.3 Operation performance	42



Independent Assurance Statement



Independent assurance statement

Scope and approach

GlobalWafers Co., Ltd. ("GWC" or the "Company") commissioned **DNV Business Assurance Taiwan** ("DNV") to undertake independent assurance of the 2022 ESG Report (the "Report") for the year ended 31 December 2022.

We performed our work using DNV's assurance methodology VeriSustain™, which is based on our professional experience, international assurance best practice including International Standard on Assurance Engagements 3000 (ISAE 3000) and the Global Reporting Initiative (GRI) Sustainability Reporting Standards.

We understand that the reported financial data and information are based on data from GWC's Annual Report and Accounts, which are subject to a separate independent audit process. The review of financial data taken from the Annual Report and Accounts is not within the scope of our work.

We planned and performed our work to obtain the evidence we considered necessary to provide a basis for our assurance opinion. We are providing the evaluation of reporting principles and selected performance information with a Moderate level of assurance, according to the DNV VeriSustain™.

Responsibilities of the Directors of GlobalWafers Co., Ltd. and of the assurance providers

The Directors of GWC have sole responsibility for the preparation of the Report. In performing our assurance work, our responsibility is to the management of GWC; however, our statement represents our independent opinion and is intended to inform all of GWC stakeholders. DNV was not involved in the preparation of any statements or data included in the Report except for this Assurance Statement.

We have no other contract with GWC and this is the 6th year that we have provided assurance. DNV's assurance engagements are based on the assumption that the data and information provided by the client to us as part of our review have been provided in good faith. DNV expressly disclaims any liability or co-responsibility for any decision a person or an entity may make based on this Assurance Statement.

Basis of our opinion

A multi-disciplinary team of ESG and assurance specialists performed work at headquarters and site level. We undertook the following activities:

- Review of the current corporate responsibility issues that could affect GWC and are of interest to stakeholders;
- Review of GWC approach to stakeholder engagement and recent outputs;
- Review of information provided to us by GWC on its reporting and management processes relating to the Principles;
- Interviews with selected Directors and senior managers responsible for management of corporate responsibility issues and review of selected evidence to support issues discussed;
- Site visits to the 2 major production sites at Hsinchu and include HQ to review process and systems for preparing site level corporate responsibility data and implementation of corporate responsibility strategy;
- Review of supporting evidence for key claims and 2022 data in the report. Past two years' data reported in the report are not within the scope of our work. Our checking processes were prioritised according to materiality and we based our prioritisation on the materiality of issues at a consolidated corporate level;
- Review of the processes for gathering and consolidating the specified performance data and, for a sample, checking the data consolidation.
- An independent assessment of GWC's reporting against the Global Reporting Initiative (GRI) Standards 2021.
- The verification was conducted based only on the Chinese version Report.

Opinion

On the basis of the work undertaken, nothing came to our attention to suggest that the Report does not properly describe GWC's adherence to the Principles. In terms of reliability of the performance data, in accordance with

¹ The VeriSustain protocol is available on dnv.com



Moderate level assurance requirements, nothing came to our attention to suggest that these data have not been properly collated from information reported at operational level, nor that the assumptions used were inappropriate.

Observations

Without affecting our assurance opinion, we also provide the following observations.

Stakeholder Inclusiveness

The Company has identified the expectations of stakeholders through internal mechanisms in dialogue with different groups of stakeholders. The stakeholder concerns are identified and documented. The significant ESG issues identified through this process are reflected in the Report. Process to determine material topics can be improved in external stakeholders engagement.

Sustainability Context

ESG Report provides an accurate and fair representation of the level of implementation of related ESG policy and meets the content requirements of the GRI Standards.

Materiality

The process developed internally has not missed out any significant, known material issues, and these issues are fairly covered in the Report. A methodology has been developed to evaluate the priority of these issues.

Completeness

The Report covers performance data against the GRI Standards indicators that are material within the Company's reporting boundary. The information in the Report includes the company's most significant initiatives or events that occurred in the reporting period. To improve the reporting completeness, more effort should be put in the data collection and verification process of the overseas subsidiaries.

Accuracy and Reliability

The Company has developed the data flow for capturing and reporting its ESG performance. In accordance with Moderate level assurance requirements, we conclude that no systematic errors were detected which causes us to believe that the specified ESG data and information presented in the Report is not reliable. For the Climate-related Financial Disclosures, it is suggested to further analyse the specific financial impacts, that can weaken companies' market position, resulting in lower revenues, higher costs, and narrower margins.

For and on behalf of DNV Taiwan

Date: 19 May, 2023

Chun-Nan Lin
Lead Verifier
DNV – Business Assurance Taiwan

David Hsieh
Sustainability Service Manager,
Greater China

Statement Number: CS98062-2022-AG-TWN-DNV

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