TAIWAN GLASS IND. CORP.

2019

CORPORATE SOCIAL RESPONSIBILITY REPORT

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About This Report

Since its foundation in 1964, Taiwan Glass Ind. Corp. (TGI) has committed to the development of the glass industry. It constantly pursued innovation and the development of new products, fulfilling corporate social responsibility as a good global citizen. TGI has issued 7 Corporate Social Responsibility Reports, with the first Corporate Social Responsibility Report published in 2013, which demonstrates to the public and all stakeholders TGI's continued commitment to civic responsibility and the pursuit of sustainable social development as well as sharing the fruits of this sustainable development. The 6 themes of this report, including"Sustainability Communication", "Ethical Governance", "Quality & Service", "Green Operation" "Friendly Workplace" and "Community Care", show TGI's efforts and results in sustainable development indicators such as the economy, environment, employee care, human rights and product responsibility in 2019, which will be further illustrated with relevant statistics.

TGI created a designated section on the company website for the public and stakeholders to learn more about TGI's CSR initiatives. In this section, not only can this report be downloaded, but there are also regularly updated sustainable development objectives, strategies, and results. TGI has put in place an online stakeholder feedback form to facilitate communication between TGI and stakeholders.

In this report, "TGI, the Company or we" all refer to Taiwan Glass Ind. Corp.For other key terms, letter abbreviations, or technical terms, used in this report will be noted on the same pages.

Report Coverage and Calculation Basis

This report covers TGI's results in corporate social responsibility from January 1, 2019, to December 31, 2019. Some content also relates to projects in 2019 and beyond, as well as future policies, objectives, and plans, which all form part of the report.

The scope of the 2019 annual report covered TGI's Taipei headquarters and manufacturing facilities in Taiwan (Taoyuan Factory, Hsinchu Factory, Taichung Factory, Lukang Factory, Lukang Flat Glass Factory, and Changpin Factory). The 2019 data is presented in international generic indicators. If the index relates to other regions, these are separately described in the report. All financial figures have been audited and confirmed by Ernest & Young and are all in NT dollars. This report's coverage is similar to that of the same report in 2018.

Report Writing Principles and Programme

The content and structure of TGI's 2019 Corporate Social Responsibility Report are in line with international standards by following Global Reporting Initiative's Standards (GRI Standards) Sustainability Reporting Guidelines which was formally published by Global Sustainability Standards Board (GSSB) on October 19, 2016. It uses substantive analysis to identify the sustainability issues that stakeholders are concerned about, decide priorities and analyze sustainability issues, related strategies, objectives, and measures, and related initiatives:

- Global Reporting Initiative's Standard Sustainability Reporting Guidelines
- United Nation Sustainable Development Goals (SDGs)
- Earth Charter and OECD Guidelines for Multinational Enterprises
- Accountability's AA1000 Series of Standards (2008 version)
- International Standard on Assurance Engagements 3000 (ISAE3000)
- United Nations Global Compact
- ISO 26000 Social Responsibility Guidance Standards
- TWSE Corporation Rules Governing the Preparation and Filing of CSR Reports by TWSE Listed Companies

Report Editing

This report was edited by the TGI CSR group which was also responsible for the overall planning, communication, integration, information compilation, and editorial revisions. The CSR group was composed of executive team members as well as those from the company and relevant sectors in the factories.

Information and Data Quality Management

All materials and data in this report were collected by every department and a draft of the report was submitted to the CSR group. The individual team members will proofread and

revised their particular areas of data and content afterward. After finalization, an impartial third party verified the final content. It was then sent to the Chairman for final review prior to publication.

Report Assurance

The Ernst & Young accounting firm, an independent and credible accounting firm, was commissioned to conduct limited assurance in accordance with the provisions of the Joint Standards Publication on verification of non-historical financial information or review on TGI's 2019 CSR Report, which was compiled according to the Global Reporting Initiatives Standards (GRI Standards) Sustainability Reporting Guidelines. Once the assurance was done, we have communicated with the governance units over the result. For the scope and detailed conclusions of the independent assurance, please see the independent assurance report in the appendix of this report.

Issuing Period and Cycle

TGI regularly publishes the CSR Report each year
Current version: Published in June 2020
Previous version: Published in June 2019

Contact

We hope that through this report the general public and relevant stakeholders can learn more about TGI's efforts in the promotion of sustainable development. If you have any questions and suggestions on TGI's '2019 Corporate Social Responsibility Report, please contact us as follows:

Taiwan Glass Industrial Co., Ltd.
Report of contact: Yu-Ting, Ni
Management Department
Tel: 886-2-2713-0333
Email: csr@taiwanglass.com
Website:http://www.taiwanglass.com

Scan for the TG website.

Message from the Chairman

Chairman Lin, Por Fong

In 2019, the global political and economic situation is turbulent; U.S.-China Trade War and Japan-South Korea trade dispute have slowed down economic growth significantly. In early 2020, Coronavirus (COVID-19) pandemic spread across the world, causing serious impacts on people's health, economic activities and national security. The pandemic also results in stagnation of investment, weak consumer market demand as well as increased uncertainty about global economy and trade, which leads to adjustment and transfer of supply chain in industries. The World Bank pointed out that key economic indicators, such as trade, investment, and consumption, are at their lowest since the Financial Crisis. Overall, 2020 will be a year full of economic challenges, and thus we must stay prudent.

In 2019, Taiwan Glass in 2019 fell short of expected profit due to the shrinking demand in the downstream market, which led to supply-demand imbalance and a fall in price.

In terms of flat glass, glass companies in China have established factories in Southeast Asian countries, where low costs of local labor and fuel are available. Products made there can be exported into Taiwan at relatively low prices, causing market prices to fall. Taiwan Glass, in response to this situation, has continued to strengthen management, quality assurance and after-sales service, while focusing on resource integration in the glass industry to maintain an orderly market.

The flat glass market in China has been slowed down due to U.S.-China Trade War. The economic growth rate has been revised downwards, and the oversupply would remain the same in the short term. Taiwan Glass' subsidiaries in China will continue to implement management, industrial safety and close control on COVID-19 pandemic while optimizing and upgrading production lines to maintain profitability.

As for fiber business, the technology and quality of Taiwan Glass's fiberglass products have always been the Company's core competency. For FRP, the new kiln, in cooperation with Owens Corning of the United States, started production this year, along with the most advanced fiberglass formulation and production technology. We are committed to reducing production costs and supplying customers with high performance and environmentally-friendly products.

In 2019, increased overall sales by 16% compared with 2018 can be attributed to the slightly increased demand for electronic-grade fiberglass fabric and the production of fiberglass fabric in Anhui Bengbu factory. In response to the market trends in the future, other than the ultra-thin fiberglass fabric #1017 which we have successfully developed and supplied, we have put continuous efforts into developing thinner fiberglass fabric. At the same time, with the vigorous development of 5G applications, we have also successfully developed low-dielectric (Low DK) fiberglass fabric, which has been certified and continuously adopted by international terminal manufacturers. The global target market share of 2020 is expected to be 20%.

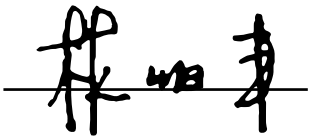
As for container, tableware and kitchenware glass, the production capacity increased by 4.6%, and α 33 high-quality heat-resistant feeding bottles have started production. Tableware and kitchenware glass continue to increase sales channels and diversify its products while working hard to establish our private brand, TG, to beat low price competition.

Shihlien Chemical Industrial Jiangsu Co., Ltd., reinvested by Taiwan Glass, has been profitable for three consecutive years as of 2019. The company has continued to optimize manufacturing process, improve production capacity, implement safety & hygiene management to maintain stable and continuous production as well as shipping. Shihlien Chemical Industrial Jiangsu Co., Ltd. is expected to generate profit in 2020.

Looking ahead, the global economy is faced with a major recession as the COVID-19 pandemic develops and the trade war continues. In response to changes in the future, Taiwan Glass develops new products such as high-performance FRP S2 glass and low-dielectric Low DK fiberglass fabric to add value to products. For flat glass, we will re-examine product structure and reduce cost to improve operating performance while pursuing our primary goal of achieving profitable growth.

In terms of corporate governance, we are dedicated to implementing corporate social responsibility, cultivating outstanding talents, providing safe & healthy workplaces and innovative & optimized services, etc. We also intend to make adjustments to partial assets in China to improve overall profitability. Taiwan Glass will strive to create value for stockholders and employees and become a role model for sustainability.

Chairman of TAIWANGLASS



Key Achievements of the Year

FTSE4 Good	TGI was selected to FTSE4 Good in Taiwan Index Plus, which shows our performance of practicing ESG
GREEN FACTORY	TGI Lukang Factory and Taoyuan Factory successively obtained the Certificate of Cleaner Production Assessment from the Industrial Development Bureau and recognized as Green Factory
Silver Award	TGI has been awarded Silver Award for the past five years among "Traditional Manufacturing" companies in Corporate Sustainability Report Award.
100%	100 % of flat glass products passed EU CE, US ANSI, Taiwan CNS and other relevant standards.
100%	Fiberglass products were 100% compliant with RoHS and REACH specifications.
100%	100% of glass food container products met Taiwan food container and packaging hygiene standards, and all factories met FSSC 22000 certification for environmental protection and food safety.
56.4%	The average recovery and reuse rate of food-holding glass products reached 56.4% and obtained the resource renewable green product certification of the Bureau of Industry
-12.5%	Lightweight bottle technology reduces 12.5% of product weight and is 100% recyclable.
88.4%	In 2019 the average satisfaction of all departments in customer surveys is 88.4%, 6% higher than the last year.
100%	100% of employees that applied for parental leaves in 2018 retained in 2019
30.03 years	69 employers retire in 2019 in an average of 30.03 serving years. The chairman/president issue the retirement memorial medal, showing appretiation to their long-term dedication
16.2 hours	In 2019, the average hours of education and training for general personnel of TGI are 16.2 hours, 21.4 hours for grassroots supervisors, 15.6 hours for intermediate supervisors, and 9.8 hours for senior supervisors.
153%	The average salary of TGI personnel is 153% higher than the local minimum salary.
95.83%	In 2019, TGI adopted the <New Staff Counselor System> and the in-service rate is 95.83% by December 31st, 2019
4.18 million	TGI donated NT$4.18 million in 2019
243 bags	In 2019, all factories of TGI donated a total of 243 bags of blood in response to the "Give blood, save lives" principle

CH 1

Sustainability Communication

- 1.1 TGI Sustainable Management
- 1.2 Stakeholder Communication
- 1.3 Identification of Material Issues

Achievements of Sustainable Operation in 2019

FTSE4 Good	Taiwan Glass was selected as a constituent of the Taiwan Index Company's Perpetual Index, demonstrating our performance in practicing ESG.
GREEN FACTORY	TGI Lukang Factory and Taoyuan Factory successively obtained the Certificate of Cleaner Production Assessment from the Bureau
183 questionnaires 85%	In 2019, TGI distributed CSR questionnaires to supervisors and various stakeholders, and recovered 183 copies, with 85% of the questionnaires being valid.
8 categories	TGI identified eight categories of stakeholders, including shareholders/investors/financial institutions, employees, business customers, suppliers, contractors, sub-contractors, dealers and government/authorities.
Silver Award	TGI has been awarded a silver price for the past five years among "Traditional Manufacturing" companies in the CSR Report Award.
7 Material Issues	In 2019, we identified a total of 7 material issues and an effective management policy was assigned to each of these perspectives.

1.1 TGI Sustainable Management

TGI has set sustainable development as our core value and constructs the corporate social responsibility principle that covers the economy, environment and society. While managing the sustainable leading position in the industry, we protect the rights and interests of stakeholders and the social environment, lighten environmental impact to meet the long-term purpose and value of the business.

The Board of Directors, exercising care as good administrators, supervises, and assists the management to fulfill their social responsibilities. The results are reviewed and action plans are formulated immediately to eliminate any deficiencies to make sure that the corporate social responsibility policies are implemented. When it comes to TGI's corporate social responsibilities, the Board of Directors is responsible for the following：

ⓐ Propose the CSR mission and vision; formulate CSR policies, systems, or relevant management guidelines.
ⓑ Include CSR in the company's business activities and development and formulate concrete CSR action plans.
ⓒ Ensure that the company is disclosing accurate CSR information on a timely basis.

TGI's CSR Principles which supervises and implements the concept of sustainable management is divided into four major parts:

divided into four major parts:

Conducting our business with integrity

Integrity management is the core value of TGI and its commitments and responsibilities to shareholders, employees, and all stakeholders. The Board of Directors and managers all strictly abide by the code of honest business, avoidance of conflict of interest, anti-corruption, and conduct comprehensive risk management.

Strengthening sustainable environment

TGI complies with environmental protection laws and regulations, continuously improving its work environment, reducing environmental pollution, and carbon reduction. To achieve the goal of sustainable environmental management, TGI pays attention to renewable energy issues, innovates green products, and promotes the reuse of resources.

Building an friendly workplace

TGI focus on the industrial relation which includes employer-employee relation, employee benefits and welfare, and a comfortable and safe workplace environment. Also, TGI cares for employee rights, physical and mental health, respects human rights and gender equality, promotes the cultivation and development of talents, and establishes diversified communication channels between employees and the company and TGI Association. TGI aims to build a win-win culture for both the employees and the company.

Caring for social charity

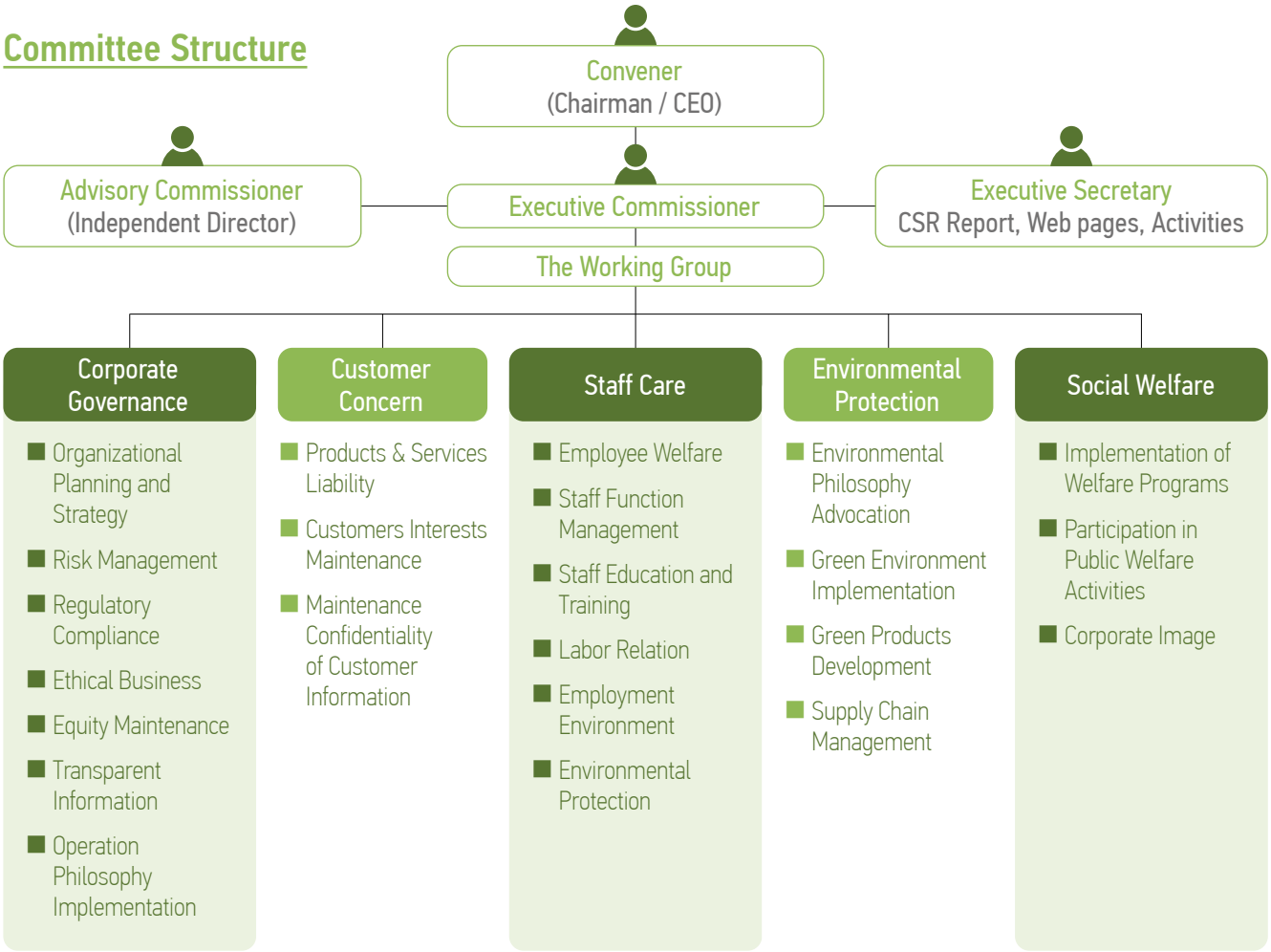
TGI upholds the commitment to civic responsibility, cares and contributes to the society, and takes participation in social charity activities. TGI enhances community development and interactive friendship and provides scholarships for employees and dealers' children.

Corporate Social Responsibility Committee

To fulfill the implementation of CSR policies, TGI has established the"Corporate Social Responsibility Committee" (CSR Committee), with our chairman and president as coordinators, independent directors as advisers, and several executive committee members.

TGI CSR Committee is held every six months. It can be adjusted flexibly if necessary, but it should be held at least once a year. In 2019, two meetings have been held. The agenda includes the schedule for preparing the CSR report, the environmental performance of each factory, equipment updates, and Taoyuan and Lukang Factory's "Green Factory Promotion" motion discussion.

Committee Structure



Committee Members

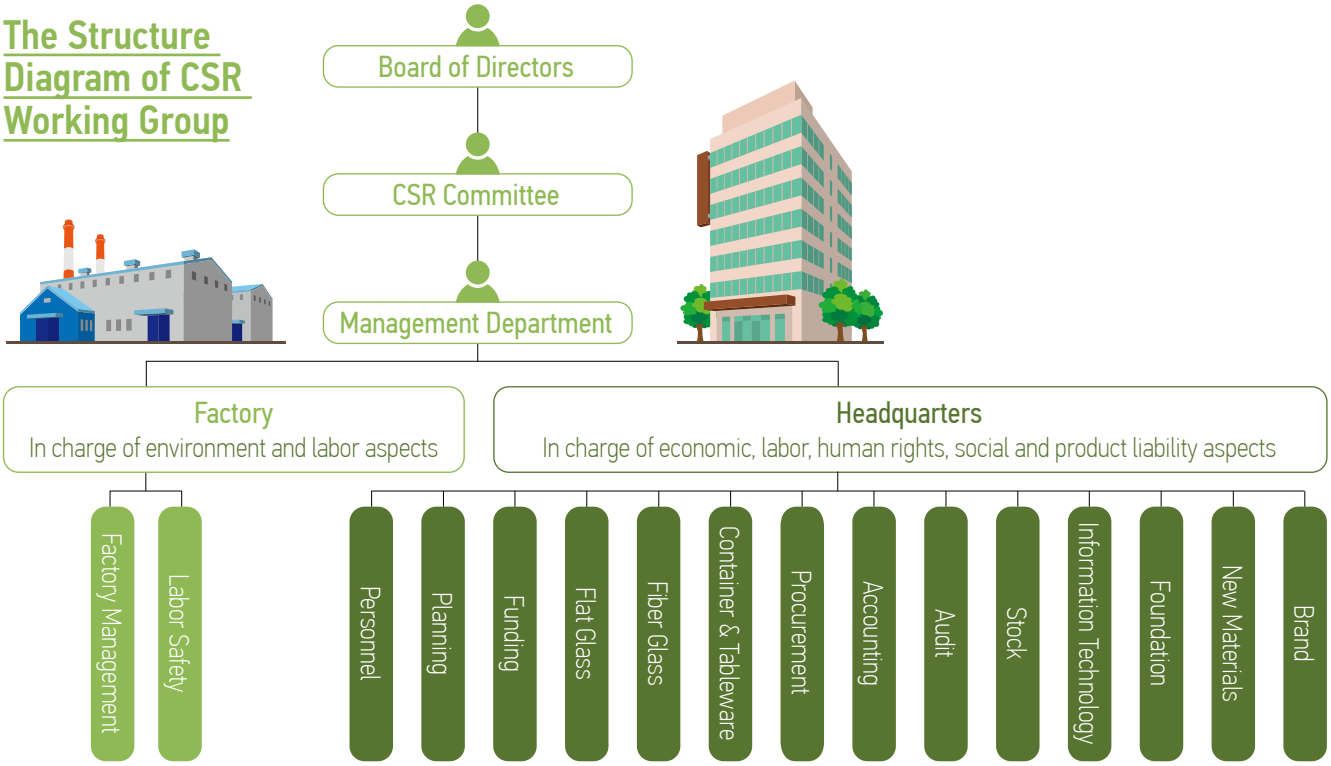
TGI CSR Committee Members

Title	Name	Gender	Concurrent position at TGI
Convener	Lin Por Fong	Male	Chairman
Convener	Lin Por Shih	Male	CEO
Advisory Commissioner	Huang Tsing Yuan	Male	Independent director
Executive Commissioner	Su Yu Te	Male	COO of Fiberglass Business Department
Executive Commissioner	Hong You Qin	Male	Vice President of Management Department
Executive Secretary	Lee Ching Tian	Male	Manager of Management Department
Executive Secretary	Pan Ya Lun	Female	Manager of Secretary Department

Responsibilities of CSR Working Group

We build up a "CSR working group" responsible for the overall planning, communication, data integration, and the implementation of economic, social, environmental performance. The management department is responsible for the implementation of the integration, and the members include representatives from relevant departments of the company and the factory.

The Structure Diagram of CSR Working Group



In addition to preparing the report, the groups also actively participate in CSR related courses offered by the Center for Corporate Sustainability (CCS) courses, Industrial Resources Integration and Development Association, etc. Through these courses they exchange information about sustainable development measures and recent trends with many different industries, enhancing practice knowledge of editing to raise awareness of risk management. The execute steps of the working group as follows:

01 The basis for the compilation of the CSR report was by identifying stakeholders and Material Topics

02 By analyzing Material Topics,the working group evaluated the current execution and counterstrategies.

03 All the economic, environmental and social issues arising from TGI's business activities were disclosed in the CSR report.

04 Members of the working group reviewed and amended the content and data that they were responsible for respectively in the first draft.

05 After the first draft of the revised version was completed, the CSR report was ultimately reviewed and checked by the supervisors in various departments.

06 The final draft was verified by an independent third party.

07 The CSR report was submitted to the chairman for final review before being published.

2019 CSR Initiatives and Achievements

TGI has been awarded "Silver Award"in TCSA (Taiwan Corporate Sustainability Award) among the traditional manufacturing enterprises for 5 consecutive years. TGI looks forward to working with every field to promote the spirit of sustainable corporate development. CSR and SDGs will be incorporated into management guidelines and performance goals to create Circular Economy, towards sustainable development.

In 2019, TGI assisted in the promotion and implementation of the "Explore Taiwan 120 Hours in 2019-Rhapsody of Sustainability" activity, assisting domestic and foreign college students to feel the results of Taiwan's engineering construction and resource recycling, combined with 17 United Nations sustainability Development Goals (SDGs) to explore the application effectiveness of sustainable development of Taiwanese enterprises.

▶ TCSA Taiwan Corporate Sustainability Silver Award among "Traditional Manufacturing" enterprises.

▲ In 2019, TGI co-organized the "2019 Explore Taiwan 120h-Sustained Rhapsody" event. Participants visited the TGI Taichung factory, and received a letter of thanks from the organizer.

In this event, the participating members visited the TGI Taichung factory to understand the manufacturing process of our glass products and the occupational safety and health environment in the factory while also gaining an insight into TGI's position in the industry and our innovative products. In addition, students can also experience the warm workplace and good factory environment of TGI, and personally experience how it feels in a company practicing SDGs of the United Nations.

In 2019, TGI was listed in the FTSE4Good TIP Taiwan ESG Index, an index developed in cooperation with FTSE Russel and was awarded with a certificate in recognition of our dedication in the practice of ESG sustainable development.

Alliance for Sustainable Development Goals, A・SDGs

TGI is dedicated to integrating SDGs into its business and development strategies, complying with the regulation of Sustainable Development Goals Alliance, utilizing the business power to influence the industry. Therefore, TGI joined Alliance for Sustainable Development Goals (A・SDGs), an organization founded in August 2018 by the Taiwan Sustainable Energy Research Foundation and the Taiwan Enterprise Sustainability Research Center with multi-disciplinary stakeholders such as enterprises, government agencies, academic institutions, and non-governmental organizations.

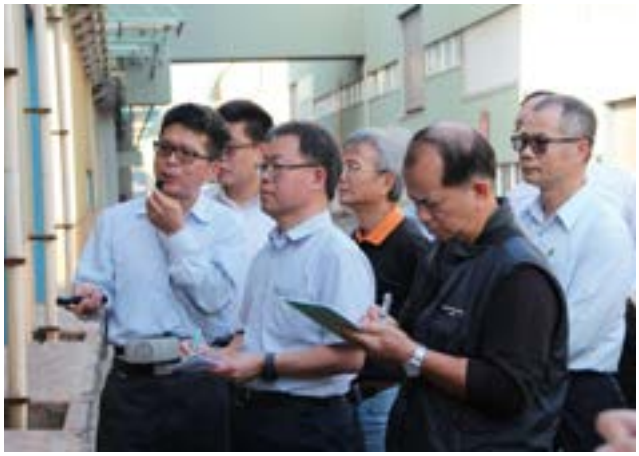
The alliance has seen "globalization"," integration", "partner relationship","business engagement" and "education"as its development strategies. Through SGDs, a universal language of the world, TGI hopes that Taiwan can strive for sustainable development and cultivate core competitiveness, making a commitment to building a good society and a new sustainable environment with all stakeholders.

Green factory promotion and Certificate of Cleaner Production Assessment

TGI values the development of the environment. As a part of the manufacturing industry, we put much emphasis on saving energy and resources and reducing waste output. Since 2018, we have successively apply for the "Certificate of Cleaner Production Assessment" of the Industrial Bureau at Lukang Factory and Taoyuan Factory. The two factories passed the application review processes and on-site assessment in 2019. Through the clean production assessment system, in addition to checking the existing production efficiency, energy and material consumption per unit of production, it can also self-assess the implementation of process equipment in the plant to improve the space, safety and hygiene implementation, as well as innovative acts like detoxification and decarbonization. In addition, the Taoyuan Factory and Lukang Factory are also implementing the assessment of green building improvement. In the future, they will apply for the green building assessment for the improvement of the old plant to fully comply with both the "inside" and "outside" of the green plant and practice TGI's vision of sustainable energy-saving and green operation.

In addition, TGI Lukang Factory was recognized as Excellent Factory in the Cleaner Production Assessment by the Bureau of Industry in November 2019 and the factory was designated as a green factory for peer partners from all walks of life to communicate and show that we are the sustainable leader in the glass manufacturing industry.

Photos of visiting Bureau of Industry



1.2 Stakeholder Communication

Stakeholder Engagement & Prioritization of Sustainability Issues

Through multiple communication channels, TGI analyzes stakeholder groups and their individual concerns, develops management policies based on selected material issues, effectively allocates and manages resources, plans sustainable development strategies, and regularly reviews effectiveness in implementations, to ensure response and meet the needs and expectations of stakeholders.

TGI analyzes and screens sustainability issues on a wide range of topics, conducts stakeholder and material issues analysis in accordance with the GRI Standard issued by the Global Reporting Initiative's Standards. The stakeholders' engagement process is as follows:

01 Identification

- Organize and select stakeholders

  According to the AA1000 SES Stakeholder Engagement Standard, a group of important stakeholders is drawn.
- Collect and organize sustainability issues

  In 2019, based on the changes in international sustainable trends and the latest industry developments, international sustainability standards and specifications (GRI, ISO) and sustainable investment institutions (GSIA, MSCI ESG index), we narrowed down from 32 issues in the past to 22, as the sustainability issues of the stakeholder agreement questionnaire of this year's CSR report, to further sort and analyze major issues.

02 Analysis

Collect feedback from communication channels such as the official website, e-mail, visits, conferences as well as seminars to conduct the annual CSR questionnaires to analyze economic, environmental, social issues along with other sustainability issues for stakeholders in order to identify 2019 material issues

03 Reference

Refer to the required disclosure items of material issues in the GRI Standards,and consolidate the management guidelines formulated by each department.

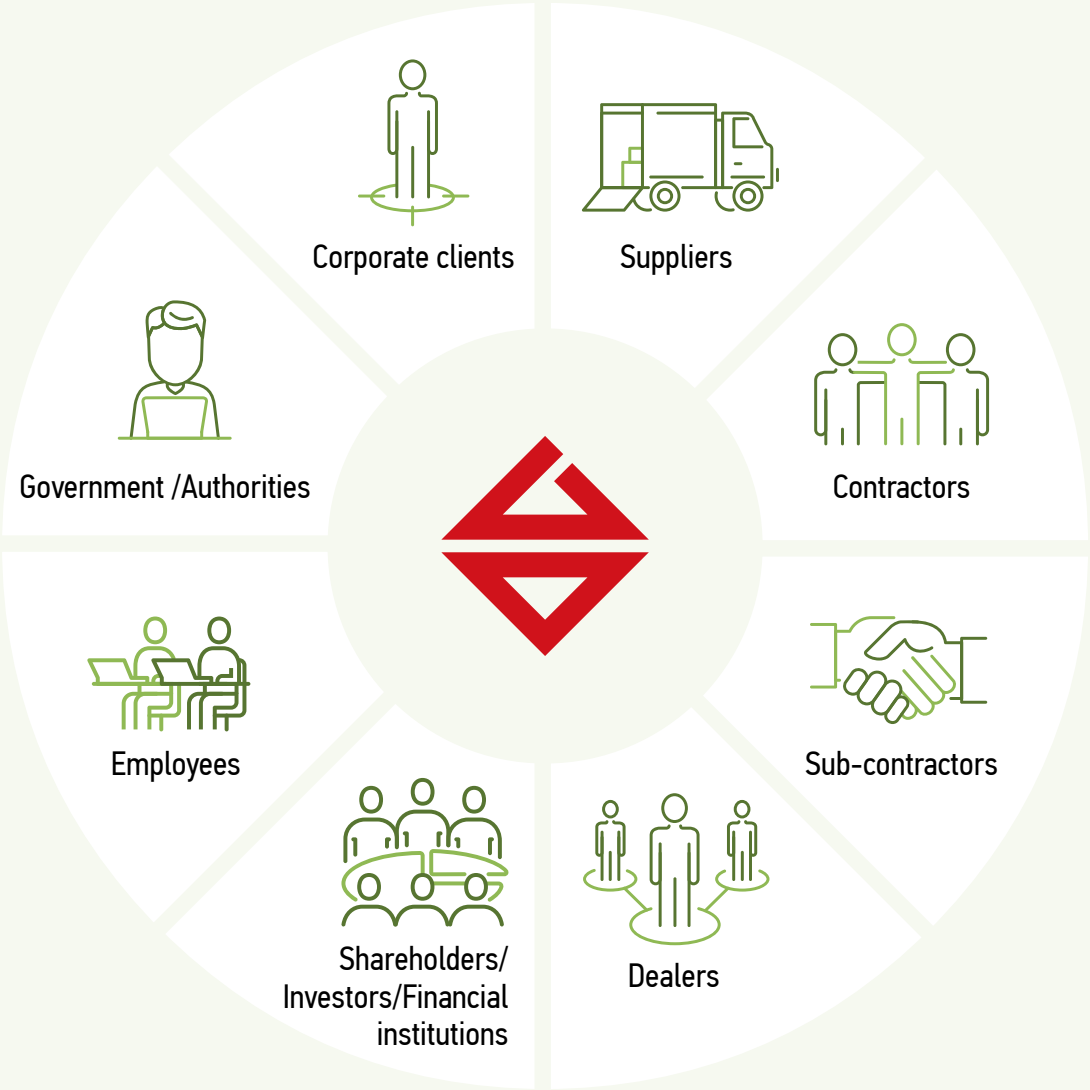
04 Planning

Confirm the sustainable development direction and conform to the international sustainable governance framework, develop a sustainable strategy and incorporate annual material issues to adjust the sustainable development items.

05 Response

Disclose sustainability management policies and performance on the official website, Market Observation Post System and CSR reports.

TGI Stakeholders



Stakeholder Communication Channel

TGI has set up various channels for communications and appeals to implement the principle of honesty, immediate processing, and direct response. The Board of Directors authorizes the CSR Committee to periodically review the progress and effectiveness of various corporate social responsibility related businesses, and propose strategic planning and measures in response to performance appraisal to achieve effective two-way communication with stakeholders.

TGI cares about the voices of our stakeholders and immediately reviews and handles stakeholders' concerns to meet the expectations of all parties and maintain a harmonious relationship. The material issues, stakeholders' communication channels and frequency are as follows:

The main contents of TGI and every stakeholder:

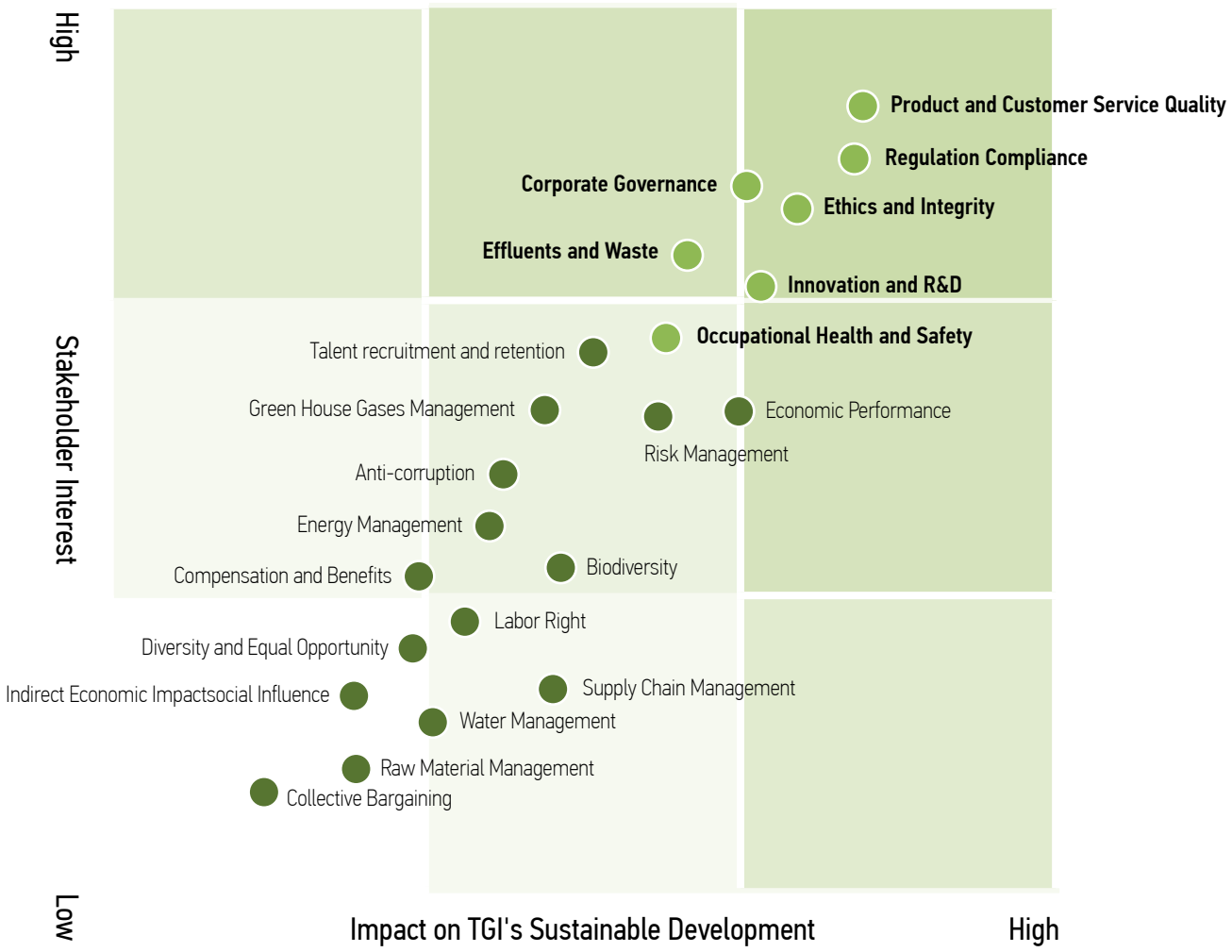
- product information
- business opportunities
- investor relationship and services
- job opportunities
- corporate social responsibility

Stakeholders	Significance for TGI	Key concerns	Methods of communication	Corresponding section	Communication frequency
Shareholders/ investors/ financial institutions	Shareholders, investors and financial institutions are the foundation of TGI's operations, and TGI's steady growth is its best response	• Economic Performance • Anti-corruption • Corporate Governance	• Reports business revenue information	2.2 Integrity TGI 5.1 Talent Structure and Benefits	Every month
			• Annual financial statement and individual financial statements		Once a year
			• Convene general shareholder meeting		Once a year
			• Select a spokesperson or a deputy spokesperson		Aperiodic
			• Financial reports, statements, annual report, stock affairs, audits and major announcements in the "Information Disclosure" section on the TGI website		Every Year/aperiodic
			• Institutional investors conference		Aperiodic
Employees	Talent is the driving force of TGI's operations. Caring for, and nurturing employees is the responsibility of TGI.	• Compensation and Benefits • Talent recruitment and retention • Labor Right	• Internal information system, ex. internal network, announcement	2.1 About TGI 5.1 Talent Structure and Benefits 5.2 Employee Care & Development 5.3 Safe Workplace and Health Promotion	Aperiodic
			• Occupational Safety and Health Committee		Once every 3 months
			• Management and Labor Council		Once every 3 months
			• Advocate complaint phone number, fax, and email for reporting sexual harassment incidents during training. All reports are handled by dedicated staff		Aperiodic
			• Face to face communication between the management and the union representative		Once a year
Corporate clients	To meet the needs of customers/ consumers for products is the goal of TGI's business and innovation	• Product and Customer Service Quality • Innovation and R&D • Innovation and R&D	• Questionnaire	2.1 About TGI 2.2 Integrity TGI 3.1 TGI Product 3.2 Product Quality 3.3 Research and Innovation 3.4 Customer Service	Once every 6 months/Once a year
			• Customer service email		Aperiodic
			• Customer satisfaction survey		Once every 6 months/Once a year
			• Participate in product exhibitions to gain direct insight into the clients and market trends. For example, every two years the Flat Glass Business regularly attends Taiwan and Germany Building Materials Exhibition; every year the Fiberglass Business participated in China Composites Expo, France JEC Exhibition; Container & Tableware Glass Business took part in the Hong Kong Housewares exhibition and infant supplies exhibition in Shanghai		Once every 2 years/ Once a year
			• Customer visits, on-site surveys, audits, questionnaires or irregular meetings		Aperiodic
Dealers	TGI maintains good relations with distributors to ensure the quality of products and services	• Product and Customer Service Quality • Innovation and R&D • Innovation and R&D	• Act as a good communication platform between the clients and TGI. Understand the clients'need and assist them with issues via personal visits, phone calls and emails	2.2 Integrity TGI 2.3 Risk Management 3.2 Product Quality 3.3 Research and Innovation 3.4 Customer Service	Aperiodic
			• Give project presentations, determine wind load deflections, glass strength design, plan types of glass and review of the standards		Aperiodic
			• Assist with orders, samples, complaints, QC, equipment maintenance, technical service and so on		Aperiodic
			• Customer satisfaction survey ◦		Once a year
			• Attend Taiwan and Germany Building Materials Exhibition		Once a year/ once every 2 years
			• Attend France JEC Exhibition and China Composites Expo		Once a year

Stakeholders	Significance for TGI	Key concerns	Methods of communication	Corresponding section	Communication frequency
Suppliers	The stability and delivery of suppliers affect TGI's products and shipments, so we maintain a good interaction with it and we attach great importance to it	• Effluents and Waste • Product and Customer Service Quality • Raw Material Management	• Designated units communicate with suppliers and contractors via phone, fax or email to help them deal with issues after receiving messages	2.1 About TGI 2.2 Integrity TGI 2.3 Risk Management 3.2 Product Quality 3.3 Research and Innovation	Aperiodic
			• Supplier audit		Quarterly evaluation
Contractors	TGI communicates closely with contractors to ensure that both parties attach importance to engineering and industrial safety	• Occupational Health and Safety • Economic Performance • Effluents and Waste	• Questionnaire survey	2.1 About TGI 2.2 Integrity TGI 5.1 Talent Structure and Benefits	Once a year
			• Interview/ phone calls and communications		Aperiodic
			• Contractors are required to fill out Letters of Safety Commitment and Notions About Working Environment Hazards. All contractors are required to understand and countersign the letters		Every time a contractor enters a factory for construction work
			• Contractors'job safety and health training		Aperiodic
Sub-contractors	The sub-contractors are a partner of TGI. Ensuring that its quality is consistent with ours is the requirement of TGI for our products.	• Occupational Health and Safety • Effluents and Waste • Talent recruitment and retention	• Questionnaire	2.1 About TGI 2.2 Integrity TGI 2.3 Risk Management 3.2 Product Quality 5.3 Safe Workplace and Health Promotion	Once a year
			• Sub-contractor evaluation		Aperiodic (Taichung Factory-once every quarter)
			• Sub-contractor complaint number, fax, online platform or email. Communicate with related parties to help them deal with issues after receiving complaints		Aperiodic
Government / Authorities	As a large enterprise, it is the duty of TGI to maintain good relations with the competent authority, and cooperate with and abide by the laws and regulations of the competent authority	• Biodiversity • Effluents and Waste • Regulation Compliance	• Maintain a good interaction with the competent authorities and attend public hearings held by the competent authorities	2.2 Integrity TGI 4.3 Green Production Management 5.3 Safe Workplace and Health Promotion	Aperiodic
			• Mailroom staff will sort through the letters and distribute them to responsible units		Aperiodic
			• Each factory has a dedicated department to handle documents and discussions with the local competent authorities		Aperiodic
			• Invite government/ { competent authorities to visit TGI factories and energy-saving product launch press conferences		Aperiodic

1.3 Identification of Material Issues

Through the above-mentioned identification procedures, TGI collected a total of 183 questionnaires in 2019, with an efficiency of 85%, and defined the material issues of sustainability in 2019 according to the analysis results. In the matrix of major issues, the closer to the upper right corner, the higher the scores of the stakeholders' concerns and the impact on the TGI sustainable development are, which indicates the sustainability issues that TGI should give priority to and formulate relevant strategies to.



Prioritization of Material Issues

01 Product and Customer Service Quality	09 Risk Management	17 Compensation and Benefits
02 Regulation Compliance	10 Talent recruitment and retention	18 Diversity and Equal Opportunity
03 Corporate Governance	11 Green House Gases Management	19 Water Management
04 Ethics and Integrity	12 Anti-corruption	20 Raw Material Management
05 Innovation and R&D	13 Energy Management	21 Indirect Economic Impactsocial Influence
06 Effluents and Waste	14 Biodiversity	22 Collective Bargaining
07 Occupational Health and Safety	15 Labor Right	
08 Economic Performance	16 Supply Chain Management	

Material Issues and their impacts on stakeholders

Prioritization	Material Issues	Corresponding UN SDGs	Responding GRI specific topic	Internal	External				
				TGI	Suppliers	Contractors	Corporate clients	Dealers	Sub-contractors
1	Product and Customer Service Quality	12	GRI 416 GRI 417	●	▲		▲	▲	▲
2	Regulation Compliance	12	GRI 307 GRI 419	●	▲	▲	▲		▲
3	Corporate Governance	8	-	●	▲	▲			▲
4	Ethics and Integrity	12	GRI 205 GRI 206	●	▲		▲	▲	▲
5	Innovation and R&D	9	-	●	▲		▲	▲	
6	Effluents and Waste	6, 13	GRI 306	●					
7	Occupational Health and Safety	3, 8	GRI 403	●	▲	▲		▲	▲

Material Issues & Management Policy

Topic	Significance for TGI	Policies and Commitments	Target	2019 implementation results	Corresponding chapter
Product and Customer Service Quality	TGI has a high-quality brand image, is committed to providing customers with excellent and reliable product quality, and protecting consumer rights and interests are the primary task. Therefore, all products have obtained relevant certificates or passed various quality, manufacturing safety and food safety certifications at home and abroad.	To achieve prosperous economic growth, environmental sustainability and social co-prosperity, reduce the probability of risk and reduce the impact of its impact, we actively introduce management systems such as product quality, product safety, environmental safety and health, transportation safety systems as continuous improvement products Quality and risk countermeasures.	❶ Continuing implementation of quality management of each product line and complying with CNS standards, and ANSI standards. ❷ Promote electronic grade sheet glass to pass various product certificat	❶ Continue to pass the ISO 9001 quality management system. ❷ Passed the ISO 45001 occupational safety and health management system and obtained the resource regeneration green product certification of the Bureau of Industry.	3.2 Product Quality 3.4 Customer Service
Regulation Compliance	As a multinational company, TGI's operations are throughout the Asia-Pacific region. Therefore, TGI must comply with the laws and regulations of many countries, confirm the most important regulatory compliance issues for TGI, and establish corresponding compliance systems to avoid company risk. In addition, it is more important to be able to protect the most basic labor rights of employees.	TGI has a legal affair and audit department to ensure that each department comply with environmental regulations, labor safety regulations, Labor Standards Act, product regulations and related regulations, and provides employees with relevant education and training to ensure that everyone understands the relevant agreements. We are also committed to complying with the government's environmental protection policies.	❶ There will be no major violations (the fine exceeds NT$1 million). ❷ Annual labor-management meeting and training for new employees are held regularly.	❶ No violations occurred. ❷ Labor-management meeting and training for new employees are held as scheduled, effectively proclaiming the concept and awareness of the prevention and control of laws and regulations. ❸ Two cybersecurity seminars are held in 2019, and employees of all factories can recognize the importance of cybersecurity and personal information protection.	2.1 About TGI 2.2 Integrity TGI
Corporate Governance	TGI adheres to the concept of sustainable management, pays attention to shareholders' rights and interests, takes care of employees, and gives back to society. It effectively manages and executes the board of directors and improves the foundation of corporate governance. Corporate governance focuses on operational development, continuously improves the competitiveness of TGI transparent information for stakeholders to understand and reference, and self-improving the company's operating value.	Integrity management is the most basic commitment and responsibility that TGI gives all stakeholders. Transparent management creates stable profits and sustainable operation.	Through methods such as interest avoidance, anti-corruption, and complaint mechanisms, we hope to achieve risk management, compliance with laws and regulations, and integrity management in order to protect shareholders' rights and implement business philosophy.	❶ When the audit committee in 2019 considers the audit plan for 2020, the attendees abstain from the meeting and are approved by the independent directors. ❷ No corruption, bribery or extortion occurred in 2019. ❸ All the appeal cases of the interested parties have been dealt with in the first time, and the appeal contents have been properly coordinated. ❹ The score of the sixth corporate governance evaluation reached 83.56 points, ranking 6~20% among listed companies, which is an improvement when compared with last year's ranking.	2.1 About TGI 2.2 Integrity TGI

Topic	Significance for TGI	Policies and Commitments	Target	2019 implementation results	Corresponding chapter
Ethics and Integrity	Based on a clean, transparent and responsible business philosophy, TGI has formulated relevant policies based on integrity and established a good corporate governance and risk control mechanism to strengthen the integrity of corporate culture and create a sustainable business environment.	In the rules of the procedure of the board of directors, TGI sets out the clauses for avoiding the interests of the directors. For matters of the board of directors, who have an interest in the directors themselves or their legal representatives and cause harm to the interests of the company, they may present their opinions and answers in person. Join the discussion and voting, and must avoid during the discussion and voting, and shall not act on behalf of other directors to exercise their voting rights. TGI has a "Ethical Corporate Management Best Practice Principles", "Handling Measures for Reporting Cases of Illegal and Unethical or Dishonest Conduct" and a "Guidelines for Integrity for Employees in Performing Duties."	We strictly abide by the code of good faith management and abide by relevant laws and regulations to maintain a clean corporate image.	TGI has planned a complete education and training for new employees, and signed the "Employee's Guidelines for Conduct for Performing Duties". It regularly organizes education, training and promotion for relevant personnels, and employees can fully understand the importance of maintaining the company's integrity. In 2019, there was no corruption, bribery or extortion among the employees of TGI. TGI's external donations or sponsorships are handled in accordance with relevant laws and the company's internal regulations to prevent giving or taking bribery and illegal political donations.	2.2 Integrity TGI
Innovation and R&D	TGI's technological process continues to breakthrough innovation, maintains industry-leading standards in the fields of environmental protection, energy-saving, photoelectricity, thinning and diversification, and actively develops high-quality environmentally friendly glass products related to green building materials. In order to ensure food safety for consumers, we are committed to obtaining various food safety certifications; various electronic product processes are towards lighter development, expanding the application of glass fiber composite materials, coupled with mature applications of technology and Internet of Things, Netcom equipment, mobile devices, and emerging unmanned driving The automobile and other industries will drive the growth of the demand for industrial fiberglass and electronic-grade fiberglass cloth.	We are committed to the improvement of technology and the research and development of new products, reducing pollution in the production process and mitigating the impact on the environment, and are more oriented toward the development of environmental protection and energy-saving related products as the main axis. In addition to establishing an internal innovation sharing mechanism and continuously strengthening the innovation vitality of the organization, it also assists customers and industries in cross-disciplinary innovation, including product innovation in cooperation with customers and green innovation in cooperation with suppliers.	❶ Promote ultra-thin cloth, obtain ISO 50001 certification, cooperate with the Industrial Research Institute and United University, improve the recycling rate of broken glass, communicate with customers and technicians, absorb new ideas and integrate into their own know-how. ❷ Improve the production capacity and quality of ultra-thin glass. ❸ Cooperate with the advent of the 5G era, research and develop Low DK fiberglass cloth for printed circuit boards (PCB) for Netcom equipment.	❶ In 2019, TGI became the third manufacturer to successfully develop Low DK fiberglass cloth for high-end PCBs in the United States and in the future, and it has been certified by domestic and foreign terminal manufacturers to be used in 5G equipment. ❷ In 2019, the average annual recycling rate of container broken glass reached 56.4% and obtained the resource recycling green product certification of the Bureau of Industry.	3.1 TGI Product 3.3 Research and Innovation

Topic	Significance for TGI	Policies and Commitments	Target	2019 implementation results	Corresponding chapter
Effluents and Waste	Facing the continuous decline of the global energy resource supply, the demand side has grown year by year; TGI actively promotes the reduction of wastewater discharge and waste generation through the improvement of process efficiency, promotes green process energy conservation, and achieves sustainable operation and environmentally friendly enterprises aims.	We continue to promote environmental improvement programs and are committed to improving the efficiency of energy resources used in glass production. Through specific energy-saving measures, we can reduce operating costs and reduce environmental impact.	❶ Continue to promote various measures and projects every year to improve process efficiency and reduce wastewater and waste. ❷ Review the recycled water system and water saving measures every year to continuously reduce the discharged water and enhance the use of recycled water.	❶ Lukang Factory and Taoyuan Factory passed the assessment and certification of the Cleaner Production System of the Industrial Bureau. (Taoyuan Factory obtained the certificate in 2020) ❷ The Taoyuan Factory recovers the wastewater discharged from the backwashing of the resin softening tank, and can recover 41,975 cubic meters of water annually. ❸ The Changbin Factory divides water according to medicine washing and backwashing, and can recover 14,442 cubic meters of water every year.	4.3 Green Production Management
Occupational Health and Safety	Set up a special management unit by laws and regulations to plan and supervise related operations in the factory to prevent accidents or occupational disasters, so that employees can improve work efficiency and product quality in a safe operating environment.	The objective of the occupational disaster management of TGI is based on the goal of zero disaster, and it is used as an indicator to improve various safety activities in the factory area.	❶ TGI takes zero occupational injury as the goal of occupational disaster management, and reduces the Disabling Injury Frequency Rate (FR) and Disabling Injury Severity Rate (SR) by 20% each. ❷ Hsinchu Factory, Taichung Factory, and Changbin Factory: Aiming at zero injuries per 100 days, a cumulative number of days without work injuries is set up to encourage employees to prepare daily. ❸ Lukang Factory: work injury frequency ≦ 0.2hrs/person*year. ❹ Lukang Flat Glass Factory: work injury frequency ≦ 0.04 hrs/person*year.	❶ The reduction of FR by 9% and SR by 30% at the Changbin Factory reached the set target. ❷ The whole group will have 1,876 general health check-ups and 2,898 special health check-ups in 2019, for a total of 4,414 person-times. ❸ Lukang Flat Glass Factory conducted a gas leakage drill and continued to improve itself under the continuous non-work-related injuries.	5.3 Safe Workplace and Health Promotion

CH2

Steady Operation, Integrity Governance

- 2.1 About TGI
- 2.2 Integrity TGI
- 2.3 Risk Management

Achievements of Corporate Governance in 2019

5 times	TGI convened 5 sessions of Board meetings in 2019.
	Formulate "Standard Operating Procedures for Handling Directors' Requests" to enhance board transparency
35 internal audits	In 2019, a total of 35 internal audits were conducted.
6 members	To establish a robust Board of Director nomination system, a nomination committee was established with 6 members.
0 incidents	No TGI employee was involved in corruption, bribery or blackmail, and no political donation in 2019.

TG Business philosophy, goals and quality policy

Our Philosophy

TGI has upheld its belief in building high performance, laying a steady operation stralegy, a global macro perspective, and a solid and sound financial basis.

Our Goal

TGI will provide outstanding quality, reasonable prices and impeccable services to satisfy customers, reward shareholders, take care of employees and contribute to society.

Our Quality Policy

TGI will continue to implement advanced technologies and company-wide quality management to provide our clients with satisfying products.

Chairman Lin, Por Fong was awarded the " The Order of the Rising Sun " by the Ministry of Foreign Affairs of Japan

Founded in 1964, for the last 50 years, TGI has been following the company founder Lin Yu-Chia's business philosophy of honest hard work and focus on our core business of glass. TGI has put Taiwan in an important position in the global glass industry. In the future, TGI will continue to implement advanced technologies and company-wide quality management to provide our clients with satisfying products. We will continue to develop advanced technologies, improve our supply, production, distribution, and service to achieve sustainability, contribute to society, and succeed in the international market competition.

In addition, TGI has worked closely with Japanese companies for many years. Chairman Lin, Por Fong has communicated with the public associations of related industries in Japan for a long time to promote the improvement of the economic and trade relations between Taiwan and Japan. Therefore, in 2019 Chairman Lin received "The Order of the Rising Sun" given by the Emperor of Japan, which laid a solid foundation for the international visibility and friendliness of Taiwan's industry and business community

2.1 About TGI

TGI Profile

TAIWAN GLASS IND. CORP.

Market

Oversea Chinese/foreign investment/ publicly traded, TWSE listed company

Stock Code

1802, Taiwan Glass Ind. Corp.

Industry

- Manufacturing and sale of flat glass
- Manufacturing and sale of fiberglass fabric and reinforced fiberglass
- Manufacturing and sale of glassware

Founded on

August 25, 1964

Date of listing

July 15, 1973

Capital

NT$29,080,608 thousand

Turnover

NT$11,702,108,000

Number of employees

Employees in Taiwan: 4,582

Headquarters

11F., Taiwan Glass Building, No.261, Sec. 3, Nanjing E. Rd., Songshan Dist., Taipei City 105, Taiwan (R.O.C.)

History and TGI Business Philosophy

*Note：Please visit TGI'sofficial website for the history and TGI business philosophy.

TGI Group Production Base Layout

01 TAIWAN GLASS IND.CORP.

FLAT GLASS

02 TAICHUNG FACTORY

03 CHANGPIN FACTORY

03-1 TG TECO VACUUM INSULATED GLASS CORP.

04 TG QINGDAO GLASS CO., LTD.

05 TG CHANGJIANG GLASS CO., LTD.

06 TG KUNSHAN GLASS CO., LTD.

07 TG CHENGDU GLASS CO., LTD.

08 TG HUANAN GLASS CO., LTD.

09 TG DONGHAI GLASS CO., LTD.

10 TG TIANJIN GLASS CO., LTD.

11 TG XIANYANG GLASS CO., LTD.

12 TG TAICANG ARCHITECTURAL GLASS CO., LTD.

13 TG ANHUI GLASS CO., LTD.

14 TG WUHAN ARCHITECTURAL GLASS CO., LTD.

15 QINGDAO ROLLED GLASS CO., LTD.

16 LUKANG FLAT GLASS FACTORY

FIBERGLASS REINFORCED，FIBERGLASS FABRIC

16 LUKANG FACTORY

17 TAOYUAN FACTORY

18 TAICHIA GLASS FIBER CO., LTD.

19 TAICHIA CHENGDU GLASS FIBER CO., LTD

20 TAICHIA BENGBU GLASS FIBER CO., LTD.

ULTRA-THIN GLASS

21 TAICHUNG ULTRA-THIN GLASS FACTORY

PHOTOELECTRIC GLASS

22 TG FUJIAN PHOTOVOLTAIC GLASS CO., LTD.

23 TG YUEDA SOLAR MIRROR CO., LTD.

GLASS CONTAINER TABLEWARE & KITCHENWARE

24 HSINCHU FACTORY

AUTOMOTIVE GLASS

25 TAIWAN AUTOGLASS IND. CORP.

26 TG YUEDA AUTOGLASS CO., LTD.

SILICA SAND

27 TG HANZHONG SILICA SAND CO., LTD.

28 TG FENGYANG SILICA SAND CO., LTD.

29 YINAN SILICA SAND CO., LTD.

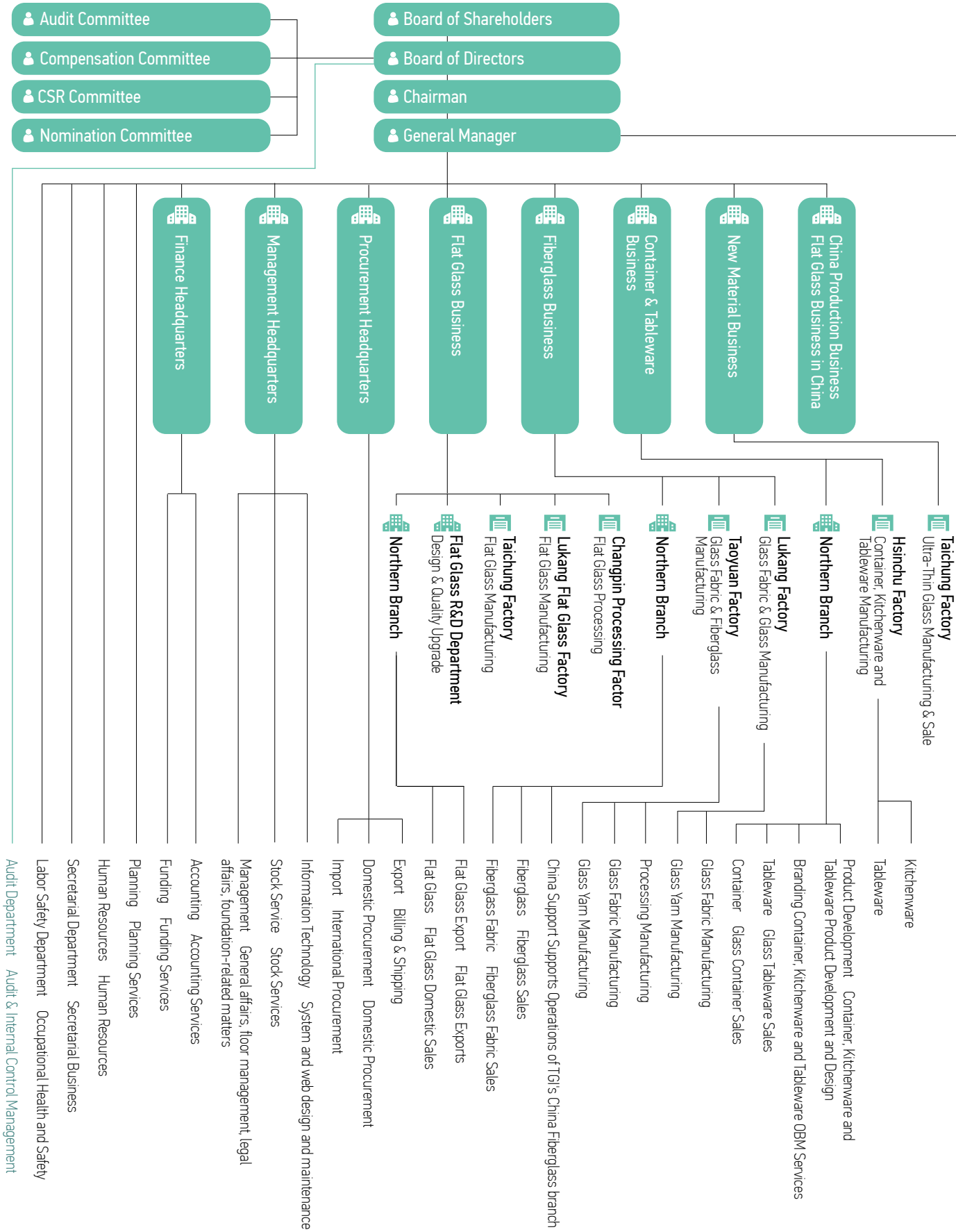
30 TG ZHANGZHOU SILICA SAND CO., LTD.

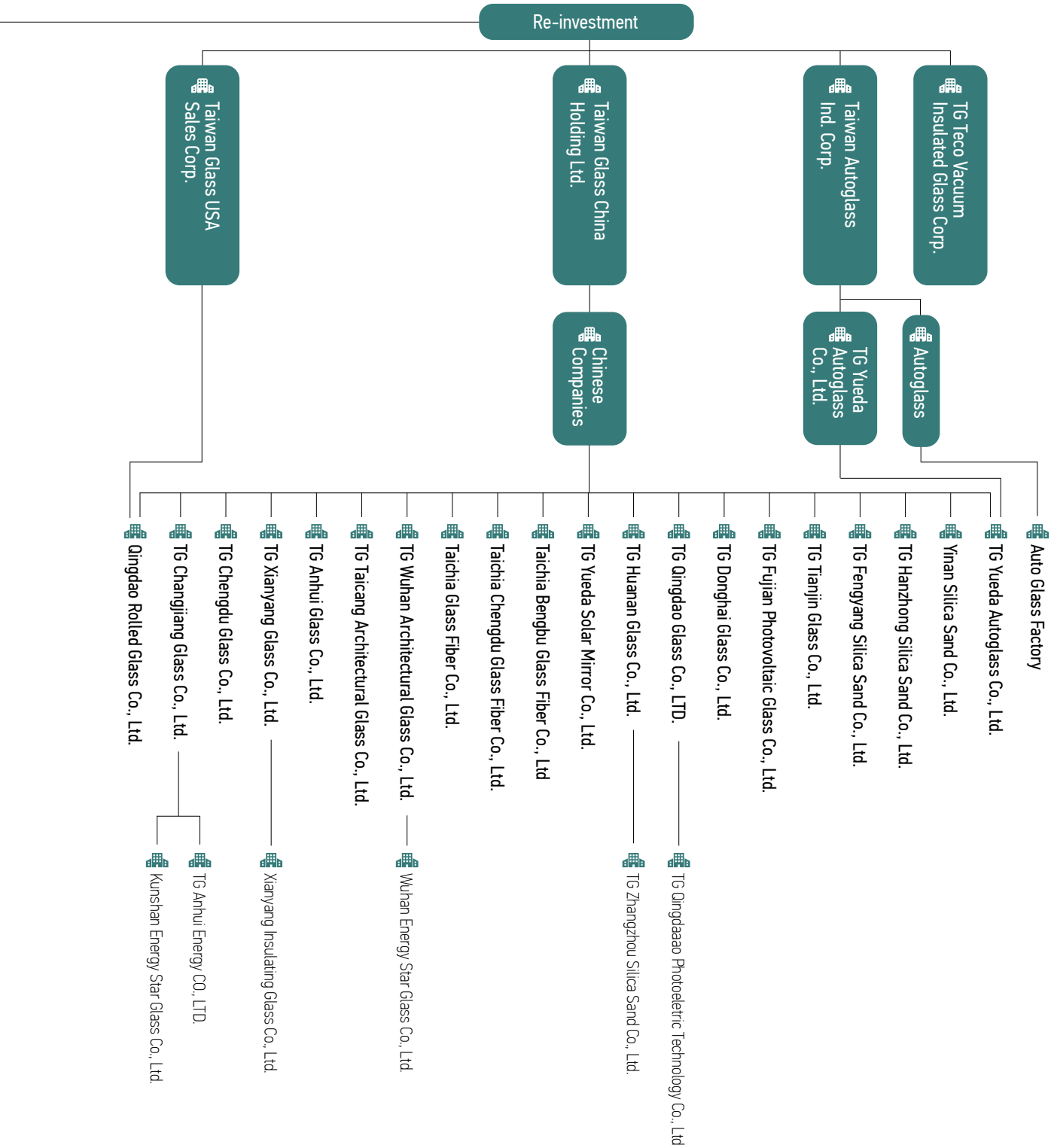
SODA ASH

31 SHIHLIEN CHEMICAL INDUSTRIAL JIANGSU CO., LTD.

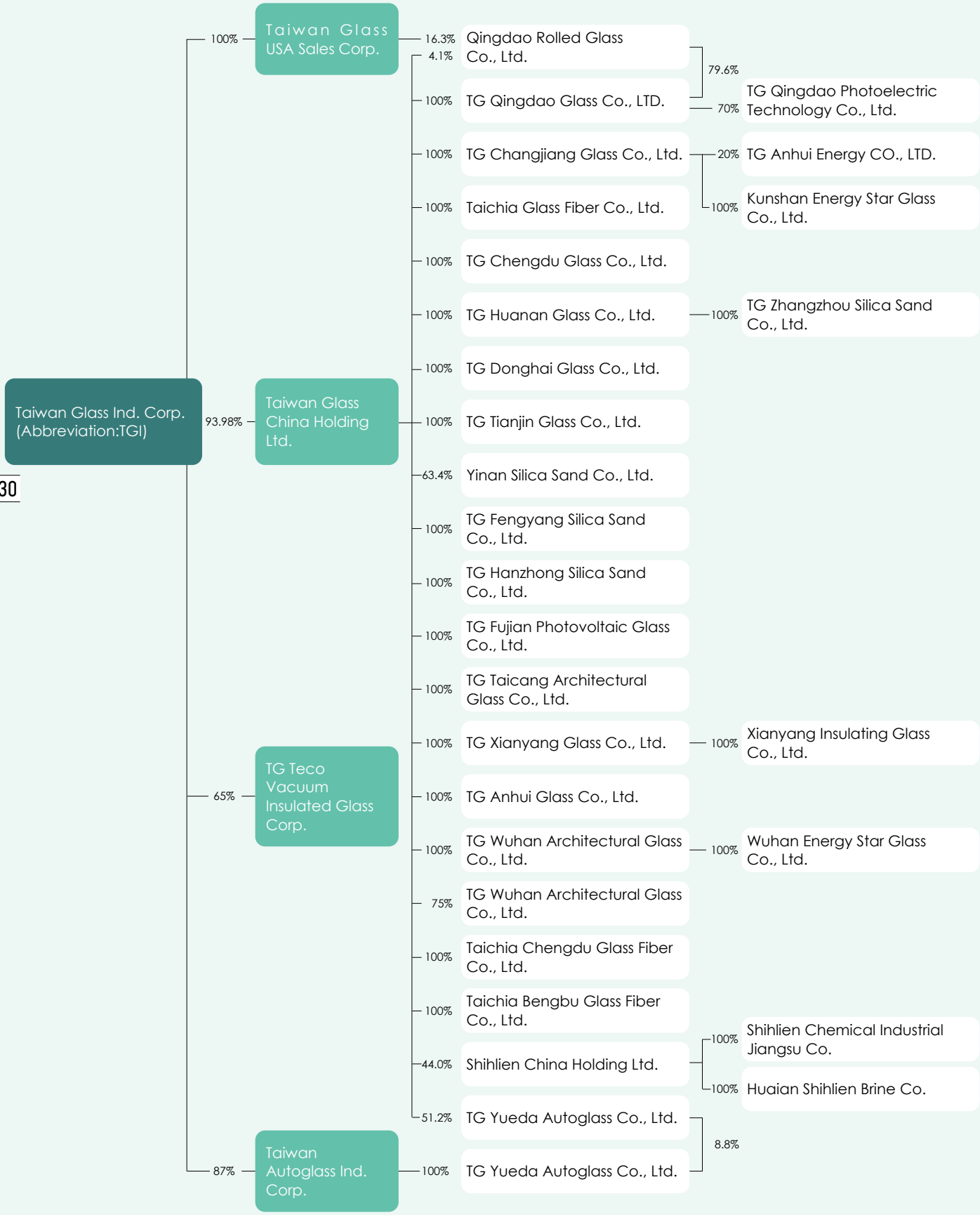
32 HUAIAN SHIHYUAN BRINE CO., LTD.

Management Team and Key Function of Departments

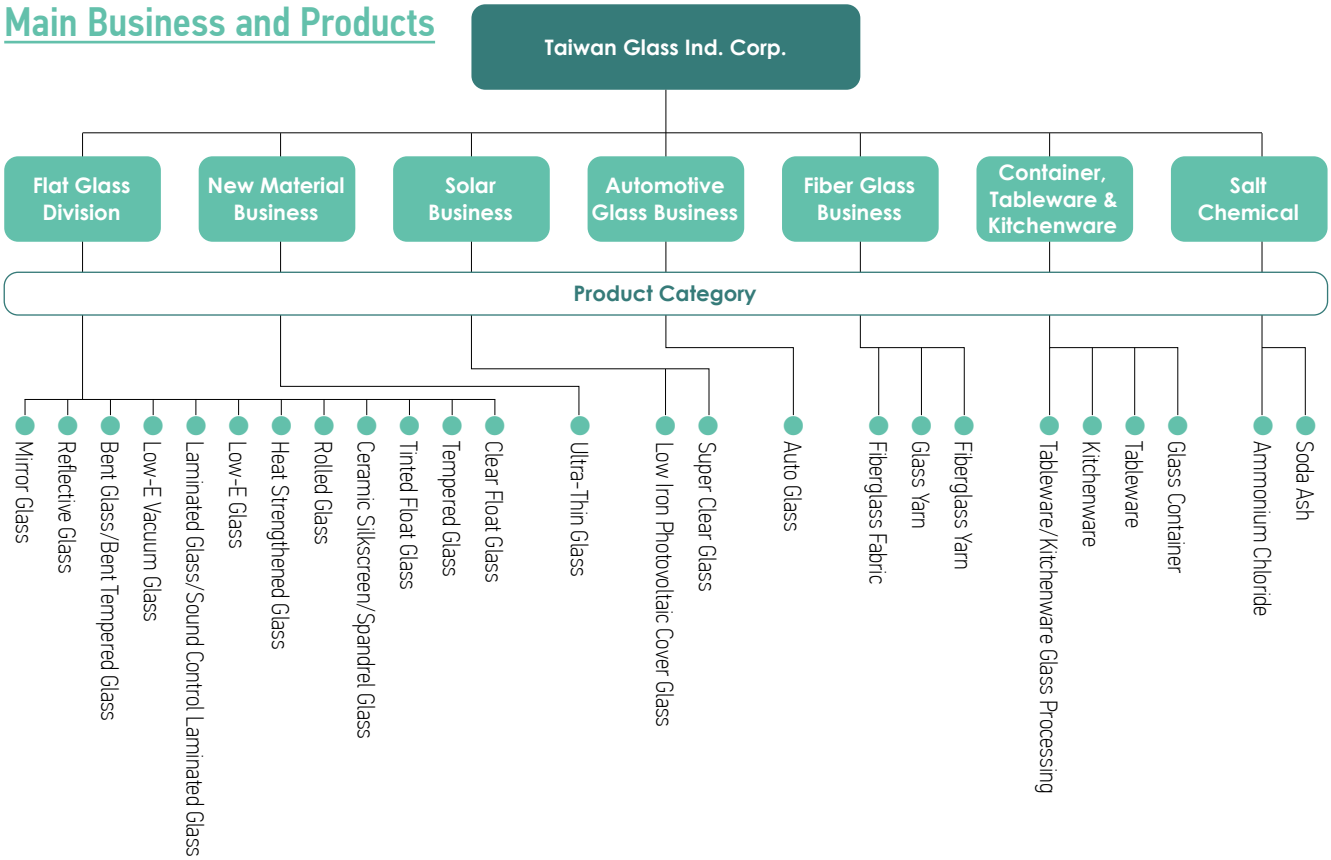



Re-investment
TG Teco Vacuum Insulated Glass Corp.
Taiwan Autoglass Ind. Corp.
Taiwan Glass China Holding Ltd.
Taiwan Glass USA Sales Corp.
Autoglass
TG Yueda Autoglass Co., Ltd.
Chinese Companies
Auto Glass Factory
TG Yueda Autoglass Co., Ltd.
Yinan Silica Sand Co., Ltd.
TG Hanzhong Silica Sand Co., Ltd.
TG Fengyang Silica Sand Co., Ltd.
TG Tianjin Glass Co., Ltd.
TG Fujian Photovoltaic Glass Co., Ltd.
TG Donghai Glass Co., Ltd.
TG Qingdao Glass Co., LTD.
TG Qingdaaao Photoeletric Technology Co., Ltd
TG Huanan Glass Co., Ltd.
TG Zhangzhou Silica Sand Co., Ltd.
TG Yueda Solar Mirror Co., Ltd.
Taichia Bengbu Glass Fiber Co., Ltd
Taichia Chengdu Glass Fiber Co., Ltd.
Taichia Glass Fiber Co., Ltd.
TG Wuhan Architectural Glass Co., Ltd.
Wuhan Energy Star Glass Co., Ltd.
TG Taicang Architectural Glass Co., Ltd.
TG Anhui Glass Co., Ltd.
TG Xianyang Glass Co., Ltd.
Xianyang Insulating Glass Co., Ltd.
TG Chengdu Glass Co., Ltd.
TG Changjiang Glass Co., Ltd.
TG Anhui Energy CO., LTD.
Kunshan Energy Star Glass Co., Ltd.
Qingdao Rolled Glass Co., Ltd.

TGI Affiliates



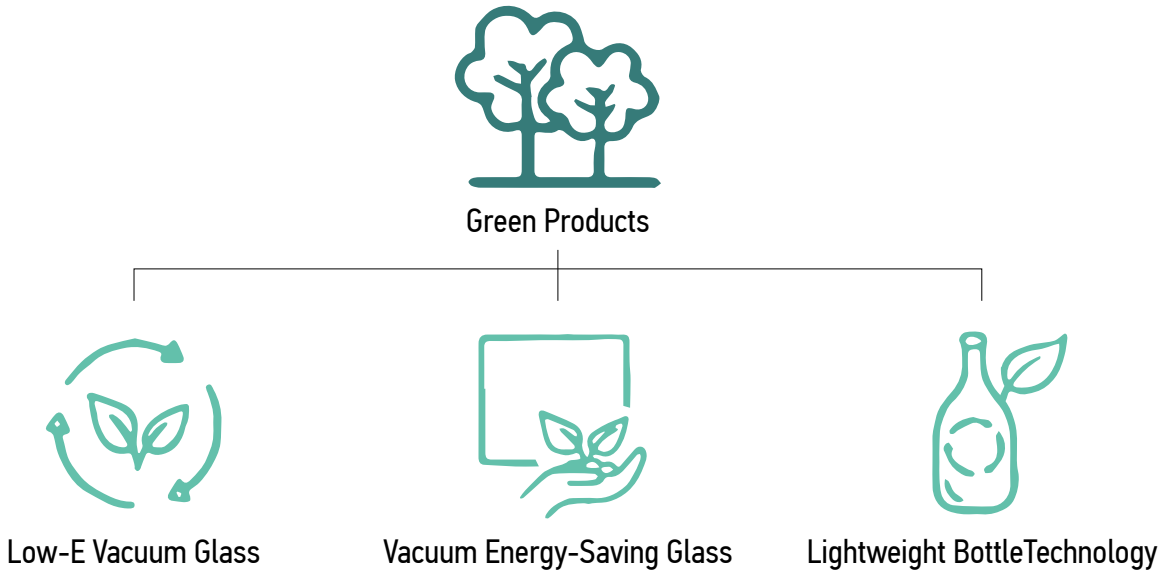
Main Business and Products



Green Products

TGI Group draws on world-class technology and equipment suppliers and accumulates its own R&D experience to make efforts in technology improvement and new product research and development.

In addition to obtaining a number of quality and environmental certificates, in response to global green energy issues, TGI reduces pollution from the production process to mitigate environmental impact and devotes to develop environmental and energy-saving related products.



Participating Organizations

TGI is actively involved in national organizations and commercial enterprises, cross-strait exchanges, regional economic and trade, industry associations and other sustainable and environment-related organizations, hoping to interact with other companies in the industrial and help one another grow by participating in various activities, exhibitions, seminars, multilateral communication meetings.

Organization	Title
❶ Industrial and Commercial Enterprise Groups	
Chinese National Association of Industry and Commerce	Chairman
Chinese National Federation of Industries	Director
Taiwan Chamber of Commerce & Industry	Director
The Third Wednesday Club	Vice Chairman
❷ Cross-strait Exchange Organizations	
Straits Exchange Foundation	Director
Straits Economics & Cultural Interchange Association	Managing Director
Cross-Strait CEO Summit	Director
❸ Regional Economic and Trade Organization	
Chinese East Asia Economic Association	Director
Chinese International Economic Cooperation Association	Member
Taiwan-African Business Association	Member
❹ Industry-Related Associations	
Taiwan Glass Industry Association	Chairperson of the Board of Supervisors
Taiwan Green Building Material Council	Member
Chung-Hwa Railway Industry Development Association	Member
Taiwan Fire Safety & Material Association	Member
Taiwan Composites Association	Managing Director
Taiwan Weaving Industry Association	Member
Guanyin Industrial Park for Industrial Technology Advancement	Member
Hsinchu City Industrial Association	Member
Taichung Harbor Related Industrial Park	Member
Lukang Changhua Coastal Industrial Park	Member
Taiwan Printed Circuit Association	Member
Member	
Center for Corporate Sustainability	Advisory Director
Taiwan Green Building Council	Member

Financial Information

Financial Information

(Thousands NTD.)

Items/Year	2017	2018	2019
Operating revenue	13,173,276	12,561,584	11,702,108
Operating costs	10,777,756	10,779,115	10,708,502
Gross profit	2,395,520	1,782,469	993,606
Operating expenses	2,019,522	2,025,001	1,915,823
Operating income (profit and loss)	375,998	(242,532)	(922,217)
Non-operating income and expenses	1,797,118	1,354,431	(545,790)
Profit before tax	2,173,116	1,111,899	(1,468,007)
Net income from continuing operations (Net income or loss after tax)	2,123,773	1,066,286	(1,448,450)
Other comprehensive income (loss)	(135,333)	(1,225,535)	(1,762,559)
Total comprehensive income (loss)	1,988,440	(159,249)	(3,211,009)
EPS (NT$) (Adjusted retroactively)	0.73	0.37	(0.50)
Salary and Wages	3,070,707	3,244,259	3,124,606
Financial contribution to the Government (Taxes, donations, fees)	58,810	49,232	109,010

Note：1.All figures have been audited and certified by a CPA.
2.The company has adopted the International Financial Reporting Standards since 2013.

Taiwan Glass Group 2019 Annual Capacity for Each Product

Product	Taiwan		China		Total	
	Kilns	Tons	Kilns	Tons	Kilns	Tons
Float Glass	3	274,941	11	2,569,665	14	2,844,606
Fiberglass	2	18,600	6	58,756	8	77,356
FRP Fiberglass Reinforced	2	39,906	-	-	2	39,906
Glass container	5	146,124	-		5	146,124
Glass tableware	1	115	-		1	115
Glass kitchenware	1	1,366	-		1	1,366
Auto glass	1	5,769	4	9,369	5	15,138
Total	15	486,821	21	2,637,790	36	3,124,611

2019 Sales Information

Serial number	Product category	Ratio of domestic sales	Ratio of export sales	Sale areas	Clients
1	Flat glass	90%	10%	Asia, Central & South America, Australia, Europe, Africa, and North America.	construction automotive furniture decoration optoelectronics sanitary lighting gift electronics industries
2	Fiberglass Fabric and Fiberglass	41%	59%	Europe, USA, China, Japan, South Korea, Middle-East, Southeast Asia, New Zealand, and Australia.	Electronics electrical appliance communication equipment fishing boat yacht vehicle pipeline barrel building materials umbrella golf equipment equipment wind power blade industries
3	Glass container	52%	48%	USA, New Zealand, Australia, China, and Germany.	Wine food pharmaceutical dairy home appliance retail industries
4	Glass tableware	50%	50%	India, South Korea, Germany, and Australia.	
	Glass kitchenware	10%	90%	China	
5	New material- Ultra-thin glass	10%	90%	China	Photoelectric electronic industries

Market Share in 2019

Serial number	Product category	Domestic Market share
1	Flat glass	70%
2	Fiberglass Fabric	35%
3	Fiberglass	55%
4	Glass container	35%
5	Glass tableware/kitchenware	20%
6	New material- Ultra-thin glass	10% of the China market

2.2 Integrity TGI

Board of Directors

TGI adheres to transparent operations, focusing on shareholders' equity, and believes that a robust and efficient Board of Directors is an excellent foundation for corporate governance. We believe that good corporate governance builds a solid foundation for the operation and development of the market to provide high-quality products and services while enhancing the long-term value of the company. Our corporate governance policies are under the "Corporate Governance Best Practice Principles for TWSE/TPEx Listed Companies " and relevant laws and regulations. We divide into six main strategies:

Under these principles, the TGI Board of Directors has authorized to establish the Audit Committee, Remuneration Committee, CSR Committee, and Nomination Committee to assist the Board of Directors in fulfilling its supervisory duties. Articles of Association of the committees are approved by the Board of Directors, the Chairman of each Committee reports its activities and decisions to the Board of Directors regulary.

Board Members

TGI 2019 Board of Directors included 15 directors. Each director, supervisor and legal person/representative has a rich academic or business operation experience. Among them, 3 are independent directors. TGI's sustainability relies on these directors' rich knowledge, insight and business sense. Each director has a 3-year term, elected by the shareholders' meeting from among candidates with capability. Directors may be eligible for re-election. Chairman of the Board of Directors shall be elected from among the directors. The Chairman will lead the Board of Directors on behalf of the company, and the Chairman does not serve as the company's CEO concurrently. The board meeting is held at least once each quarter and TGI held 5 board meetings in 2019. There are two types of shareholder meetings: regular and special. Regular shareholder meetings are held at least once a year, convened by the Board of Directors based on the law within six months after the end of each fiscal year. Special shareholder meetings are held based on the law when necessary.

TGI Board members

Title	Name	Gender	Job Title/Experience	Concurrent Position at TGI	2019 board of directors Actual attendance
Chairman	Lin, Por Fong	Male	TGI General Manager	None	5
Director	Lin, Por Shih	Male	TGI Managing Director	TGI General Manager	4
Director	Lin, Por Chain	Male	TGI Managing Director	None	5
Director	Lim, Han Tong	Male	Chairman, Bo Chi Investment	None	4
Director	Lim Ken Seng Kah Kih Corp.Hsu, Li Lin	Female	Sunrise Department Store General Manager	None	4
Director	Peng, Cheng Hao	Male	CEO of Meifu Group	None	5
Director	Tai Feng Investment Lin, Chia Hung	Male	GM, China Prod.	COO, China Prod.	4
Director	Tai Feng Investment Su, Yu Te	Male	GM, Fiber	COO, Fiber	5
Director	Tai Feng Investment Lin, Chia Yu	Male	VGM, Fiber	GM, Fiber	5
Director	Tai Chien Investment Lin, Charles Ming	Male	VGM, Finance	GM, Finance	5
Director	Ho Ho Investment Chen, Cheng Chang	Male	Plant Director, Lukang Factory	Project VGM, Lukang Factory	1
Director	Ho Ho Investment Tsai, Tseng Ming	Male	VGM of Purchasing Department	VGM of Purchasing Department	5
Independent director	Lin, Fong Cheng	Male	Minister of the Interior	None	5
Independent director	Chen, Ching Chih	Male	Chairman, Wan Hai Lines	None	5
Independent director	Hwang, Tsing Yuan	Male	Director, TWSE	None	4

Note: 12 directors over the age of 50; 3 directors between 30 and 50.

Duties of the Board of Directors

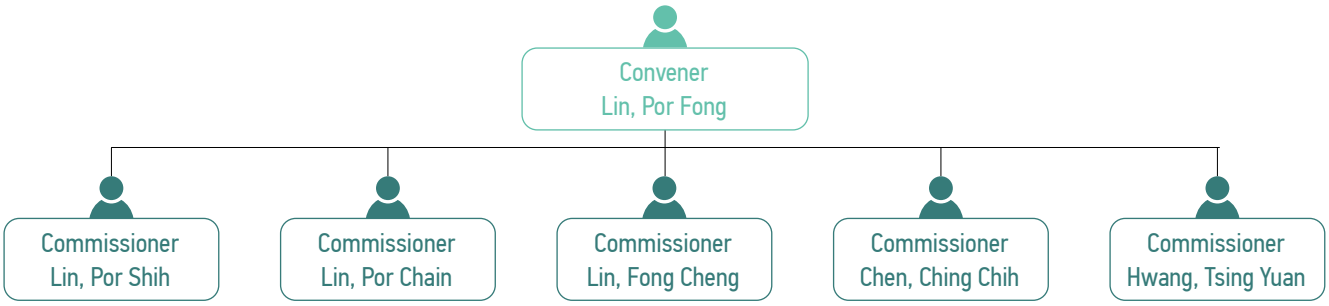
The Board of Directors is the center of the company's major decisions. The Board of Directors is responsible for appointing and supervising the company's management as well as the company's overall performance. The Board of Directors' second responsibility is guiding the management team. TGI's Board of Directors listens to the management team's reports every quarter, which covers economic situations, environmental protection, and factory management issues. The Board of Directors frequently communicates with the senior management, and the management needs to propose company strategies to the Board of Directors. The Board of Directors evaluates the feasibility of these strategies, keeps track of implementation progress and urges the management team to make adjustments when needed.

In 2019, the Board of Directors has approved"Standard Operating Procedures for Handling Directors' Requests" in order to enhance the efficiency of the Board of Directors and set a good coporate governance procedure.

Nomination Committee

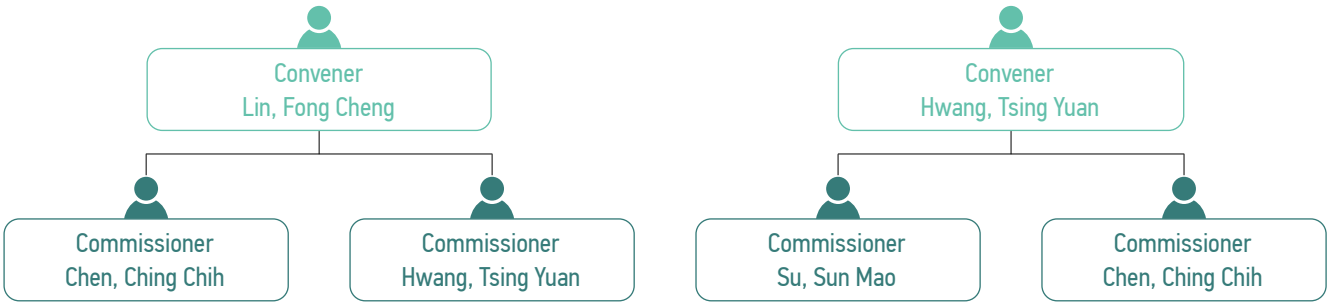
To establish a robust nomination system, TGI has established the Nomination Committee in compliance with Corporate Governance Best Practice Principles for TWSE/TPEx Listed Companies since 2016. The committee is authorized by the Board of Directors to seek, review and nominate director candidates as well as build and develop the structure of the board to ensure a healthy Board of Directors.

In accordance with the company law and the company's articles of incorporation, TGI has established a method for the selection of directors, adopts a nomination system for candidates and a registered voting method. The names of the electors can be replaced by the shareholders' numbers, and the shareholders are elected from the list of director candidates. To achieve a sustainable and balanced development and an increasingly diversified Board of Directors, we set up a nomination committee to consider various aspects of diversity of board members when setting up a board composition, including but not limited to gender, age, cultural and educational background, ethnicity, professional experience, skills, and knowledge and service terms.



Audit Committee

For the establishment of good corporate governance, TGI established the Audit Committee under "Regulations Governing the Exercise of Powers by Audit Committees of Public Companies", with effect from August 2015, all members of the audit committee are independent directors, and at least one of whom must have accounting or financial expertise.



Remuneration Committee

To establish a healthy remuneration system for the directors and managers in TGI, the Remuneration Committee was established following the "Regulations Governing the Appointment and Exercise of Powers by the Remuneration Committee of a Company Whose Stock is Listed on the Stock Exchange or Traded Over the Counter". This committee serves to professionally and objectively evaluate the remuneration policy and system of directors and managers and make suggestions to the Board of Directors as needed. The committee regularly reviews its organizational procedure, annual/long-term performance objectives for the directors and managers and their remuneration policy, system, standards and structures, and the performances. The committee will propose the remuneration for each director and manager as a reference in policymaking. In 2019, two Remuneration Committee meetings were held to discuss "Compensation of the Directors and Managerial Officers of TGI in 2018"and review " Regulations Governing Compensation of the Directors and Managerial Officers".

The aforementioned salary and remuneration include cash compensation, share options, dividends, retirement benefits or termination payments, various allowances and other measures that have substantial incentives; its scope should be consistent with the guidelines for recordable items in the annual report of public offering companies. The remuneration of directors, supervisors, and managers is the same. TGI has not yet consulted the interested parties on the salary policy in 2019 and will consider the participation of interested parties as future reference.

Internal Audit Department

The Internal Audit Department (IAD) of TG is an independent unit under the Board of Directors. IAD has a suitable number of eligible auditors who, in addition to regular presentations during the board meetings, report to the chairman, supervisors and independent directors regularly or when necessary. In 2019, a total of 35 internal audits were conducted and no major anomalies were found.

This company has its own Internal Audit Implementation Rules, based on which the IAD reviews and assesses the company's internal control system, business performance, and efficiency. The IAD then offers timely suggestions for improvement to ensure that the internal control system is implemented continuously and effectively. The scope of audit covers all operations of the company and our subsidiaries. The IAD mainly conducts audits based on the audit plan approved by the Board of Directors. The audit plan is based on recognized risks. The IAD also conducts an audit on a case-by-case base when necessary. The self-inspection results, the internal control flaws and any matters that need improvement discovered by the IAD will be as a reference in the evaluation of the internal control system's effectiveness and the foundation of Management's Reports on Internal Control.

Avoidance of Conflict of Interest

TGI's rules of procedures for meetings of its Board of Directors include clauses for the avoidance of conflict of interest. If any director or a juristic person represented by a director is an interested party concerning to any agenda item, the director may express his/her opinions and answer questions at the meeting but may not participate and shall be excused during discussion or voting on that agenda item, and may not act as another director's proxy to exercise voting rights. Furthermore, this company has professional and unbiased independent directors, who offer objective suggestions based on their expertise and experience as the company formulates strategies. The Board of Directors will fully consider the independent directors' opinions when discussing any agendas. Any reasons or opinions for agreement or objection will be recorded while staying in line with the principle of avoidance of conflict of interest to fully protect the company's interests.

Anti-corruption

TGI has "Honest Business Principles", "Process for Reporting Illegal and Unethical or Dishonest Cases" and "Employees' Honest Principles" and provides training to new recruits to ensure that each employee understands these principles.

1. Meal invitations or gifts offered by manufacturers should be declined.
2. Invitation to meal and other entertainment should be reported; accepting gifts or money should be reported and delivered to the official handling on the same day.
3. The employee shall not exploit their relationship with manufacturers for private business dealings.

To implement honest business, TGI established accounting and internal control systems to ensure that all operations in the company stay in line with relevant laws and regulations. Following "Ethical Corporate Management Best Practice Principle" item 20, the Board of Directors passed "Process for Reporting Illegal and Unethical or Dishonest Cases" in 2019, and disclose designated unit, reporting channels, handling process and policy. TGI set up employee appealing email and telephone on the internal website and external email address on the company's website that the public can use to file complaints or provide suggestions.

In 2019, no employee was involved in corruption, bribery or extortion. Any donations or sponsorships from TGI to other parties will be processed according to relevant laws and regulations as well as the company's internal rules to prevent bribery or illegal political donations. TGI did not make any political donations in 2019.

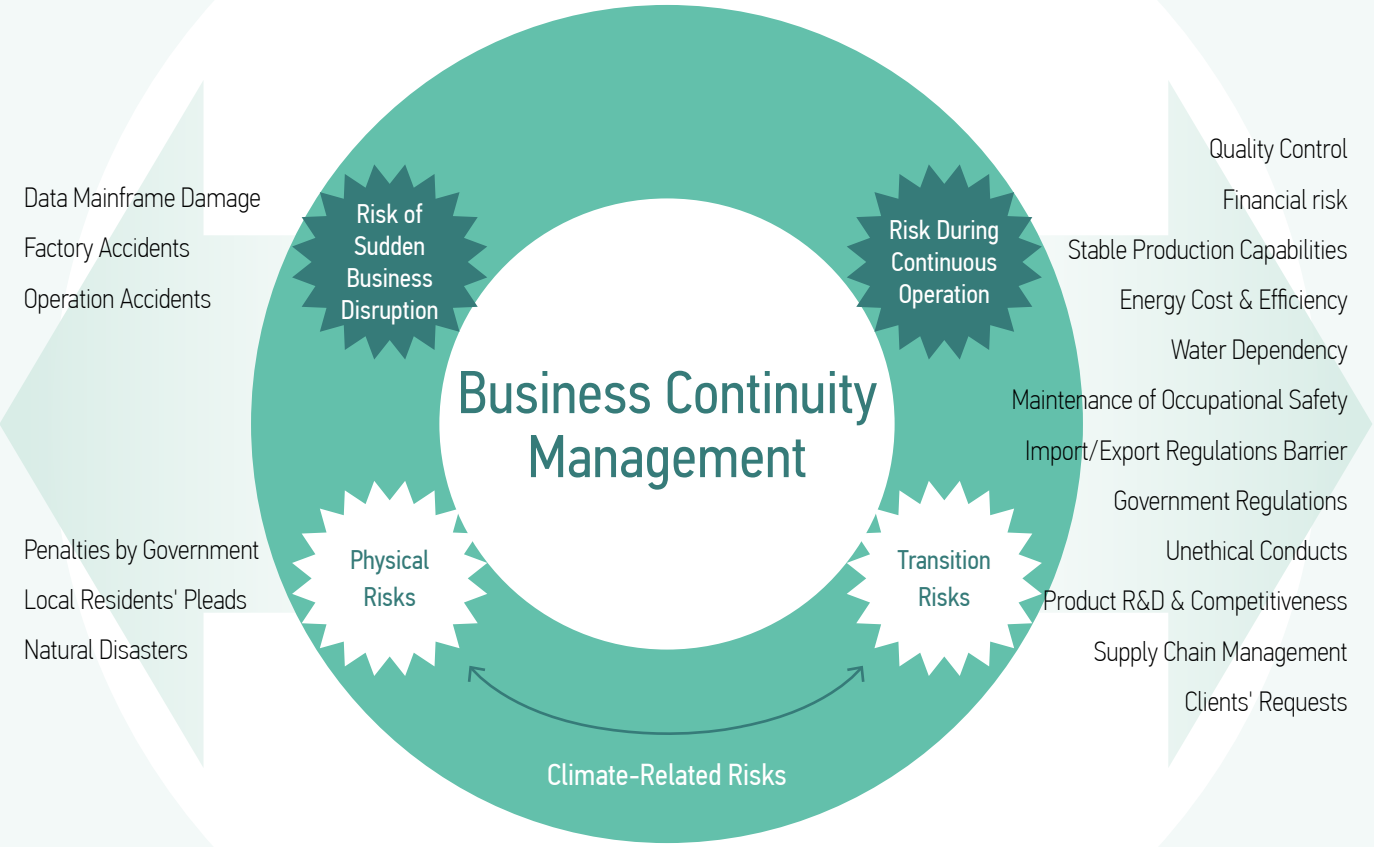
Employee's Honest Principles

Workplace Violence Policy Statement

Please visit the TGI website for "the Handling Process of Illegal & Unethical Cases" , "TGI Ethical Code of Conduct"

2.3 Risk Management

To prevent risk during operation or sudden disruption of operation, TGI has all departments conduct periodically reviews comprehensive risk evaluations, implement various risk management measures for a sound and comprehensive risk management operation. Risk management involves lowering the occurrence rate and reducing the impacts of recognized risks. The goal of risk management is to achieve sustainable operation, by strengthening risk management, lowering business risk exposure and improving crisis management.



Also, in response to the increasingly serious climate change, TGI also began to pay attention to climate-related risks; at present, the assessment of the risks associated with climate change at each factory includes: regulatory risk, raw material/energy cost risk, natural disaster risk, and environmental safety risk. The main effects can be attributed to two major categories:

Transformation risks: Changing market conditions and stricter regulations caused by climate change.

Physical risks: Natural disasters caused by climate change have injured or trapped factory staff or damaged equipment in the factories, which has forced operations to be interrupted.

In response to the transformation risks of climate change, TGI has long paid attention to changes in laws and regulations and responded to relevant regulations in advance; at the same time, it has paid attention to changes in market raw materials and customers' low-carbon transformation demand trends for future sustainable growth. In the face of physical disaster risk, each factory of TGI has an emergency response process, and there are usually plans for uninterrupted operations to ensure that the company's overall operating conditions are not in danger. In the future, we will continue to focus on the trend of climate change and plan to improve the level of risk management countermeasures.

Countermeasures for Risk Management

Category	Risk	Impacts and countermeasures/ Response
Financial risk	Funding risk	Prepare bank financing quotas and negotiate with banks for more favorable financing rates to reduce funding costs and maintain the normal operation of the company's funds.
	Liquidity management risk	Increase interest income on liquidity and ensure the profit and integrity of liquidity.
	Interest rate risk	Maintain a robust financial structure as favorable bargaining power when negotiating with financial institutions, and keep close contact with banks to obtain a more favorable loan interest rate.
	Exchange rate change risk	The exchange rate risk arising from the purchase or sale of non-functional currency pricing is mutually exclusive, so the exchange rate risk is not significant.
	Inflation	No significant impact on our Company.
	> High risk and highly leveraged investment > Loans to others > Endorsements and Guarantees	In 2019 we had no high risk and highly leveraged investment, and no loans to others. Only the loans and endorsements to our subsidiaries in China were implemented for construction and business turnover.
Operational risk	Regulatory risk	Through the update of monthly inspection on laws and regulations to ensure TGI is in compliance with all the relevant laws and regulations. The legal internal control system was established as internal control requirements became strict, management methods such as contract review were incorporated into the system. After the contract was electronicist, a legal review was passed. For example, GHG emissions reporting and management law, the three regulations of water-saving, labor disputes, and factory safety accidents.
	Cost risk	We estimate the impact of regulations on the cost of TGI and analyze the potential savings in expenditures and costs. For example, the water surcharge, the supply and safety of products and raw materials, and the impact of internationalization on the supply and competition of raw materials. The production department had replaced the original pumped motor water supply to the factory water pressure supply to improve water saving.
	Client complaint risk	There is product insurance every year, and premiums and content are increased year by year. Actively communicate with customers, understand their needs and market dynamics, and check the quality requirements of each product.
	Off-The-Shelf risk	FDA's strict standards increase the risk of product removal, we had increased the number of insurance projects in order to reduce the impact of the risk.
	Information security risk	TGI backed up numerous data and confidential documents on a daily basis. Various permissions are set in the system to ensure that information is used by appropriate personnel and is not exposed. Information security seminars are held every six months to equip employees with basic concepts of information security, to avoid being attacked by malware on the Internet, and to reduce the occurrence of information security incidents and the damage caused by security incidents.
	HR risk	Attract and retain talents with competitive salary levels. In recent years, it has repeatedly adjusted salary and introduced the HR system to cope with the risk of system crash and data loss. Actively participate in talent recruitment activities and cultivate young talents.
	Production risk	In response to the continuous production demand of the production line, the following policies are made respectively for raw materials, fuels, and energy supplies: raw materials：set safety stock fuel：design backup fuel system energy：The main equipment in the factory is equipped with an uninterruptible power system

Category	Risk	Impacts and countermeasures/ Response	
Operational risk	Raw material risk	Glass production is very sensitive to a slight change in formula. The materials going into the kiln must be monitored carefully because the incorrect formula will lead to major losses.	Risk > Material misplaced in the wrong silo Risk occurred > Wrong formulate resulted in unqualified glass Countermeasures > Fully implement material storage control > Enhance staff training > Store raw materials in an isolated and consistent location > Label names and inspection results on the packaging
	Environmental security and health risk	To prepare for any environmental or security emergency, the Engineering Safety Section should formulate an emergency response plan and conduct an investigation when incidents occur. The Factory Affairs Section should plan training sessions and have all departments collaborate with the section. Each factory has its own emergency response drill for incidents such as fires, accidents in the wastewater treatment facilities, air pollution, oil or chemical leaks and explosions. The Engineering Safety Section can revise the plan based on the circumstances in the factories.	Level 1 Incidents occur Initiate the contingency plan Determine if the incident can be contained effectively and immediately N → Y Level 2 Operator or security guards will conduct the emergency broadcast and contact the authorities Establish an emergency response team which will be in charge of initiating the contingency plan Determine if the incident can be contained effectively and immediately N → Y Level 3 Request for external support Implement task and management on disaster relief End the contingency plan as the disaster has been contained Review
	Risks related to climate change		
	Physical risk	Observe the impact of climate change and weather disasters, pay attention to current events and understand what may happen, and follow the treatment methods prescribed by ISO 14001 (8-ES-B10) emergency response. In the event of a short-term disaster, all our factories follow the emergency response plan and environmental incident investigation to ensure that the damage to equipment is minimized and the safety of personnel is improved. Secondly, the damage of raw materials and inventory is evaluated, and the goal is to resume supply as soon as possible. With regard to long-term climate change, we will respond to potential climate risks by paying attention to relevant adjustment measures promulgated by the state, training by local authorities, and cooperating with industrial zone implementation measures.	
	Transformation risk	TGI is committed to product innovation and research and development of low-carbon products, and continuously improves the energy efficiency of the factories; for example, the promotion of clean production system evaluation certification and green building evaluation certification of Lukang Factory and Taoyuan Factory are all for early transformation. Low-carbon economy and society are prepared to respond to future changes in regulations and policies.	

CH3

Excellent Service Quality & Innovative Products

- 3.1 TGI Product
- 3.2 Product Quality
- 3.3 Research and Innovation
- 3.4 Customer Service
- 3.5 Sustainable Supply Chain

Achievements of Product Performance and Accountability in 2019

0 violations	No violations in the health and safety of products, labeling, and marketing regulations.
100%	100 % of flat glass products passed EU CE, US ANSI, Taiwan CNS and other relevant standards.
100%	Fiberglass products were 100% compliant with RoHS and REACH standards.
100%	100% of glass container products met Taiwan food container and packaging hygiene standards, and all factories met FSSC 22000 standard for environmental protection and food safety.
56.4%	The average recovery and reuse rate of glass container reached 56.4% and obtained the resource renewable green product certification of the Bureau of Industry.
-30%	Low-E products can reduce 30% of air conditioner usage and energy consumption.
-12.5%	Lightweight bottle technology reduces 12.5% of product weight and is 100% recyclable.
0 Complaints	TGI did not receive any complaint regarding client privacy violation or loss of client data in 2019.
14 Certifications	As for fiberglass as food contact material, 4 products passed FDA regulations. 8 passed EU 10/2011 and Germany's BfR certification for drinking water and 2 products met France's CAS requirements for drinking water.
88.4%	In 2019, the average satisfaction of all departments in customer surveys is 88.4%, 6% higher compared to last year.

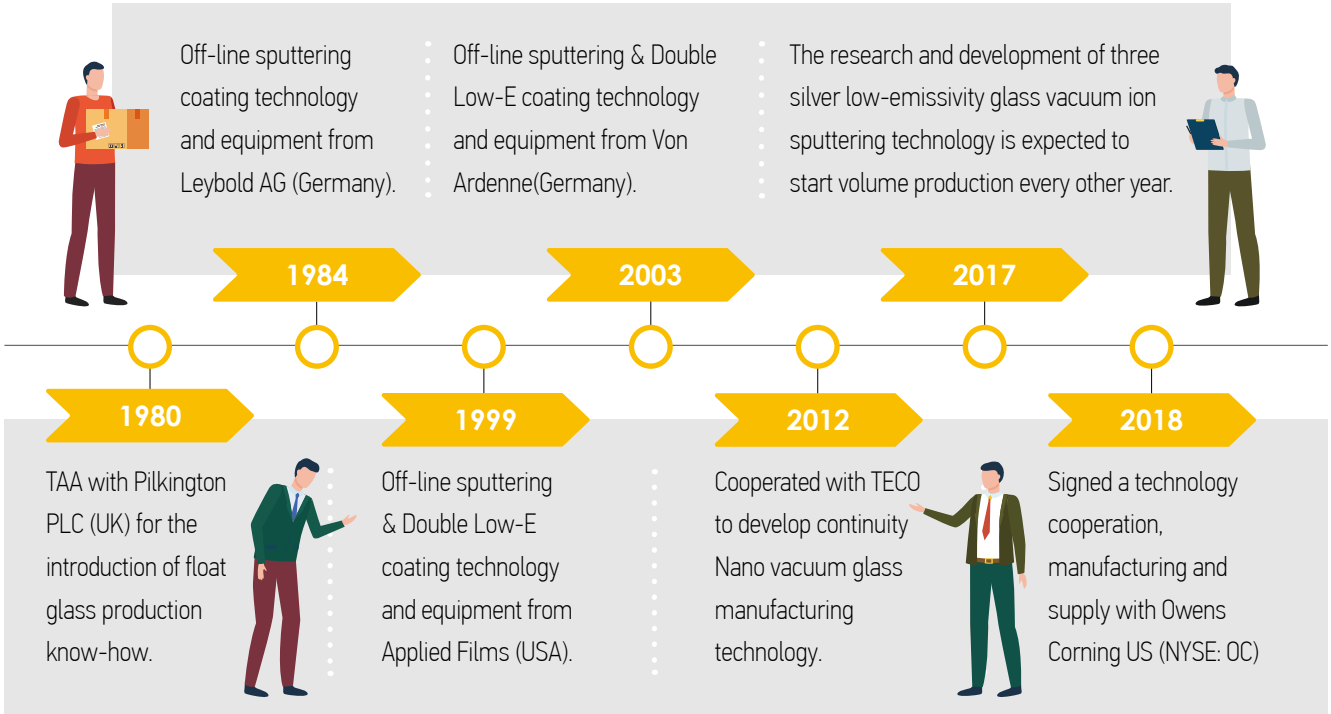
3.1 TGI Product

TGI's main products include flat glass, fiberglass, and glassware. We are also actively dedicated to the invention and production of new products in recent years. With production plants based in Taiwan and China, TGI's major markets reach Taiwan, China, Japan, Korea, North America, Middle East, Australia, Europe, South Africa and so forth. There was no violation of regulations related to product health & safety, labeling and marketing, and no product's sale was prohibited in 2019. TGI was not involved in any anti-competitive behavior, anti-trust and monopoly practices, or legal proceedings in 2019.

Flat Glass

TGI's flat glass has 100% passed the EU CE, US ANSI, Taiwan CNS and other relevant standards. In the production of the flat silver mirror, TGI uses an advanced lead-free copper process to avoid heavy metal pollution. TGI also actively promotes the hot-dip process to strengthen the glass. Even if it is broken, it will become small pieces to reduce harm. Laminated Glass has the PVB interlayer withstands penetration from an impact. Even if the glass cracks, splinters will adhere to the interlayer and not scatter. In comparison with other kinds of glass, laminated glass has a much higher strength to resist shock, burglary, burst, and bullets. Cladding, coating, vacuum and other energy-saving glass have more excellent thermal insulation so it can reduce the heat exchange of indoor and outdoor to save air conditioning usage , which indirectly reduces greenhouse gas emissions.

Technical Cooperation



Flat Glass Related Certification

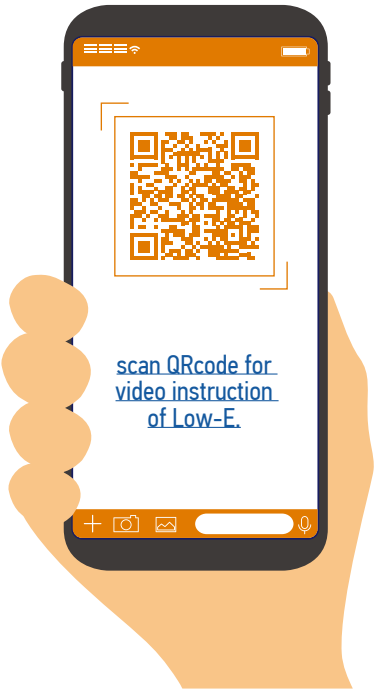
CE(EUR)	ANSI(USA)	CNS(TW)	ISO 9001	ISO 14001 / SGS	PASMARK	IGCC

Green Product – Low-E Flat Glass

The new generation of energy-saving Low-E glass products can effectively block the radiation from sunlight while allowing most sunlight to enter, which solves the problem of lighting and heat insulation. This product also significantly reduces energy consumption from air conditioners. TGI's Low-E glass products comply with CNS12681 standard and certified with ISO 9001 standard and IGCC. Currently, the product has been vastly used in buildings.

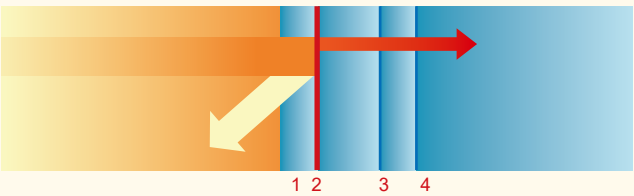
TGI adopts the most advanced coating technology to develop silver-free Low-E (JN88). Compared with ordinary Low-E coating, JN88 film structure no longer contains the characteristic material of general Low-E coating-metallic silver. Instead, the hard semiconductor nanomaterial film is used, which still maintains a very low surface emissivity. While having excellent thermal insulation performance, the film layer has high hardness, abrasion resistance, and oxidation resistance, which can be exposed to the air. There is no problem of oxidation and film deterioration. The birth of JN88 has increased the multiple applications of offline Low-E glass.

The use of JN88 on the interior surface can not only ensure the stability of product performance, but also significantly reduce the thermal conductivity of laminated glass and single glass, effectively reduce energy consumption, and improve the energy-saving effect and value of buildings. After adopting double Low-E cladding, the U value of the single-chamber cladding glass is close to that of the double-chamber cladding glass, which directly reduces the curtain wall glass cost, and also reduces the curtain wall's overall load on the building, lowering has significant benefits.



TGI's Information

(Sub)Tropical Zone

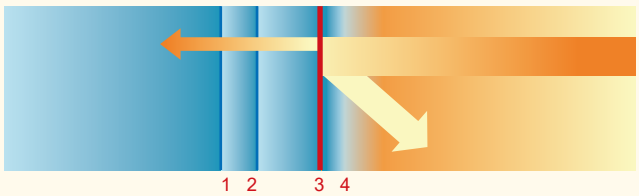


Outside 室外
Low-E glass(coating on surface #2)

Inside 室內
Clear or tinted glass

Assembly Sequence Suitable for (Sub) Tropical Zone Coating on surface #2：The heat is reradiated back outdoors, reducing the heat gain potential into the building interior.

(Frigid) Temperate Zone



Outside 室外
Clear or tinted glass

Inside 室內
Low-E glass(coating on surface #3)

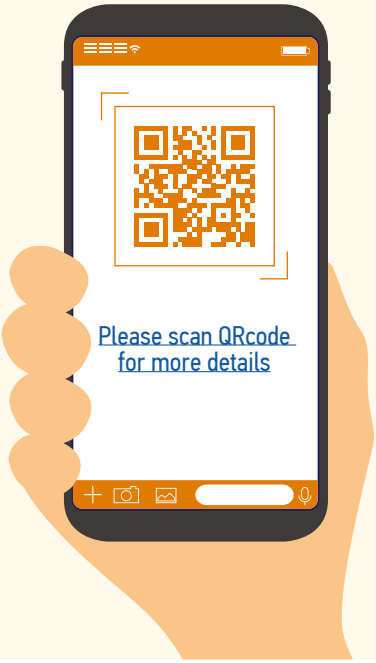
Assembly Sequence Suitable for (Frigid) Temperate Zone Coating on surface #3：Low-E insulating glass will reflect IR heat from inside the room to help reduce the energy loss.

What is Low-E Glass?

Low-E (Low-Emissivity) glass is the best building material to reduce heat from sunlight as it can deflect most ultraviolet and infrared radiation, preventing the indoor temperature from rising, conserving energy and reducing carbon emission.

Thermal radiation from the sun mainly contains ultraviolet, visible light and infrared radiation. Emissivity (ε value, the lower the value, the higher the effectiveness for heat insulation is) glass' ability to emit heat radiation from the sun.

Low-E glass utilizes its coating to block the heat radiation from the sun. According to China's Guobiao standards, only coated glass with emissivity (ε value) lower than 0.25 can be labeled as Low-E glass.



*Note Emissivity value: The value measures an object's ability to emit heat radiation after absorbing it. The higher the value, the higher the ability to absorb and emit heat; the lower the value, the lower the ability to absorb and emit heat, which means better heat insulation.

Fiberglass

Compared with metal support materials, fiberglass has excellent corrosion resistance and weather resistance, and at the same time has the advantages of low cost, high strength/weight ratio, and longer service life. According to the different weaving structure and characteristics of the glass fiber cloth, its products are very diverse and diversified, and it is also widely used for heat preservation, heat insulation, fire prevention, and material reinforcement.

TGI's fiberglass products all meet RoHS and REACH requirements. For food contact products, a total of 4 meet US FDA standards; 8 meet EU 10/2011 regulation and have Germany's BfR approval; 2 meet France's requirements for drinking water (CAS). The quality of our products meets CNS national standards. We print the CNS logos on labels according to different customer requirements. The packaging labels of fiberglass fabric and fiberglass yarn are marked with RoHS compliance logos.

With the advent of the 5G era in 2020, global information transmission has entered an era of high frequency and high speed. Printed circuit boards (PCB) for Netcom equipment must use Low DK materials to effectively meet the 5G high-frequency and high-speed performance requirements. Following the United States and Japan, TGI became the third manufacturer to successfully develop Low DK fiberglass cloth for high-end PCBs and has been certified by domestic and foreign terminal manufacturers to be used in 5G equipment.

Direct Roving | Conventional Roving | Woven Roving | Chopped Strand Mat | Chopped Strand

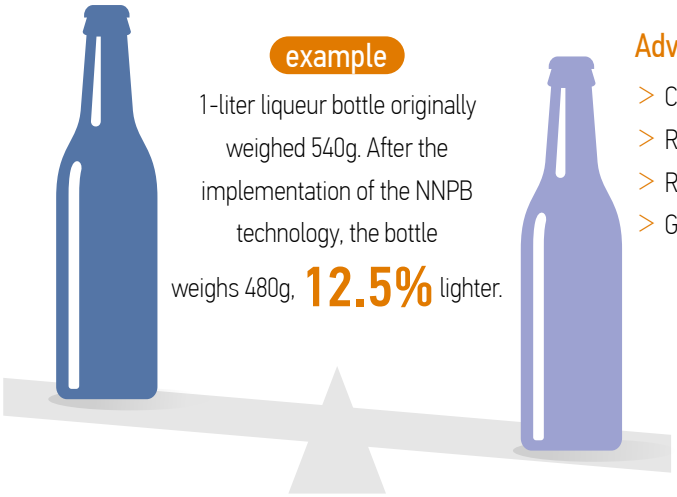
Glass Container, Tableware, and Kitchenware

Glass containers, with excellent transparency, showcase the real color of anything inside containers. Advantages such as easy sealing, long-time storage and suitableness for microwave heating make these containers a necessity for modern people. The manufacturing facility of the container, tableware, and kitchenware has received ISO9001 and FSSC 22000 certification. All products meet Taiwan's Sanitation Standard for Food Utensils, Containers and Packages. TGI can also provide products that meet RoHS and REACH standards based on clients' requests. For our heat-resistant products, all of our baby feeding bottles meet EU's latest EN 14350 standard. Coffee pots come with heat-resistant labeling upon clients' requests.

In 2019, we will make every effort to develop the high-price special-shaped bottles, and heat-resistant containers will continue to deepen the bottle market and expand new customers. TGI also established a recycling glass processing center to clean and reuse the recycled glass, and regularly send samples of SGS to verify the lead content. In addition, we scrapped the waste glass in the factory and also recycled it through metal detector inspection. Regarding the output and recycling part of customers' waste glass after sales, they will cooperate with Spring Pool Glass to recycle and sell the waste glass to the middle and downstream glass factories, clean and inspect with a metal detector to remove most of the stainless steel, aluminum, copper, tin, etc. Metal contaminants improve production quality. In 2019, the average recycling rate reached 56.4% and obtained the Renewable Green Product Certification from the Bereau of Industry.

Green Products - Glassware

TGI began acquiring German NNPB glass-blowing technology in 1983 in order to meet the needs of the market and enhance environmental protection. This technology produces attractive, lightweight bottles of uniform thickness. More recently, TGI has participated in technological cooperation with Germany's Heye-Glass Group, producing more than 200 million bottles per year. Lightweight bottles are the product of future trends in the glass container market. Besides helping customers cut production costs, lightweight bottles are environmentally friendly, as their production consumes fewer resources and energy. They are the future trend of glassware.



example

1-liter liqueur bottle originally weighed 540g. After the implementation of the NNPB technology, the bottle weighs 480g, **12.5%** lighter.

Advantages of Lightweight Bottle:

- Conserves raw materials use
- Reduces energy consumption
- Reduces clients' production costs
- Glass containers are 100% recyclable

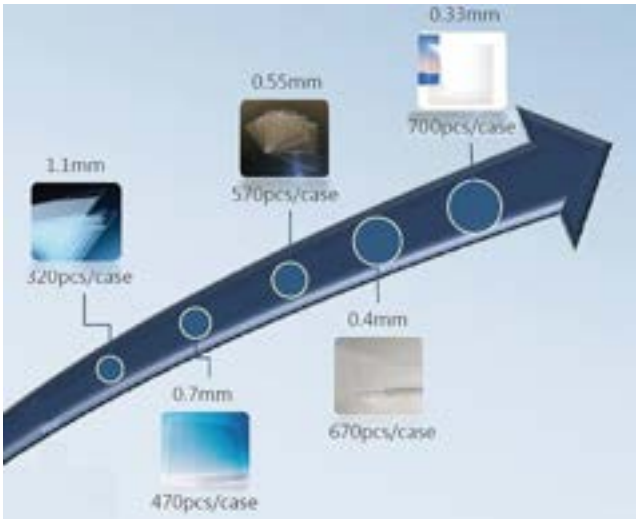
Our Private Brand-TG

TGI's technique to produce glass container and tableware has been able to compete with international recognized brands. Therefore, we established our private brand, TG. TG targeted the new audiences who pay attention to lifestyle. Besides, in order to create the brand image and build the products style, we invited Fukasawa Naoto, who is a Japanese artist of industrial design, to plan and design with the observation of Taiwanese culture. He merged the feelings such as "kindness", "mild"and "nature" into the design. TG has published 85 kinds of products. The varieties of products reach to 200. It has sold products includes water containers, coffee pots and drinking vessel since 2019 and is also injecting new ideas into Taiwan's life aesthetics. TGI hope the new brand could extend into global markets with its base in Taiwan.

TG

Ultra-Thin Glass

The TGI Taichung Factory is a newly established production line for Ultra-thin touch glass. Introducing the installations of Computerized Automated Production Management System, cleanroom and mechanical arms for collecting glass panes, this line started production in November 2014 with mass production for 0.33~1.1mm glass. The 0.55~0.11 glass could be used for ITO touch panels and the 0.33~0.4mm glass could be used as a screen protector for 3C products. All of the products undergo strict inspections before shipment, supplying major electronic manufacturers with high quality products at home and abroad to produce consumer electronic goods.



3.2 Product Quality

To achieve economic prosperity and growth, sustainable living environment and social prosperity, reduce the incidence of risk and its impact, TGI actively introduced systems of product quality, product safety, ESH, transportation security and risk management. Certifications for TGI's factories are listed below:

Certification/ Factory	Headquarter	Taoyuan Factory	Hsinchu Factory	Taichung Factory	Lukang Factory	Lukang Flat Glass Factory	Changpin Factory
AEO	■	■	■	■	■	■	■
ISO 9001		■	■	■	■	■	■
ISO 14001		■	■	■	■	■	■
ISO 14064-1		■	■	■	■	■	
ISO 50001		■	■	■		■	
ISO/IATF16949		■					
FSSC 22000			■				
ISO 45001			■				

Note: ■ refers to the factory has the corresponding certificate

TG's policy of promoting excellent products and services

Three lines of defense for product safety

Quality System

- All factories have passed ISO 9001 quality management system certification

Flat Glass

- BSMI Orthographic mark
- MOI Green Building Material Mark
- Australian CSi safety glass certification
- American IGCC double-layer glass certification
- Taoyuan Factory ISO16949 Automotive Industry Quality Management System
- Changbin Plant passed the US SGCC strengthened glass, laminated glass and IGCC double-layer glass certification

Fiber glass

- Norway DNV, Germany GL certification

Product Health and Safety System

- Hsinchu Factory continues to pass FSSC 22000 food safety management system certification
- Taoyuan Factory obtained Lloyd's Register Shipbuilding Safety Certification
- Taoyuan Factory obtained TZW Food Container Manufacturing Safety Certification

Product Transportation Security System

- As a good import and export manufacturer, it has obtained the certification issued by the International Trade Bureau since 2014, and has obtained practical convenience for customs clearance.
- AEO Safety Certified Quality Enterprise
- The supply chain safety accredited by the Ministry of Finance

Double way of corporate sustainability

Environment, safety, health system

- All factories have passed ISO 14001 environmental management system certification
- All factories (except Changbin Plant) have passed ISO14064-1 organization greenhouse gas emission inventory certification
- Hsinchu factory passed ISO45001 occupational safety and health management system certification
- Actively import the latest version of the ISO system and continue to pass certification
- Hire a British industrial safety consultant to improve workplace safety

Energy Management System

- Taichung, Taoyuan, Hsinchu and Lukang Flat Glass factories have all passed the ISO50001 energy management system certification, and continue to improve every year.

For more actions of Taiwan Glass's environmental protection and workplace safety, please see Chapters 4 and 5.

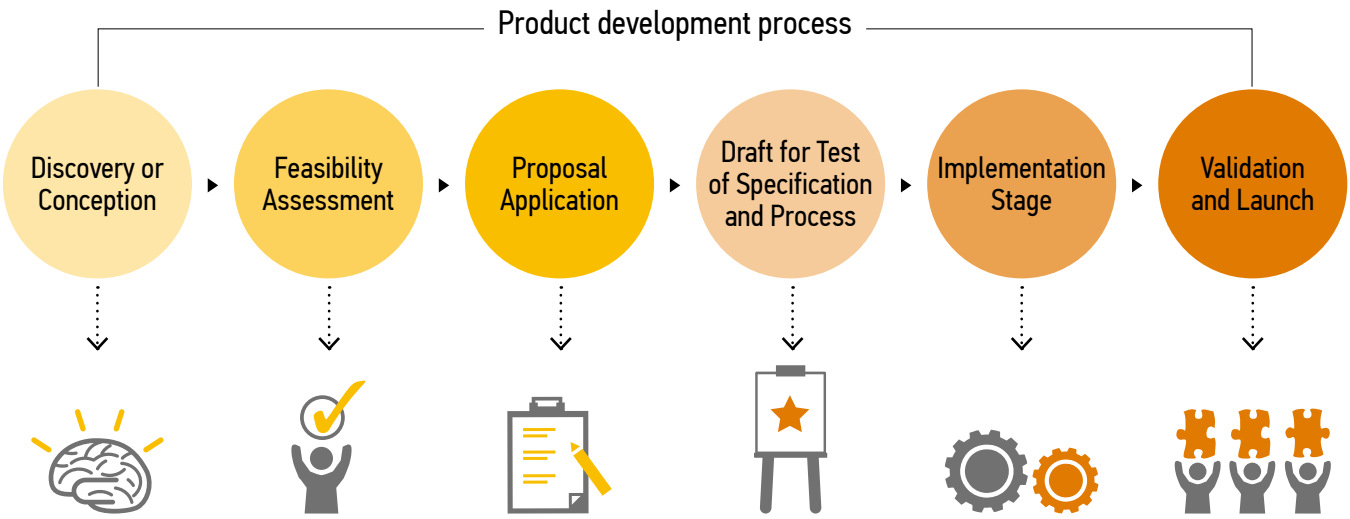
3.3 Research and Innovation

In order to strengthen innovation and R&D capabilities, in addition to developing its research and development technologies and equipment, TGI combines external R&D capabilities and resources, such as the cooperation with foreign R&D companies to develop high-aluminum glass to enhance its physical and chemical properties, while also inviting foreign technicians to our factories to teach and introduce new production technologies to us. TGI also cooperated with China University of Science and Technology, Southen Taiwan University of Science and Technology, and Plastics Industry Development Center to research the application program of thermoplastic fiber composite materials.

In 2019, TGI continued to upgrade its core technology and R&D capabilities. The key results are as follows:

1. The main Changpin Processing plant has been built and Low-E with high performance and vacuum glass and varieties of processing equipment started mass production. This makes the processed glass a more refined and competitive advantage in diversification.
2. TGI Group and Mainland China continuously search for TCO glass, Ultra-Thin Glass and Vacuum Glass techniques, equipment and plant building plans to meet the changes and needs in global markets.
3. The manufacturing technology of Vacuum Glass is mature and Vacuum Glass can be futher applied to Low-E Vacuum Glass, by combining Vacuum Glass with Low-E Glass.
4. Silver-free Low-E Glass was successfully made by coating technology. The coating uses a hard semiconductor nano coating to maintain a very low surface emissivity. While having excellent thermal insulation performance, it retains high hardness, wear-resistance and anti-oxidation.
5. We successfully breakthrough and develop low-DK (low-dielectric) fiberglass for high-end PCBs, to effectively meet the 5G high-speed performance requirements, and will be able to consolidate our position in the market and create value.
6. The quality of heat-resistant baby feeding bottles and laboratory bottles is steadily growing.
7. Ultra-Thin Glass has started produciton and the thickness of 1.8mm~0.33mm was made to use as cover plates for electronic products and glass screen protectors.
8. More than 200 of the TG life utensils have almost obtained product patents and are sold in physical stores and on ecommerce platforms.
9. Through technical upgrade and equipment replacement in 2019, the output of all products has increased.

To motivate employees to actively provide opinions on production technology, quality, environmental protection, safety, or business administration, TGI provides a bonus for proposal improvement suggestions. For major research and development program, TGI will award project members bonuses as encouragement based on the research contribution and achievements. These improve employee identification and solidarity, reduce costs, upgrade the working environment, and enhance productivity and quality standards. Special contributions to the production technology or business management are rewarded by giving credit.



3.4 Customer Service

Customer Service Management Policy

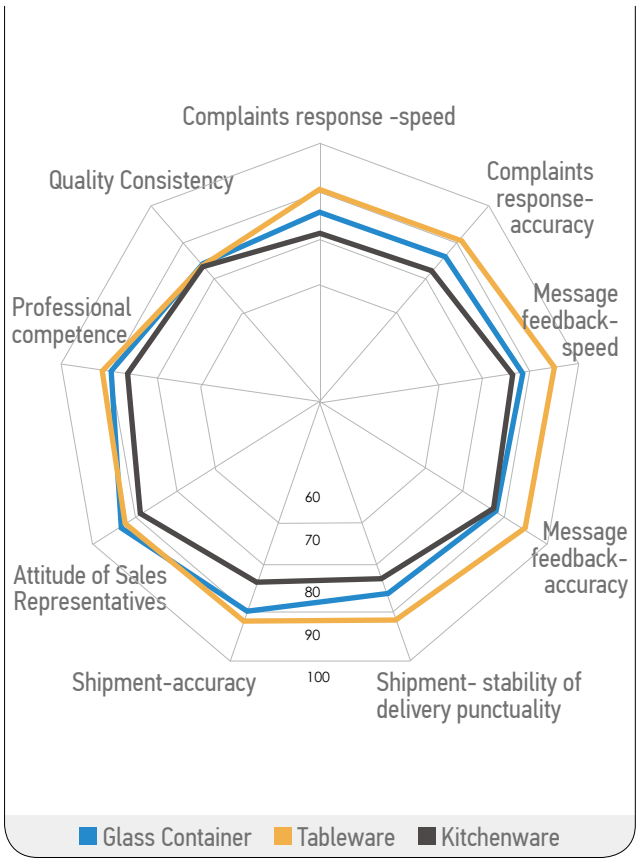
For more than 50 years of operation, TGI has attached great importance to the opinions of its customers. For each service, we are committed to enhancing the trust and satisfaction of our customers, hoping to create a professional image. We are convinced that trust and satisfaction are based on good products and quality. Therefore, TGI commits to and proposes related policies for new materials, flatglass, containers and fiberglass business, including establishing customer interaction channels, improving production conditions, strengthening education and training, measuring customer satisfaction, etc. to maintain market competitiveness and customers' support.

TGI regularly implements a "Customer Satisfaction Survey" every six months or year. The content covers 7 topics, which are "complaints response speed", " message feedback - correctness", " message feedback - promptness", " attitude of sales representatives", "ability to meet rush order needs", "professional competence" and "quality consistency". Based on customer responses, the indicators are reviewed and analyzed for follow-up meetings about improvement measures and implementation issues raised in customer feedbacks. In 2019, we also implemented a "Customer Satisfaction Survey". The average customer satisfaction in 2019 is 88.4%, which is 6% better than that of 2018. TGI will keep working hard to maintain this positive feedback.

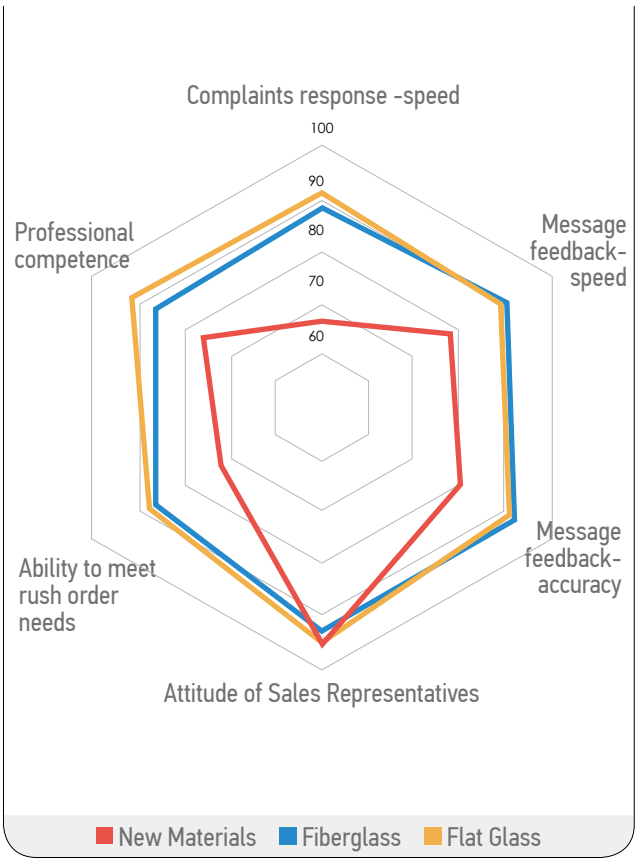
Customer Satisfaction Survey

In 2019, customer satisfaction averaged more than 88% across various TGI departments (New Material Business Division is added to the survey scope in 2019). Each department will make improvements for the service failures and strengthen communication with customers, and expect to improve customer satisfaction in 2020.

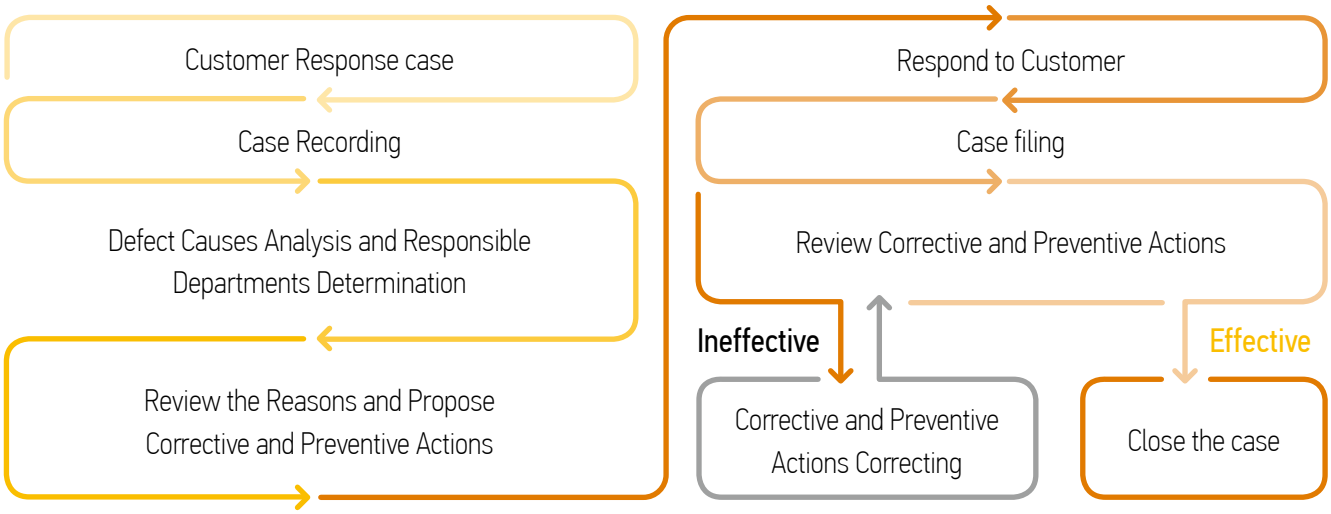
Analysis of 2019 Customer Satisfaction



Analysis of 2019 Customer Satisfaction



Customer Response Process



Protecting Confidential Customer Information

To practice personal data security management, TGI enacts "Personal Data Protection and Management Approach" in compliance with "Personal Data Protection Act". We provide new staff education and training in personal data protection to strengthen awareness. Every six months, staff from each department will be assigned to education and training of personal data protection. This is to reduce possible legal risks for the company and employees, protect the interests of customers and enhance colleagues' handling capability of information security.

Taiwan Glass also organized "Corporate Anti-Corruption, Business Secrets and Personal Information Security Class" to strengthen the company's corporate culture of maintaining security.

In addition, we are also committed to protecting customers' confidential information. To prevent data leakage, our information equipment has strict access control, and all employees are required to protect customers' confidential and proprietary information carefully and prevent illegal collection of clients' proprietary information. TGI provides information security training for its staff regularly and urges the staff to lock their computers with passwords, in compliance with Item 3 of Article 11 of Regulations Governing the Certification and Management of the Authorized Economic Operators. In 2019, TGI did not receive any complaints regarding client privacy violations or loss of client data.

Information Security Seminar

Customer Relation Management and External Exhibition

To establish face-to-face communications with our clients, each department also regularly visit customers, or participates in exhibitions: Flat Glass Business regularly attends Taiwan and Germany Building Materials Exhibition; Fiberglass Business participated in China Composites Expo, France JEC exhibition, Container & Tableware Glass Business took part in the Hong Kong Housewares exhibition and infant supplies exhibition in Shanghai; New Material Business joined C-TOUCH & DISPLAY in Shenzhen.

C-TOUCH & DISPLAY mainly exhibited transformational products, including double-sided coating and shadowing ITO Glass, doubled-sided reflectiveness AR Glass, and translucent semi-reflective glass, etc. We keep improving our technology capacity and obtain the high-end skill. TGI is now focusing on the development of ITO Glass and striving to stabilize the ITO market at present.

Exhibitions Attending in 2019

Fiber Glass – China Composites Expo

Fiber Glass – JEC Exhibition

Flat Glass – 2019 Building Materials Exhibition

New Materials - C-TOUCH & Display

3.5 Sustainable Supply Chain

Purchasing Policy

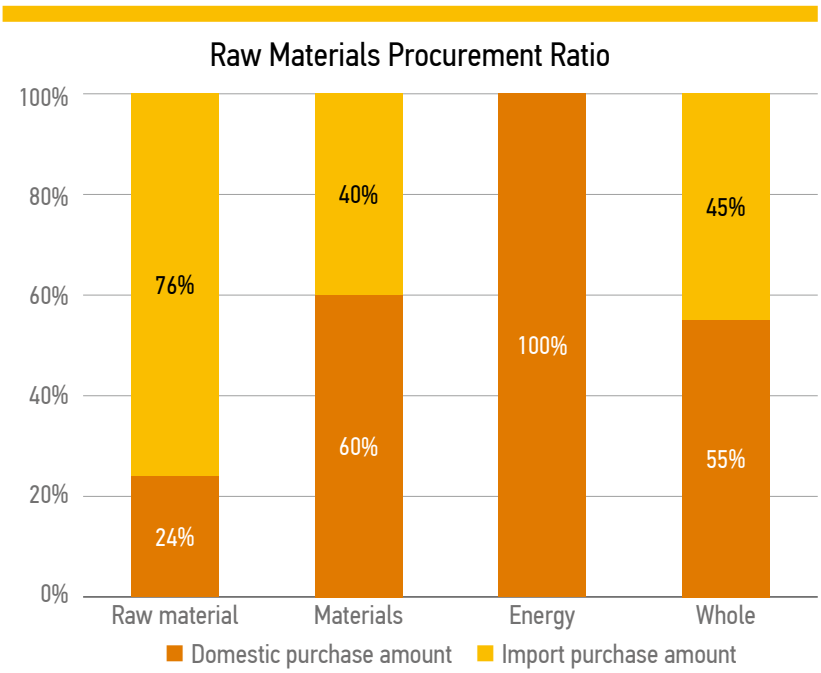
Purchasing Policy & Supply Chain Social Responsibility Management

Since 2018, an open procurement tender information has been published on the official website of TGI. Besides, TGI implements a fair, just and transparent procurement policy to supply our factories with materials with acceptable quality, reasonable prices, and such materials are also low polluting, do not contribute to public hazards and compromise the supply chain's safety. Every quarter TGI evaluates the prices, delivery punctuality, and quality of suppliers that might affect our product quality for the reference of future procurements.

As TGI is the supplier of glass processing products companies, it is also part of its supply chain. Therefore, TGI evaluates and manages suppliers' environmental management, labor affairs, human rights assessment, social impact, and product liability impacts. The supplier is required to issue a statement prohibiting the employment of child labor, promising not to employ child labor and complying with its relevant regulations.

The supplier is one of the most important partners for the sustainable management of TGI. TGI is committed to enhancing the overall level of the supply chain in line with international standards. We hope to cooperate with suppliers to create a win-win situation and to enhance the sustainable development of society together.

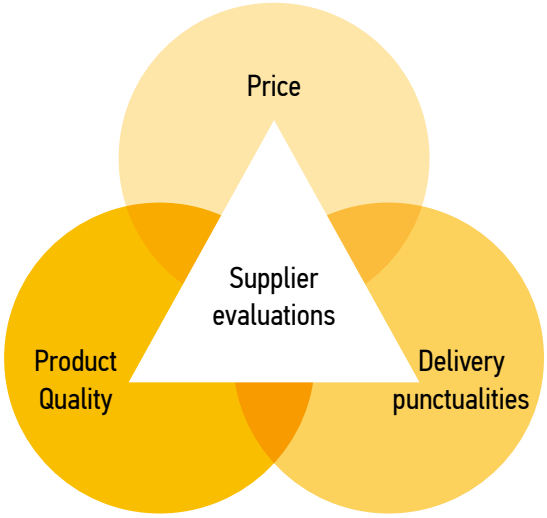
In 2019, TGI worked with a total of 1,952 suppliers in Taiwan and 262suppliers from overseas. TGI mainly works with local suppliers in Taiwan. Currently, the limestone and dolomite used in the factories come from Hualien. Other major materials (silica sand, sodium carbonate, and kaolinite) are imported since Taiwan does not have mines for such minerals. Except premium diesel (from Formosa Petro), TGI purchases fuel oil, natural gas and LPG from CPC Corporation. Electricity is 100% supplied by Taiwan Power Company. This can create job opportunities, boost regional economic developments, conserve energy consumption in transportations and enhance the suppliers' quality, green awareness and skills.



Suppliers / Sub-contractors Qualified Job Evaluation and Audit

Each quarter, Taiwan Glass uses supplier evaluation form to evaluate the prices, punctualities, and qualities of suppliers that might affect our product quality. The result serves as a reference for future procurements.

For supplier evaluations, our procurement units evaluate the suppliers' prices; material units evaluate the suppliers' punctuality and the quality assurance units evaluate the suppliers' product quality. The evaluation results are recorded for reference for future procurements.



The performance of suppliers in 2019 is excellent，

98% of them are in A class , and 2% of them in B class

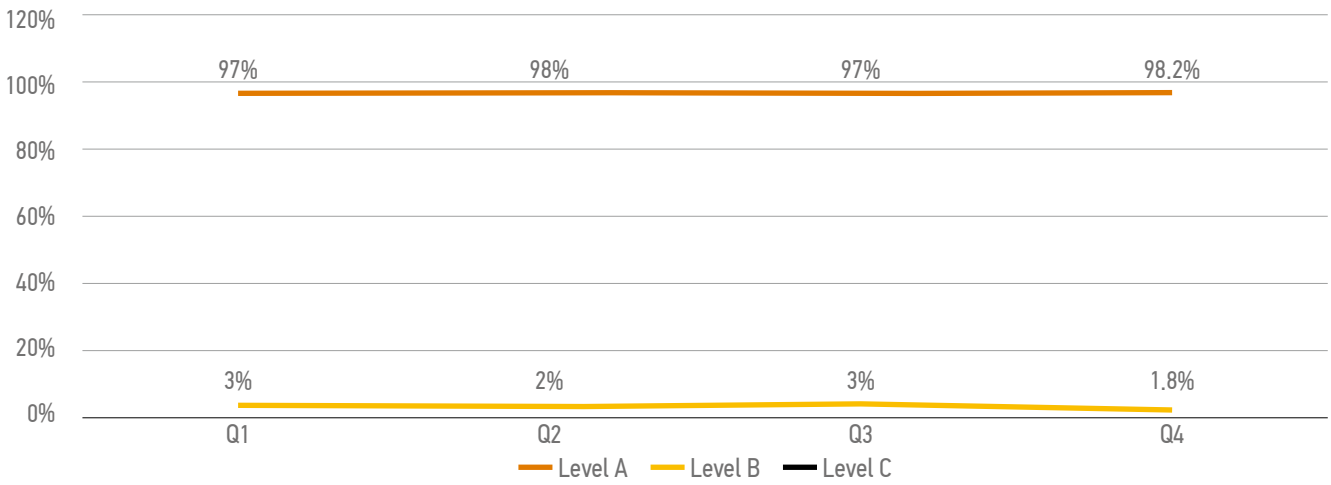
Our procurement staff uses the evaluation results above to calculate and produce run charts every quarter. They analyze and compare the data every 6 months and conduct in-depth analysis once a problematic trend is discovered in order to solve the problems or confirm the feasibility or effectiveness of our procurement system. TGI evaluates its suppliers each quarter to make sure that our suppliers meet our requirements and maintain a long-term and quality cooperation with quality suppliers. In 2019, there is no C-class supplier, which meets TGI's requirements. Manufacturers are required to provide high-quality material only and do so punctually.

We categorize our suppliers as A, B and C classes.

Class A	Class B	Class C
Continue cooperation	Acceptable	Teerminate
≧ 90 points	70-89 points	<69 points

2019 TGI Suppliers Assessment

Number of Suppliers Evaluated Every Quarter					Number of Suppliers Evaluated Every Quarter				
	1Q	2Q	3Q	4Q		1Q	2Q	3Q	4Q
Level A	170	165	155	160	Level A	97%	98%	97%	98.2%
Level B	5	3	4	3	Level B	3%	2%	3%	1.8%
Level C	0	0	0	0	Level C	0%	0%	0%	0%
Total	175	168	159	163					



Evaluation Details

Evaluation Schedule:

> Annual evaluations are conducted at the end of every December and are completed by the 20th of the following month.

> Quarterly evaluations are conducted every March, June, September, and December and completed before the 15th of the following months.

Quality assurance units (and the units that use the materials) are responsible for evaluating quality items; units that submit purchase requisitions or the material units are responsible for evaluating the delivery; procurement units are responsible for evaluating prices and calculating the total numbers in the surveys. Quarterly evaluations will be reported to the Chairman or President of the Company.

Supply Chain CSR Management

In addition to the management of existing suppliers, TGI also extends the concept of sustainable development to the supply chain. We introduced the "Supply Chain CSR Management Evaluation" in 2015, assessing the environmental impact, labor conditions, human rights, social impact and product liabilities of part of the new suppliers and current suppliers. The evaluation aims to encourage our suppliers to improve their methods and fulfill their corporate social responsibility voluntarily

CSR Evaluation Analysis

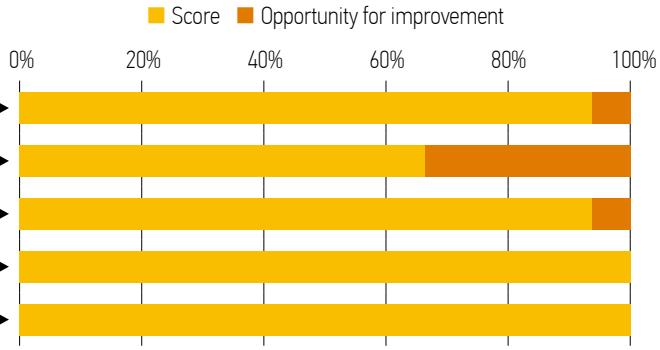
TGI evaluated the suppliers' corporate social responsibility, analyzed the overall scores from all aspects, and implemented questionnaires in the form of information disclosure as a basis for the evaluation of our suppliers' CSR results. Questionnaires were collected from 16 suppliers. The results indicated 69% of the suppliers as excellent, qualified suppliers were about 31% and 0% of the suppliers needed to improve.

From the results, the control of the environment and human rights-oriented should be stressed further. In the future, TGI will review the score and analysis methods and continue tracking the progress of improvement. The analysis results are as follows:

Aspect ratios of suppliers

Aspect	Score	Opportunity for improvement	Total Score
Environment (EN)	91.67%	8.33%	100%
Labour (LA)	65.48%	34.52%	100%
Human Rights (HR)	93.75%	6.25%	100%
Social aspect (SO)	100%	0%	100%
Product (PR)	100%	0%	100%

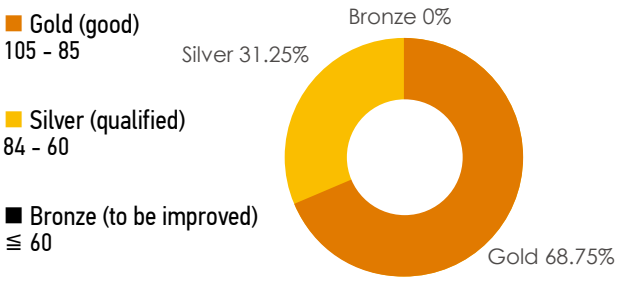
Aspect scores for information disclosure of suppliers



Score analysis for the 16 suppliers Analysis

Classification	Score	Number of suppliers	Percentage
Gold (good)	105~85	11	68.75%
Silver (qualified)	84~60	5	31.25%
Bronze (to be improved)	<60	0	0.00%
total		16	100%

Analysis of supplier evaluation result



TGI is also the supplier of glass processing products of international brands. The code of conducts of the supply chain from customers is included in key management issue. For example, Flat Glass produced by Taichung Factory was sold to Taiwan Mirror Glass Enterprise LTD, the dealer taking orders of IKEA, in2016. TGI issued a statement of prohibition for child labor in response to the request of human rights from IKEA and we were committed to not employing child labor and complying with relevant regulations.

Guildeline for suppliers protecting labors under 18 and supporting their employment(IWAY)

TGI complies with IWAY

Environmental Sub-contractor Qualifications and Evaluations

Every year TGI environmental subcontractor evaluation form to evaluate these subcontractors. During the evaluation cycles, if a subcontractor commits a severe violation of any environmental, labor safety and health regulations, it will be reported to the chairman or president and the said contractor will be disqualified as a TGI contractor. Based on TGI's requirements, subcontractors should have necessary licenses/certifications or receive training in order to have smooth cooperation with TGI.

During the initial contract signing, the factory affairs representatives from all factories will head to the environmental subcontractors' facilities to understand how they operate and their working environments. The representatives will verify their licenses and ensure that the waste-collecting and disposal process is intact and sign the 3-way contract afterward.

Environmental subcontractor evaluation form

CH4 Sustainable Operation

- 4.1 Sustainable Environment Strategy
- 4.2 Sustainable Resource Management
- 4.3 Green Production & Management

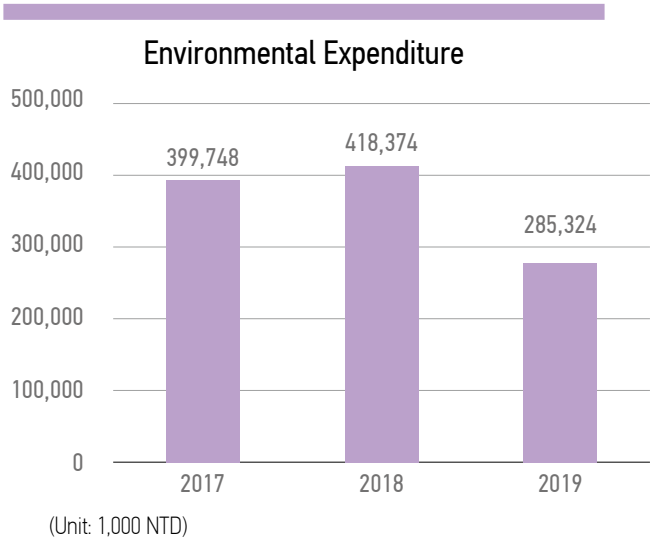
TGI is aware of the importance of environmental protection and the sustainable development. We encourage the implementation of energy and water saving strategies across TGI factories every year. Also, in order to reach the environmental symbiotic and the sustainability principle, we manage the sustainable resource through good management modes.

Green Production Achievements in 2019

290 million	In 2019, we invested a total of 290 million in the plan to promote environmental policy.	-27.15%	Greenhouse gas emission of Taoyuan Factory decreased by 27.15% in 2019.
180,000 tons	Recycled 180,000 tons of scrap glass in 2019.	-10.43%	In 2019, the average SOx of TGI decreased by 10.43% compared with 2018.
-20.91%	Water consumption in Taoyuan Factory in 2019 is 20.91% lower than that in 2018.	-12.4%	In 2019, the wastewater discharge from the Taoyuan Factory decreased by 12.4%
10.76%	In 2019, the water recycling capacity of Changpin Factory increased by 10.76% compared with 2018, which has reached 51,000 m^3.		
0.93 million kwH	By improving the energy efficiency of various types of equipment and processes, such as fan motors and aeration machine, the plants can save approximately 0.93 million kWh throughout the year.		

4.1 Sustainable Environment Strategy

In 2019, TGI spent more than 280 million NTD on environmental protection expenditures. We continue to invest in equipment, regardless of deficit or profitability of the year, to improve energy or reduce pollution. We also invest in environmentally relevant management systems and conduct environmental education and training for relevant personnel to achieve compliance with environmental regulations, environmental pollution and sustainable environmental management.



Climate Change Policy

Faced with the impact and challenges of climate change, Taiwan Glass believes that enterprises should bear the responsibility of mitigating environmental impacts. We uphold the ethics and awareness of environmental protection, actively invest in protective measures, and invite supply chain to join our initiatives. TGI's Factories (Taoyuan, Hsinchu, Taichung, Lukang, Lukang flat glass, and Changpin Factories) operates with sustainable development of the environment in mind, and the top priority of our production and products is not to cause major impact on the local ecological environment.

Climate Action

Response to water shortage	All factories have implemented water conservation projects.
Recycle scrap glass	The use of crushed glass theory for the heat of fusion only requires about 50% of raw materials, which can effectively save energy and reduce the GHG emissions.
Energy conservation and carbon reduction	TGI constantly takes inventory of greenhouse gas emissions at all factories to understand the actual situation and take measures to reduce emissions accordingly. By continuing reducing our energy consumption in manufacturing, we are able to lower our energy consumption intensity. Taoyuan, Hsinchu and Taichung Factory continue to verify the energy management system and set carbon reduction targets every year to improve energy efficiency. Other factories have also proposed serval advanced measures to ensure TGI's sustainable development goals.
Energy-saving products	We continue to develop and manufacture Low-E glass and vacuum insulated glass. And the use of materials in the process of product packaging, shipping and recycling can be minimized, such as the use of product labels and pallets.
Green procurement	Taiwan Glass conducts priority procurement of energy-saving products.

Environmental Input and Output

Raw Materials (Tons)

Silica Sand
288,768

Dolomite
67,768

Limestone
42,288

Sodium Carbonate
72,616

Cullet
185,204
including those purchased from external sources

Kaolinite
27,686

Calcium borate
4,763

Energy Consumption:

Heavy Crude Oil	Diesel	Natural Gas	LPG	Electricity	Water Consumption
97,558	762,650	43,270,529	9,000	523,599,725	2,030,534
Kl	L	M^3	Kg	KWh	tons

Production capacity

Flat Glass
274,941
tons

Fiberglass
58,506
tons

Glass Containers
147,605
tons

Greenhouse Gas Emissions

Scope 1	Scope 2
468,948	279,079
tons CO_2e	tons CO_2e

Air Pollutants Emissions

NOx	SOx	VOCs	Particulate pollutants
950,107	396,592	87,363	76,115
Kg	Kg	Kg	Kg

Processing Waste

Unwound Yarn	Sludge	Garbage	Wastepaper	Scrap Iron	Waste wood	Reclaimed water
14,964	2,372	656	614	291	205	1,410,199
tons	tons	tons	tons	tons	tons	tons

Solution

Recycle	Heat treatment or Curing	Incineration	Recycle or Incineration	Recycle	Recycle	Reclaimed water
						13,290,267 tons

Compliance with Environmental Regulations

TGI believes in honesty and hard work and always complies with governmental regulations. Under the"environmental protection and occupational safety first" principle, TGI pursues the objective of "zero pollution and occupational hazards" by complying with the government's environmental protection policies while ensuring occupational safety to fully fulfill the company's corporate social responsibilities. In 2019, the number of violations of various factories and districts dropped significantly compared with 2018, and they all improved immediately. There are no major leakage and environmental impact appeal cases. The environmental compliance status of each factory area is as follows:

Taoyuan Factory

The sewage and sewer management center of Guanyin Industrial Zone audited the factory and found that there was wastewater silt beside the rainwater ditch of the waste silk field, and was deposited into the rainwater ditch.

Fine 36,000 NTD

The cement in the wastewater pipeline has cracks. When the water level is too high, the wastewater will leak to the groundwater body outside the rainwater ditch continuous flow plant.

Not being fined yet

Improvements

1. Employ of Taoyuan factory removes sewage on the road and clear water in rain gutters Immediately.
2. The factory heightened the fence at the waste silk field, and a protection cover is added to prevent overflow and rainwater from flowing into the sewage ditch.
3. Employ of Taoyuan factory removes sludge and unblock pre-buried pipelines to avoid overflow caused by clogging continuously.

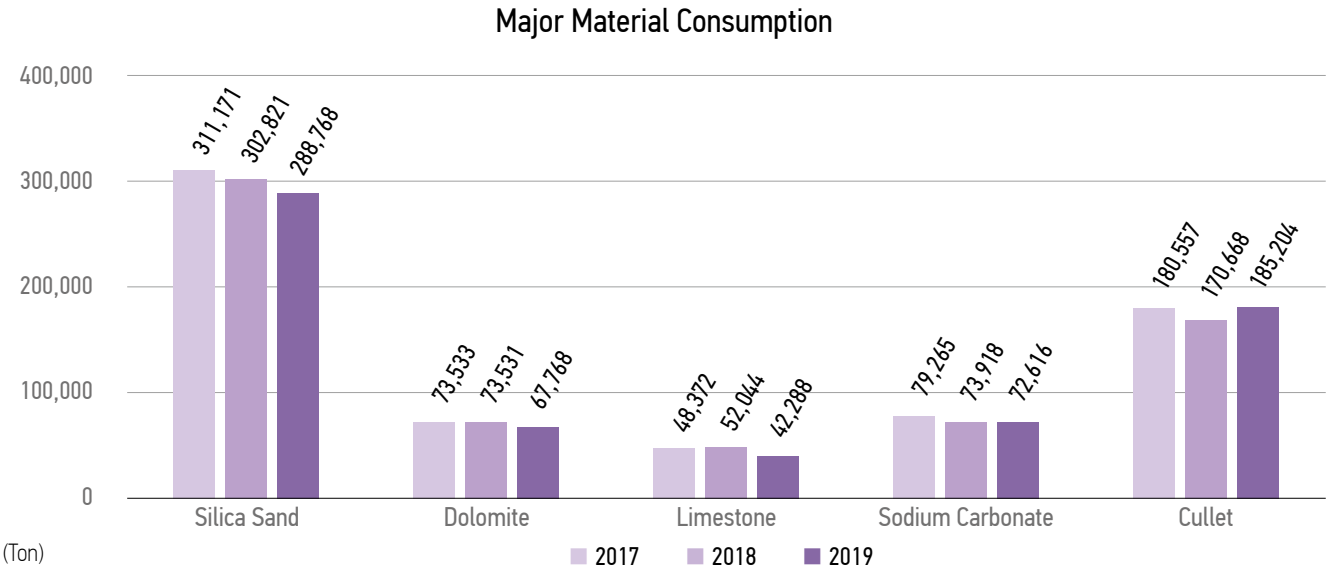
1.The factory excavates the pavement and confirms the overflow location.
2. Reinforcement is carried out against the overflow.

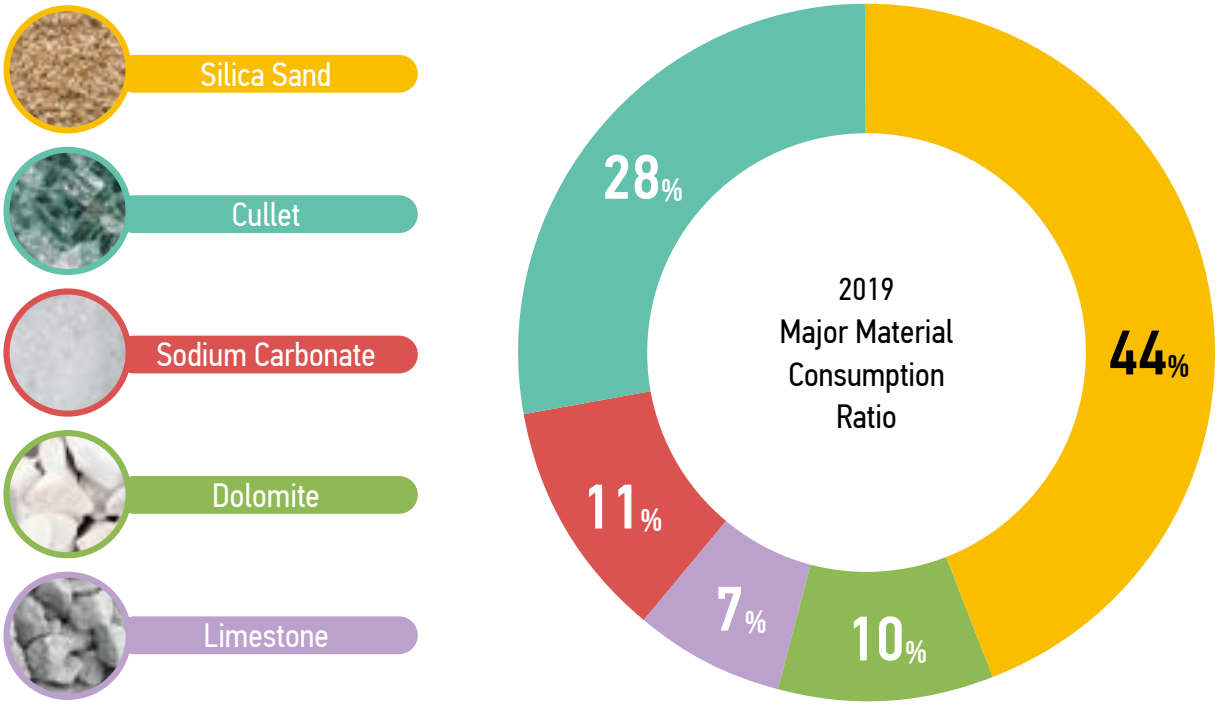
4.2 Sustainable Resource Management

Raw Material Management

TGI's main products include flat glass, fiberglass, and glassware. The major materials used in production include silica sand, limestone, dolomite, soda ash and recycled scrap glass (cullet). In 2019, TGI used approximately 288,000 tons of silica sand, more than any other material. The consumption of these materials is listed below:

※Note: Other material including kaolin, colemanite, and nepheline was only used in an insignificant amount and therefore was not listed above.





Recycle of Waste Glass

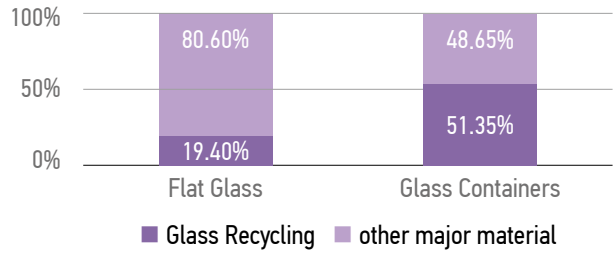
Glass is highly recyclable. Thanks to this feature, in the future government and the society certainly will support the use of glass as packing material due to environmental concerns. TGI's flat glass factories use recycled scrap glass in production.

TGI's container factory recycles its blemished and scraped products, which reduces the consumption of ore and the environmental impact. Recycle yards recycle scrapped glass products and ship them to the Hsinchu Factory. These recycled products will be selected, washed, smashed and screened before being used as raw materials for production. Recycling reduces waste and consumption of ore, which benefits the environment. A scraped glass is not considered as waste in the glass industry. Instead, it is the material needed for production. Glass containers are the type of product most consumers are familiar with and the most demanded product in the glass industry. Therefore adding scraped glass into the molten glass is both beneficial environmentally and economically. In addition to recycling scrap glass, TGI also recycles all the reusable packaging material in the production process; Not only does this reduces cost, but it also reduces our environmental impact and fulfills our corporate social responsibilities.

Waste Glass Consumption Ratio Unit：%

Year/Product	Flat glass	Glass container
2017	18.54%	49.28%
2018	16.54%	50.03%
2019	19.40%	51.35%

Ratio of Scrap Glass Recycling



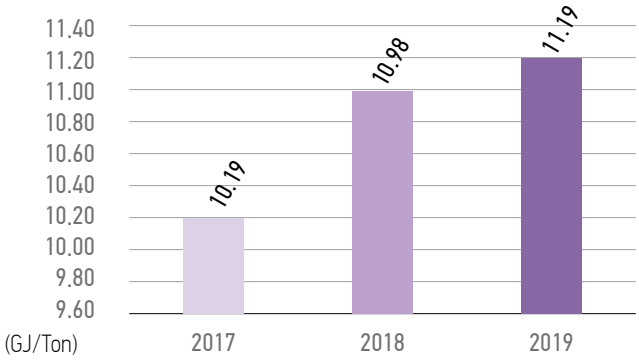
Energy Management

Each TGI's factory improves its energy efficiency in the production of glass, through a furnace heat storage exchange chamber and the best available control technology, with energy-saving kiln oxyfuel specific measures to reduce the operating costs in terms of environmental impact. Various types of energy consumptions are as follows:

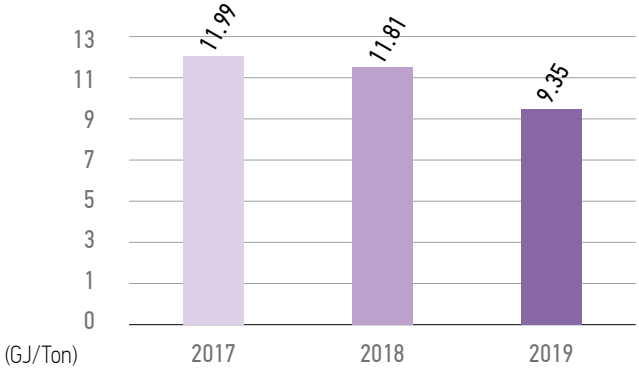
Various energy consumptions (by year)

Year/ Energy		Heavy crude oil (KL)	Diesel(Liter)	Natural gas (M^3)	Liquefied petroleum gas (KG)	Electricity(kWh)
2017	Total	105,765	924,907	36,602,945	58,943	539,830,818
	Calorific value (GJ)	4,250,229	32,522	1,225,759	2,977	1,943,369
2018	Total	104,191	746,901	42,313,241	50,997	566,014,106
	Calorific value (GJ)	4,186,968	26,263	1,416,986	2,575	2,037,628
2019	Total	97,558	762,650	43,270,529	9,000	523,599,725
	Calorific value (GJ)	3,920,409	26,817	1,449,043	454	1,884,938

Flat glass energy consumption intensity



Glass container energy consumption intensity



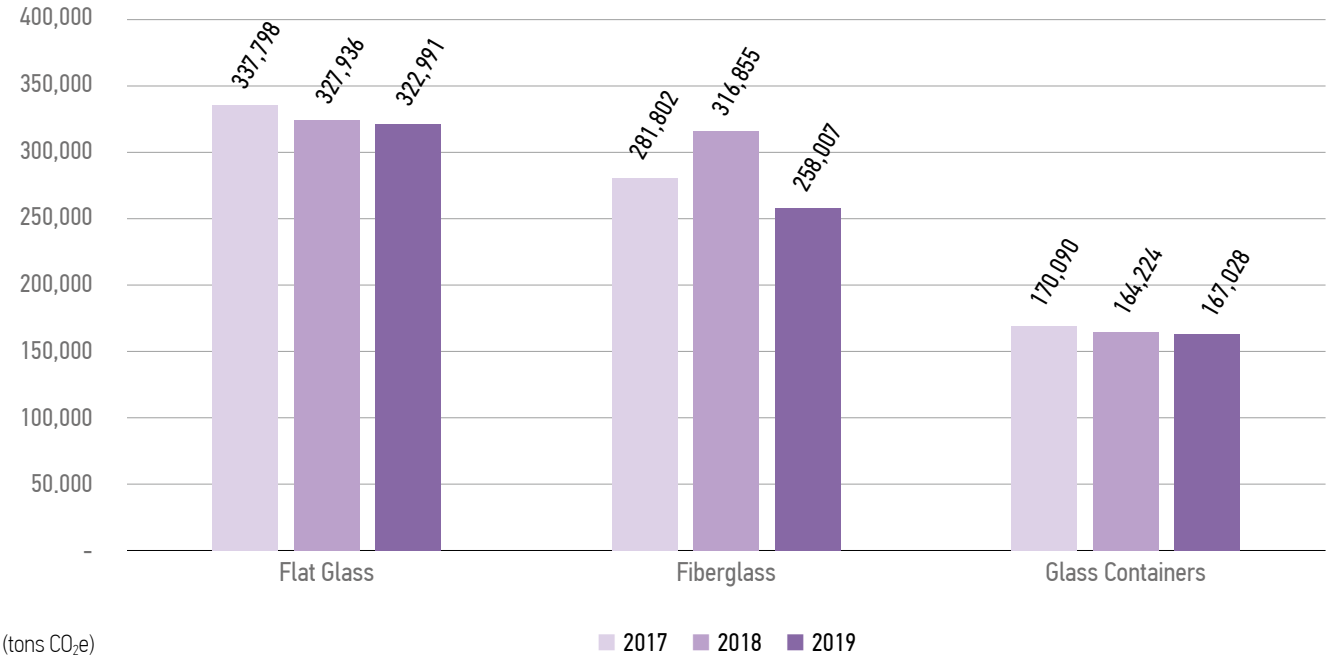
Greenhouse Gas Management

Greenhouse Gas Assessment Policy

Every member of TGI is contributing to energy conservation, carbon reduction, and greenhouse gas emission reduction. We also promote the awareness of green production and trace the carbon emission amounts regularly.

TGI's greenhouse gas emissions can be divided into two categories: direct and indirect. The direct category includes the energy (such as heavy crude oil, diesel, and natural gas) used during production. The indirect category mainly consists of electricity purchased from external sources. TGI's direct carbon emission was approximately 469 thousand tons of CO_2e in 2019, a 5.3% decrease compared with 2019 and a 7.5% decrease compared with 2018.

Product Carbon Emissions (by year) Unit: Tons CO_2e



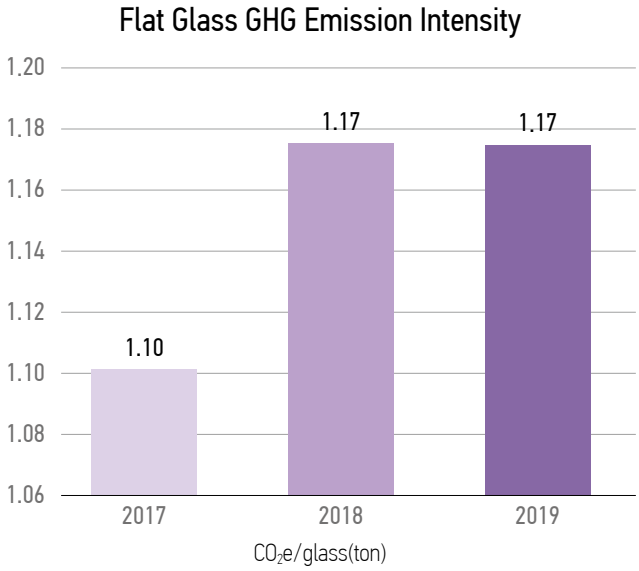
Carbon Emissions (by product/by year)

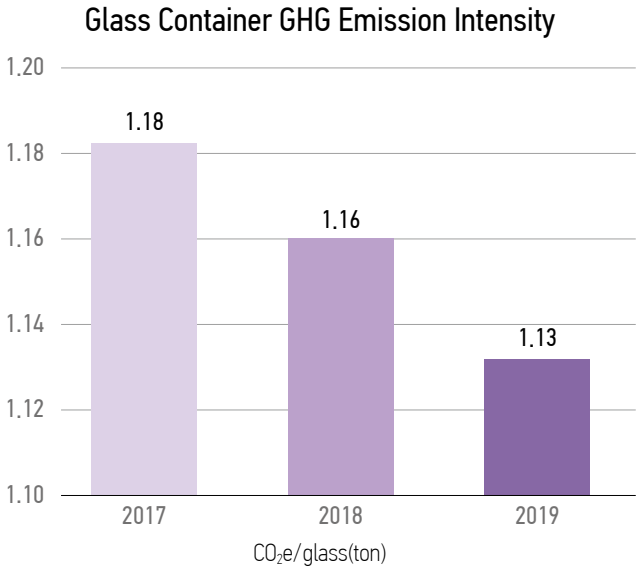
Product/Year	2017		2018		2019	
	Direct emission	Indirect emission	Direct emission	Indirect emission	Direct emission	Indirect emission
Flat Glass	258,597.03	79,200.90	250,798.30	77,137.46	250,678.80	72,312.40
Fiberglass	116,721.89	165,080.54	132,192.75	184,662.39	102,522.94	155,484.41
Glass Container	115,304.90	54,784.84	112,451.73	51,771.96	115,745.71	51,281.85
Subtotal	490,623.83	299,066.27	495,442.78	313,571.81	468,947.46	279,078.65
Total	789,690.10		809,014.60		748,026.11	

Unit: Ton CO_2e

Remark1 To make TGI's environmental data easier for readers to understand, this year's report adjusts the presentation of greenhouse gases, converts the plants' main emission by coefficient released by the Evironmental Protection Administration and the Bureau of Energy, and revises the data of the past two years.

Remark2 Except for the head office and the Changbin plant, plants of Taiwan Glass annually commissions a third-party organization to track the previous year's greenhouse gas inventory. Results are uploaded to the National Greenhouse Gas Platform of the Environmental Protection Administration and Market Observation Post System, in compliance with relevant laws.





TGI continued to promote energy conservation and take action on carbon reduction. Since 2014, Taoyuan, Taichung and Hsinchu Factory have been certified the ISO 50001(energy management system),and continue to obtain certificates. By establishing energy management principles and methods, it will allow TGI to optimize its energy efficiency while staying in line with the company's strategies and objectives. On top of this, the Plan Do-Check-Action mechanism can continue improving the way TGI uses energy.

Energy Conservation and Carbon Reduction Commitment from TGI Factories

Taoyuan factory

- In order to comply with the regulations, Taoyuan factory will replace the boiler in March 2020 and will change the fuel from oil to natural gas.
- The waste gathering system of the kiln will be replaced by spray-drying type, and no wastewater will be produced. The wastewater discharged from the TT-1 will be recycled. The total amount of recycled water in 2019 was 32,495 cubic meters.
- Starting from 2019, all experiments were out of the use of toxicants. At the end of 2019, Taoyuan factory passed the on-siteCertificate of Cleaner Production Assessment, demonstrating its determination to invest in environmental protection.

Hsinchu factory

- After the improvement of the recycled water system in 2019, the volume of recycled water increased from 50 cubic meters in 2018 to nearly 200 cubic meters. Hsinchu factory cooperated with the contracted sludge manufacturers to optimize the sludge treatment process and reduce the cost by 15% by introducing DeNOx system.
- In addition to renewing ISO 50001 and ISO 14064 regularly, we also passed ISO 45000 and certification of resource recycling green product, proving our determination to improve sustainable performance.

Taichung Factory

- As a legal person and natural person with contracted electricity consumption of more than 800 kilowatts, according to the "Energy Management Law", the target annual power saving is 1%. It also conducts annual on-site audits of waste manufacturers to ensure that their sludge and other waste emissions comply with Taiwan Glass's specifications.
- In 2019, the discharge of mildewproof paper, household garbage and sludge were greatly reduced, and the overall waste discharge was reduced by 25% compared with 2018.

Lukang Factory

- The Lukang factory has been recovering sulfur dioxide and sodium sulfate by-products since March 2019.
- Reduce waste emissions by the establishment of mesh curtains, iron doors and other facilities, and set up suspended particulate specifications for certification of environmental protection agency. The factory is committed to reducing the impact of waste. In addition to protecting the environment, this is also beneficial to employees' health.
- SGS is appointed periodically to verify ISO 14064 (Greenhouse Gas Accounting and Verification).
- Various actions were taken to reduce energy consumption and continuously optimize the plant's actions.
- The Lukang factory has passed the certification of the Cleaner Production Assessment.

Changpin Factory

- The water purification equipment was introduced to concentrate the wastewater for recycling. It can recycle 1,203.5 cubic meters of sewage every month, which greatly reduces pollution to other water bodies.
- The factory adjusts the operating time of various equipment, review energy consumption, and define the best usage mode. The electricity consumption in 2019 was reduced by 8% compared with 2018.

TGI reduced its carbon emission by a total of 859.6 tons in 2019. The energy conservation and carbon reduction measures and results for all TGI's factories are listed below:

Item Factory	Energy Conservation measures	Energy Conserved	Amount Conserved	CO_2 reduced
Taoyuan Factory	TT-1 F/H was changed to pure oxygen combustion	Natural Gas (M^3)	191,067	359.0 tons
Hsinchu Factory	TS-6 IS Mold Cooling Fan used IE3 inverter motor and inverter to control the speed	Electricity (kwh)	304,147	168.5 tons
	600HP air compressor used for TS-7 manufacturing, reduced pressure 1.0kg/cm2	Electricity (kwh)	117,384	65.0 tons
Taichung Factory	The type A electrical equipment outside of the original TF-1 UPS production line is deactivated and replaced by TF-2 S/B UPS	Electricity (kwh)	66,576	35.1 tons
Lukang Factory	Replacement of 4-foot fluorescent tube with 4-foot LED tube	Electricity (kwh)	34,560	18.2 tons
	Reduce air volume and improve the energy efficiency of TW MD-3.4 RETURN FAN Air	Electricity (kwh)	335,412	177.1 tons
Changpin Factory	Reduce the number of machines required for production	Electricity (kwh)	57,627	30.4 tons
	Reduce 9 heaters under the premise of maintaining the quality of mirror products, TVIG ice machine was moved for cooling plate	Electricity (kwh)	11,610	6.1 tons
	TVIG ice machine was moved for cooling plate	Electricity (kwh)	384	0.2 tons
Total of CO_2 reduction across all factories (tons)				859.6 tons

Water Resources Reduction Management

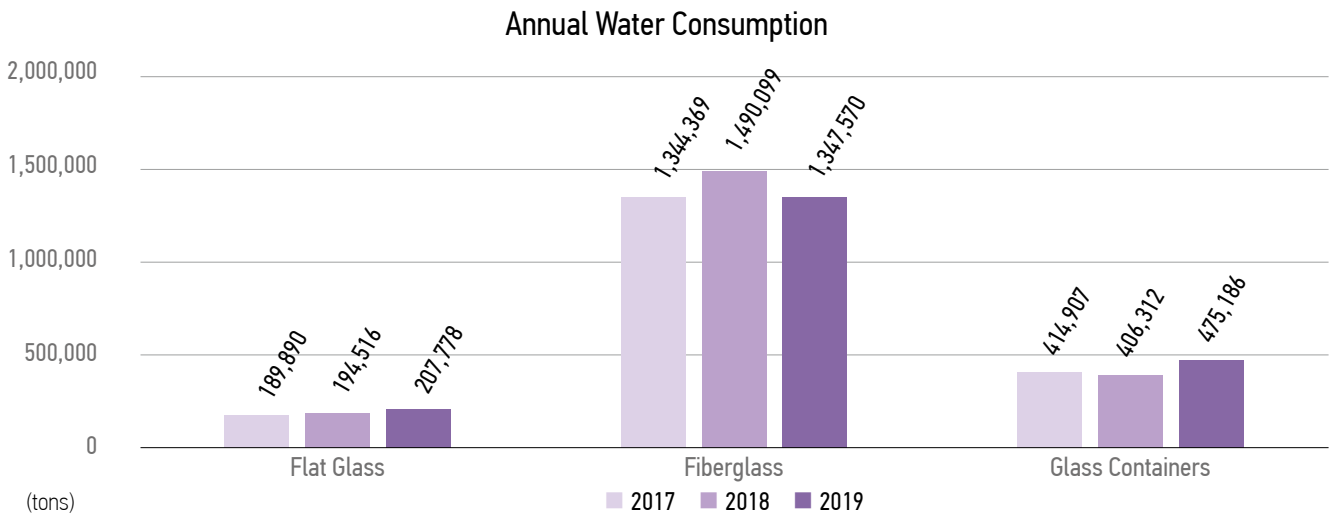
Water Resources Management Policy

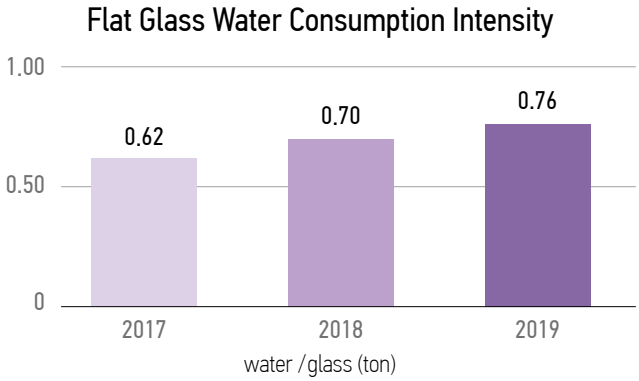
TGI improves water efficiency by purchasing water-conserving equipment.
We promote awareness of green production and reuse water resources.

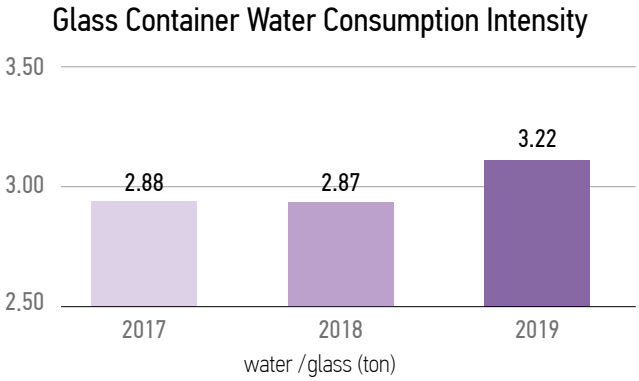
In the process of manufacturing glass, such as glass edging, anvil holes, drilling, etc., a large amount of water source must be used. We continue to improve water-saving technologies in various factories, evaluate feasible methods and apply them to reduce water consumption and achieve the spirit of sustainable water resources. The water used in each factory can be divided into business water, domestic water and recycled water (partially used in the exhaust system), and recycled water is used instead of tap water to reduce the amount of tap water. The water withdrawal from each factory in Taiwan has no significant impact on the local water source. The water intake is as shown in the right table.

Taoyuan	Hsinchu	Taichung	Lukang/ Lukang Flat Glass	Changpin
Water Source：Taiwan Water Corporation 2nd Branch	Water Source：Dongxing waterworks	Water Source：Water Management Area 4, 1st Branch	Water Source：Taiwan Water Corporation 11th Branch	Water Source：Taiwan Water Corporation 11th Branch

In 2019, the plants of Taiwan Glass will consume about 2.03 million tons of water. Since 2017, part of the process has been improved. Recycled water is used as dilution water. The recycled water system has gradually improved and the increase in water consumption has gradually declined. 2019 is 2.9% lower than in 2018.







Water Reuse

With the frequent changes of climate and extreme weather, the proper use of water resources and the reuse of water are all issues that enterprises and manufacturing industries must face. Over the years, TGI has promoted water conservation measures in various factories, improved equipment efficiency, reduced water consumption per unit of product, and promoted changes in water use behavior to employees, saving water and spare no effort. For example, the rainwater and sewage diversion device completed by the Hsinchu factory in 2018 can increase the water storage tank and recycle the production water. The Changpin Factory adds a concentrated water recycling bin to the plant to recover the concentrated water discharged from the plated pure water equipment and then supplies it to the washing machine and other equipment to increase the usage rate of the tap water and effectively reduce the water production in the factory. The total amount of recycled water in 2019 was 13,290,267 cubic meters. The recovery volume and recovery rate of each plant are as follows

The following table shows each TGI factory's amount of water recycled and recycling rate in 2019. The annual recycled amount of water of 2019 was 13,290,267 m^3.

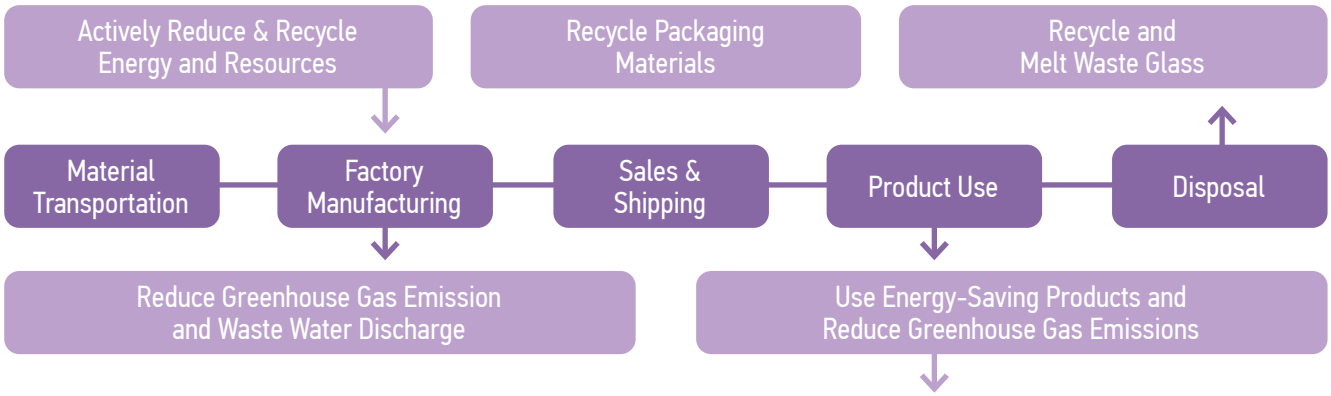
TGI 2019 Recycled Amount & Recycle Rate of Water Resources (By Factory)

Item / Factory	Taoyuan	Hsinchu	Lukang	Lukang Flat Glass	Changpin
Recycled Amount(M^3)	32,495	508,566	366,958	12,330,873	51,375
Recycle Rate(%)	5.42%	107.00%	33.18%	99.50%	53.08%

Notes：1.Processing capacity: the amount of wastewater flowing to the recycling system.
2. Recycled Amount: the amount of water used after processed in the recycling system.
3. Recycle Rate: (Recycled amount ÷ processing capacity) × 100%.
4. The Taichung Factory does not have a flow meter and therefore unable to provide relevant data.

4.3 Green Production & Management.

TGI Green Production Strategy



In response to the rising global environmental awareness and the adoption of green manufacturing in this industry, TGI is committed to improving the efficiency of raw materials use, reducing the environmental costs of production, and carefully analyzing the energy consumption to assess the greenhouse gas emission intensity, air pollution, waste water and waste, etc. We hope to make progress towards sustainable production and to do our best for the earth.

Air Pollution Control

Our priority is to comply with EPA'emissions standards and reduce pollutants emitted every year. We have improved our manufacturing process by replacing heavy oil and diesel with natural gas and managing pollutants with equipment. increase natural gas to reduce the emission of air pollutants. In addition to reducing air pollution and fossil energy use, the implementation also ensures the health of employees in factories. TGI follows the ISO 14001 management system and complies with air pollution prevention guidelines. We have departments in charge of periodically checking and maintaining our equipment. Should there be any control or emissions anomalies, these departments will respond by carrying out contingency plans. They will determine the cause of the anomalies and have them under control immediately to reduce the burden our manufacturing imposes on the environment.

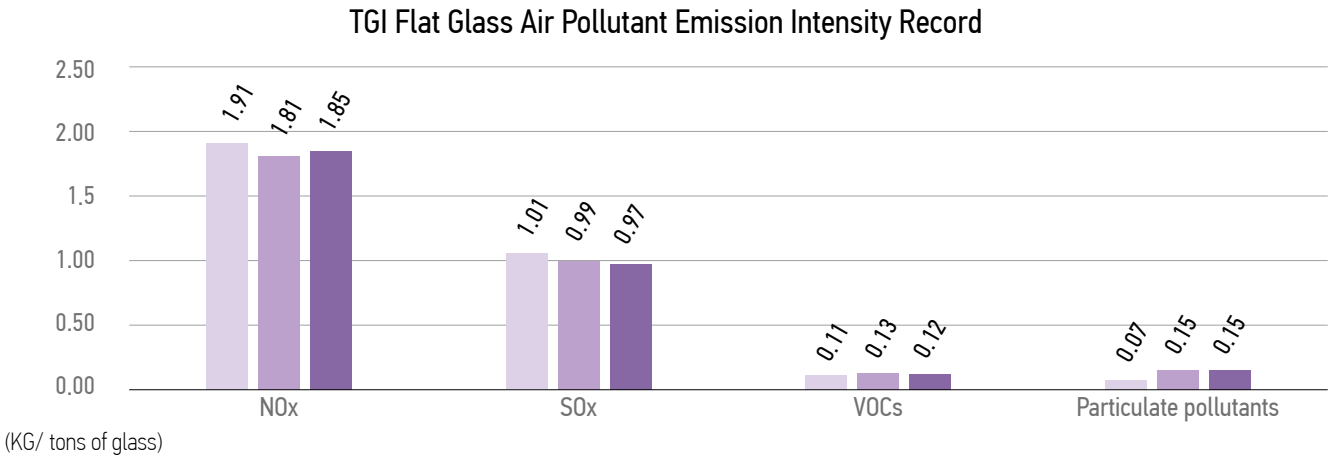
In 2019, the Lukang Flat Glass Factory spent 100 million dollars to build new exhaust gas prevention equipment. The emissions of NOx, SOx and particulate matter reduced respectively by 22%, 25% and 60% compared to 2018. The new waste gas treatment equipment has high efficiency, and there is a relatively large amount of dust ash produced, which exceeds the amount that can be put into the kiln for recycling and reuse. Therefore, it will be assisted by external manufacturers for treatment or improve the efficiency of recycling resources. In addition, in order to cope with the charging of particulate matter in the new air pollution fee, new facilities such as dust nets were added, and it was estimated that the emission of particulate matter can be greatly reduced in the future.

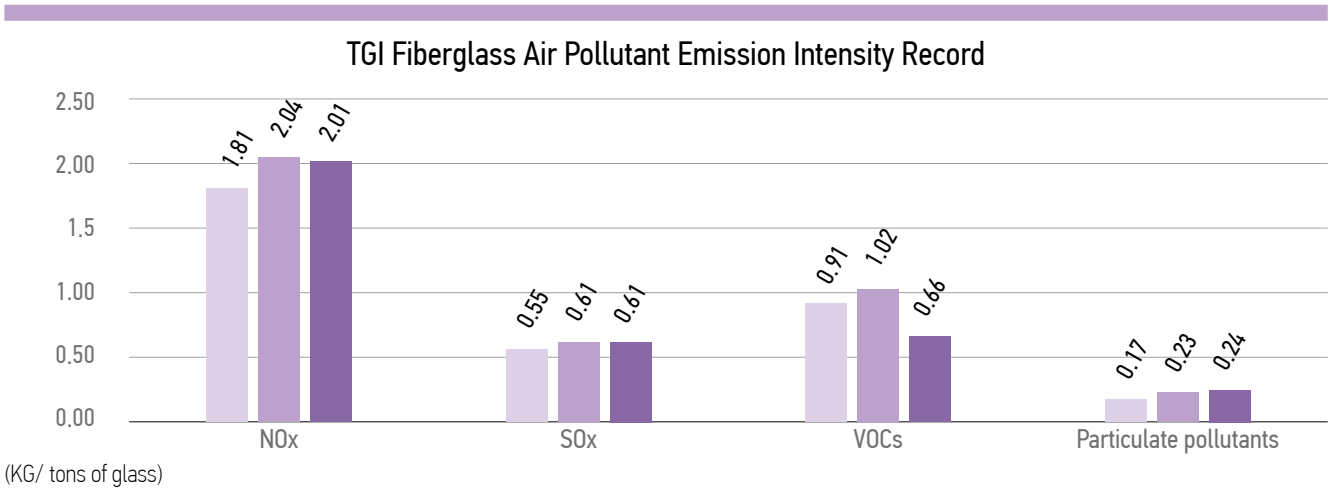
Total Air Pollutants Emissions for Each TGI Factory

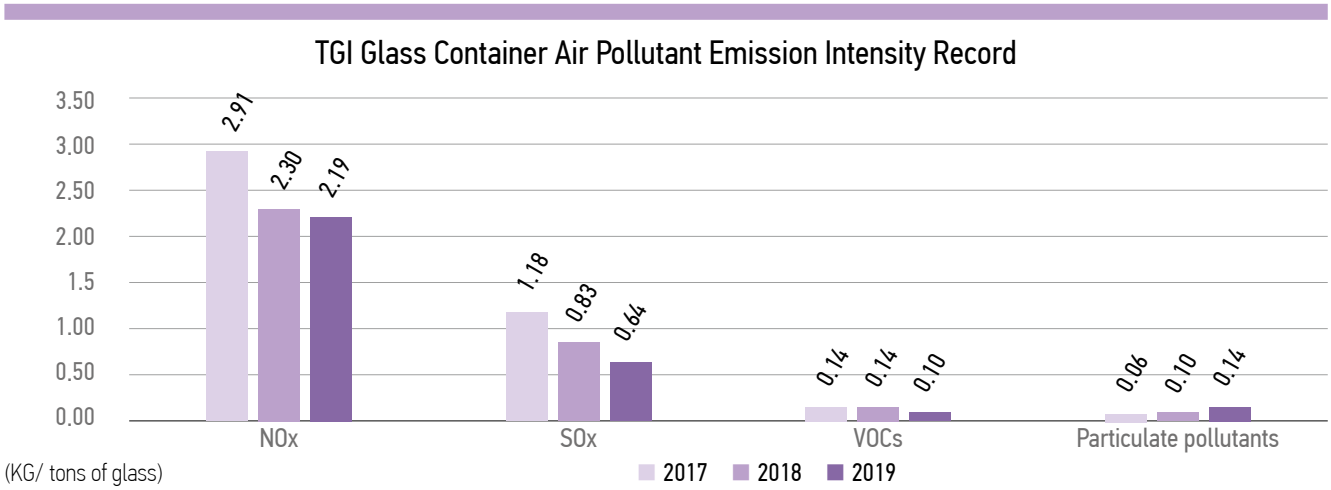
Air pollution evaluation item/year	2017	2018	2019
NOx	1,122,783	997,334	950,107
SOx	514,037	442,759	396,592
VOCs	114,237	137,963	87,363
Particulate matter	41,466	73,321	76,115

Units: kg

The emission intensity of the air pollutants of each product is shown in the figure. In the future, we will also control all types of air pollutants more rigorously. We hope to reduce pollutant emissions while increasing production capacity, and make a contribution to the global environment and people's health.

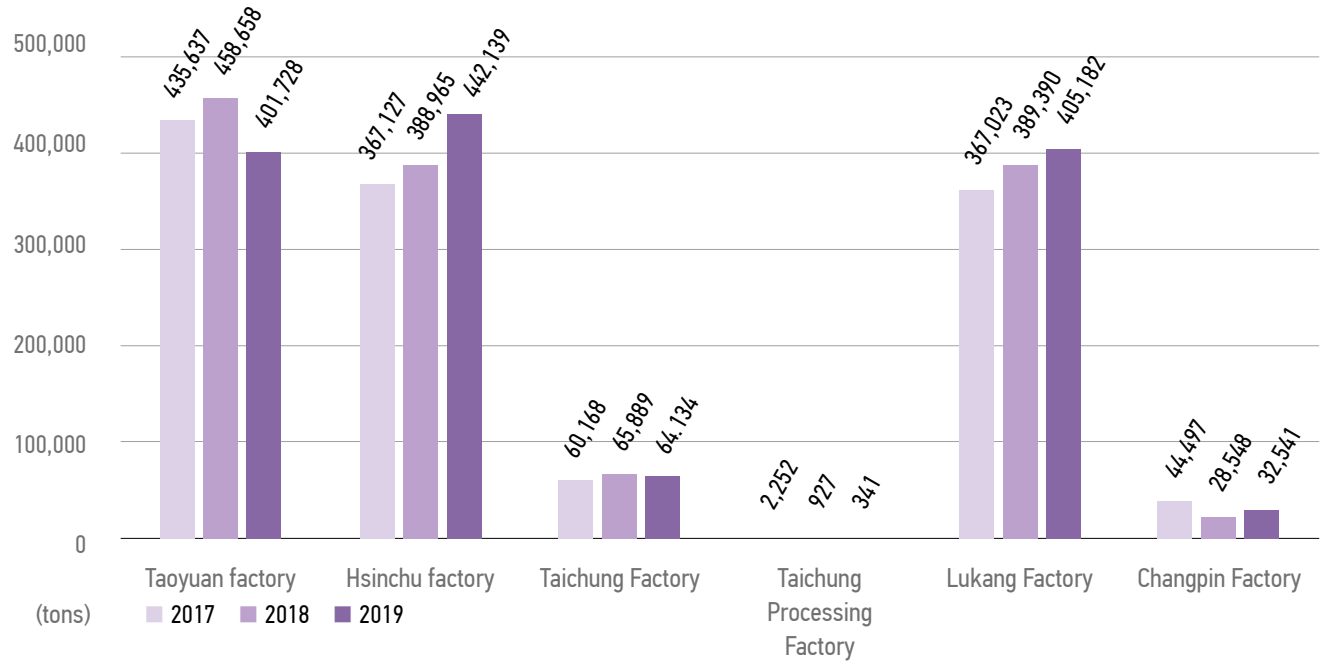






Water Pollution Management

Wastewater Quantity of TGI Factories (by years)



Note 1 The statistics of Taiwan Glass's wastewater volume are presented by the number of emissions paid by each factory. The emissions of Taichung processing factory include Taiwan Autoglass Ind. Corp., and the emissions of Changpin factory include TG TECO Vacuum Insulated Glass Corporation.

Note 2 Taichung factory and Taichung processing factory reuse wastewater for cleaning filter cloths and flushing roads, so the payment measurement is lower than the actual discharge.

All factories have wastewater treatment equipment to reduce the pollutants in the wastewater so that the wastewater can meet the local discharge quality standards. Domestic sewage, after being treated by the treatment system, is compliant with the legal standard to be discharged to the surface water body. TGI factories discharged a total of 1,410,199tons of wastewater in 2019.

Wastewater Discharge Destination and Legal Standards

Factory	Discharge Destination	Legal Standards
Taoyuan Factory	Guanyin Industrial Park Service Center	Guanyin Industrial Park Service Center Wastewater Discharge Limits Summary Table
Hsinchu Factory	Sanxinggoan Creek	Water Pollution Control Act
Taichung Factory (including Taichung Processing Factory)	Guanlian Industrial Park sewage system	Taichung Harbor Special District Water Recycle Center Wastewater Discharge Standards
Lukang Factory (including Lukang Flat Glass Factory)	Changhua Coastal Park Service Center Wastewater Treatment Plant	Changhua Coastal Park Service Center Wastewater Treatment Standard
Changpin Factory	Changhua Coastal Park Service Center Wastewater Treatment Plant	Changhua Coastal Park Service Center Wastewater Treatment Standard

2019 Detected Discharged Water Value

Water pollution inspection item/factory		Taoyuan Factory	Hsinchu Factory	Taichung Factory	Taichung Processing Factory	Lukang Factory	Changpin Factory
COD(mg/l)	Detected Values	87.2	5.1	20.8	23.4	136.3	12.2
	Discharge Standards	560	<100	800	800	<640	<640
SS(mg/l)	Detected Values	18.3	1.3	2.4	4.3	47.4	5.6
	Discharge Standards	480	<50	600	600	<400	<400

Note 1 Only Hsinchu factory paid half-year billing for wastewater discharge, other industrial areas to which other factories belong calculated and monitored the discharge water value monthly. All the factories entrust third-party institutions to sample and test the declaration in accordance with the provisions of the Environmental Protection Agency.

Note 2 The monitoring values of Hsinchu factory in this report are presented based on the average value of each quarter's outsourced inspections, and the monitoring values of other factories are presented as the average of monthly monitoring values in the industrial area. Therefore, the inspection value of the processing plant includes TAGC, and TVIG in Changpin factory

Waste Management and Recycle

Taiwan Glass has set two principles for the disposal of waste, including improving production yield to reduce the amount of waste, and recycling recyclable waste, such as waste fiberglass and unwound yarn.

Non-recyclable wastes such as household waste and wasted plastic mixtures, rubber, glass and other mixtures are commissioned by qualified clearers and handed over to local environmental protection bureaus and incinerators for disposal. Sludge generated by wastewater treatment procedures entrusts qualified processors to recycle. Recyclable wastes such as wasted paper, iron and plastic are also sent to qualified recyclers for disposal.

All of the factories should classify garbage and reduce the amount of garbage. The waste removal of the Taichung factory is handled and recycled by qualified processors and classified according to the nature of the waste. In order to achieve the purpose of waste reduction, the Changpin factory conducts an on-site inspection of the waste classification implementation level every week. Those who do not comply with the regulations open missing orders and strictly require improvement.

TGI Waste Disposal Capacity (By Years)

Item	Treatment	2017	2018	2019
Domestic Waste	Incineration	596.73	477.81	658.90
Waste Plastic	Reuse or Incineration	121.31	124.71	122.02
Waste Rubber Mixture	Reuse or Incineration	1.00	1.10	1.09
Waste Paper	Reuse or Incineration	660.58	625.20	613.56
Waste Fiber	Incineration	17.01	1.20	0.56
Waste Glass	Buried or physical treatment	2,298.62	3,134.69	20,240.13
Waste Fiberglass	Reuse	2,752.00	2,985.43	3,072.01
Waste Glass Mixture	Buried or physical treatment	397.30	573.20	564.55
Waste Wood	Reuse	199.09	189.00	204.52
Waste Fire Bricks	Reuse	0.00	0.00	0.00
Waste lubricants	Reuse	18.00	22.69	25.78
Human Waste	Biological treatment	85.89	43.75	0.00
Civil Engineering Waste	Reuse	0.00	0.00	0.00
Scrap Iron	Reuse	408.00	410.00	291.00
Waste Aluminum Caps	Reuse	464.00	514.00	468.65
Waste bricks	Reuse	65.55	182.06	1,007.97
Sludge (Inorganic/organic)	Heat or solidification Treatment	2,767.61	2,301.75	2,372.00
Waste insulation materials	Buried after physical treatment	4.37	0.00	0.00
Waste Silk	Reuse	6,864.00	1,861.39	1,312.00
waste Pallet	Reuse	103.00	128.11	136.00
Unwound Yarns	Reuse	13,517.00	1,7822.33	14,964.00
Other corrosive mixtures	Incineration	1.81	5.27	3.54
Selenium and selenium compounded	Buried after solidification treatment	26.90	40.01	63.07
Waste Oil Mixture	Reuse	0	0	0

CH5

Safe Workplace & Trusted Growth

- 5.1 Talent Managemeut and Benefits
- 5.2 Employee Care & Training
- 5.3 Occupational Safety & Health

2019 Employee Care and Welfare Achievements

99.9%	The ratio of hiring local senior executives is 99.9%, creating many employment opportunities for the local Taiwanese and caring for the local people.	100%	Proper compliance with government labor laws and regulations, 100% of employees are following the Law on the Protection of Rights and Interests of Persons with Disabilities.
100%	Reinstatement employees who apply for childcare leave without pay will have a 100% retention rate in 2019.	153%	The average salary of TGI personnel is 153% higher than the local minimum salary.
30.03 years	In 2019, there are 69 retired employees with an average length of service of 30.03 years. The chairman/president awards a retirement commemorative medal, thanking the employees for their long-term contributions.	16.2 hrs	In 2019, the average hours of education and training for general personnel of TGI are 16.2 hours, 21.4 hours for grassroots supervisors, 15.6 hours for intermediate supervisors, and 9.8 hours for senior supervisors.
100%	During the opening of the "Employee After-Charge Development Plan" in 2019, the satisfaction of the courses of "Thematic Situational English" and "Introductory Japanese Conversation (2)" reached 100%	95.83%	In 2019, TGI adopted the <New Staff Counselor System> and the in-service rate is 95.83% by December 31st, 2019

5.1Talent Management and Benefits

TGI treats employees as the company's most valuable assets, therefore, we put the working environment, career development and health in the first place and keep promoting the various employee welfare projects.

Our compensations and benefits are better than the compliance requirement and continuously adjusted based on employee's position and personal experience instead of gender, race, religion, political affiliation, marital status or union/social association membership. In addition to providing a starting salary that is higher than the legal minimum wage in the areas where TGI operates, we also review employee's education level, experience, expertise, skills, number of years of service in the industry and the average salary in the industry. All management systems and rules were formulated with compliance with the Labor Standards Act and other regulations. Various levels of managers assist employees inside and outside the company, the overall labor relations are harmonious.

Human Resources Structure

By the end of 2019, there were 4,582 employees in total, among which 1,268 managers were Taiwanese and only 1 was of foreign nationality. 99.9% of supervisors at TGI are local Taiwanese. This indicates that TGI has created many job opportunities for the locals. All the employees are hired workers, with no dispatched employees, which makes TGI a stable and healthy workforce. Our employees are located in various cities in northern, central and southern Taiwan. They are all either fixed-term or non-fixed-term contracted workers. The detailed employee structure is listed below:

Employee Gender Structure

Year		2017		2018		2019	
Item	Category	Male	Female	Male	Female	Male	Female
Nationality	Taiwanese Employees	3,279	545	3,254	555	3,163	559
	Foreign Employees	734	126	785	143	733	127
	Sub-total	4,013	671	4,039	698	3,896	686
Total		4,684		4,737		4,582	

Employee Seniority Structure

Item	Category	Male		Female		Total	
		Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)
Seniority	5 years	1,534	33.48%	289	6.31%	1,823	39.79%
	6~15 years	1,266	27.63%	175	3.82%	1,441	31.45%
	16~24 years	801	17.48%	173	3.78%	974	21.26%
	25 years or above	295	6.44%	49	1.07%	344	7.51%
	Sub-total	3,896	85.03%	686	14.97%	4,582	100%

Salaried/Contract Employees

Item	Category	男性		女性		合計	
		Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)
Type	Salaried Employees	3,101	83.32%	549	14.75%	3,650	98.07%
	Contract Employees	62	1.67%	10	0.27%	72	1.93%
	Total	3,163	84.98%	559	15.02%	3,722	100%

Note：Foreignemployees were not included.

Employee Age Structure

Item	Category	Male		Female		Total	
		Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)
Age	Under 30	854	18.64%	202	4.41%	1,056	23.05%
	31~40	1,655	36.12%	260	5.67%	1,915	41.79%
	41~50	956	20.86%	180	3.93%	1,136	24.79%
	51 or older	431	9.41%	44	0.96%	475	10.37%
	Sub-total	3,896	85.03%	686	14.97%	4,582	100%

Employee Education Level Structure

Item	Category	Male		Female		Total	
		Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)
Education	Master or higher	151	4.06%	14	0.38%	165	4.43%
	College	1,951	52.42%	365	9.81%	2,316	62.22%
	High school or below	1,061	28.51%	180	4.84%	1,241	33.34%
	Total	3,163	84.98%	559	15.02%	3,722	100.00%

Note：Foreignemployees were not included.

Management Structure

Nature of work	gender	total	Ratio	Total percentage
General staff	Male	2,760	60.24%	72.33%
	Female	554	12.09%	
Junior-level Manager	Male	1,040	22.70%	25.34%
	Female	121	2.64%	
Mid-level Managers	Male	81	1.77%	2.01%
	Female	11	0.24%	
Senior Managers	Male	15	0.33%	0.33%
	Female	0	0.00%	
Total		4,582	100%	

Recruitment and communication

TGI complies with the laws and regulations of the Labor Standards Act to safeguard our employees' human rights and privacy and prohibit discrimination. All recruitment, employee selection, and employment comply with the government's rules and regulations. No employee is discriminated (including compensation discrimination) owing to his/her race, social status, language, thought, religion, political party, place of origin, birthplace, gender, sexual orientation, age, marital status, appearance, facial features, disability, or past membership in any labor union. Our recruitment process is fair, just and honest. TGI offers compensation better than other companies in the same industry. An employee's compensation is determined based on the education level, job responsibilities, position rank, experience and professional background. Candidates' outfit, demeanor, mental situation, reaction and logic during the interview will also be factored in.

In order to safeguard the basic human rights of all colleagues, customers and stakeholders, TGI adheres to the 《UN International Labor Organization》, 《UN Global Compact》, 《UN Guiding Principles on Business and Human Rights》,《UN Universal Declaration of Human Rights》. The principles enshrined in international human rights conventions respect internationally recognized fundamental human rights, including banned child labor, care for vulnerable groups, freedom of association, eliminate all forms of forced labor, eliminate employment and employment discrimination, and abide by the labor of the local regulations.

The company's human rights policy applies to all levels of units and particularly emphasises on the following human rights issues, and continuously promote and promote the quality of human rights:

- Multi-inclusive and equal opportunities
- Reasonable working hours
- Health and safety workplace
- Freedom of association
- Labor negotiation
- Privacy protection

Staff Turnover Rate and Resignation Rate

In 2019, 399 employees resigned from TGI with a turnover rate of 10.7%. In the last three years, the annual turnover rate has been below 15%. TGI considers that instead of chasing after the lowest resignation rate, the company should focus on the optional one. In 2019, TGI hired 306 new employees with a recruitment rate of 8.2%. Through building a better employment environment, TGI not only ensures that there will always be newcomers, but also boost local employment opportunities.

New recruits in 2019

Area	New recruits	Gender		Age							
				Male				Female			
		Male	Female	30 ↓	31~40	41~50	51 ↑	30 ↓	31~40	41~50	51 ↑
North	258	218	40	119	71	24	4	24	8	5	3
Central	48	42	6	22	9	2	9	4	2	0	0
Total	306	260	46	141	80	26	13	28	10	5	3

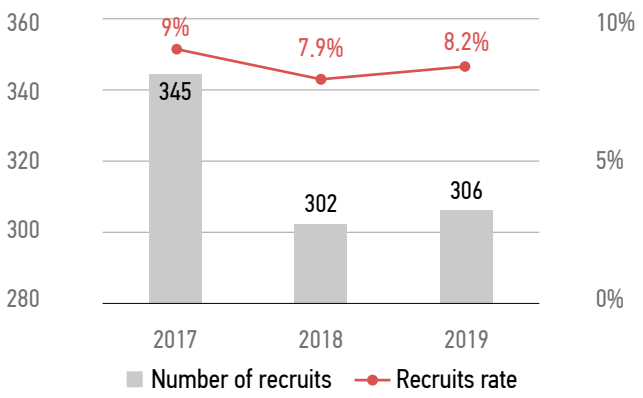
Resignation in 2019

Area	Resignation	Gender		Age							
				Male				Female			
		Male	Female	30 ↓	31~40	41~50	51 ↑	30 ↓	31~40	41~50	51 ↑
North	230	198	32	80	65	24	29	15	10	5	2
Central	169	150	19	25	66	11	48	8	8	3	0
Total	399	348	51	105	131	35	77	23	18	8	2

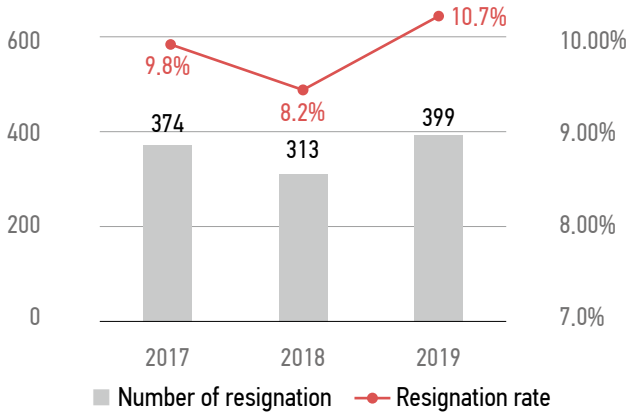
Note 1 It does not include employees on leave without pay or transferred from other TGI factories.

Note 2 North: The Headquarter, Taoyuan and Hsinchu Factory. Central: Taichung, Lukang, Lukang Flat Glass and Changpin Factory.

TGI Recruit rate(by year)



TGI Resignation rate (by year)



Note: Recruit rate (%) = Recruits of the category/Total number of Taiwanese employees of the category by the end of the year

Resignation rate (%) = Number of employees of the category that left TGI/Total number of Taiwanese employees of the category by the end of the year

The fresh graduates who are new to society ofter feel panic and anxiety. In 2019, TGI is invited to participate in the "Freshman Resume Clinic" held by 104 Human Resource Agency so to provide fresh graduate on how to write the resume, demonstrate the personal advantages, improve disadvantages and look for the righteous career path. "Freshman Resume Clinic" could not only improve the TGI's job market exposure but also help the lost fresh graduates.

Freshman Resume Clinic

104 Human Resource Agency Certificate of Appreciation

TGI sees the employees as the most valuable assets of the company. To cultivate the outstanding talents and carry out the corporate responsibility, Hsinchu factory set up the internship project with Chung Hua University in September in 2019. For those students who already complete the required credits in the Department of Mechanical Engineering and Electrical Engineering of Chung Hua University could apply for the internship program in the service support and instrumentation section of Hsinchu factory. The tenure of the internship project is for one year.

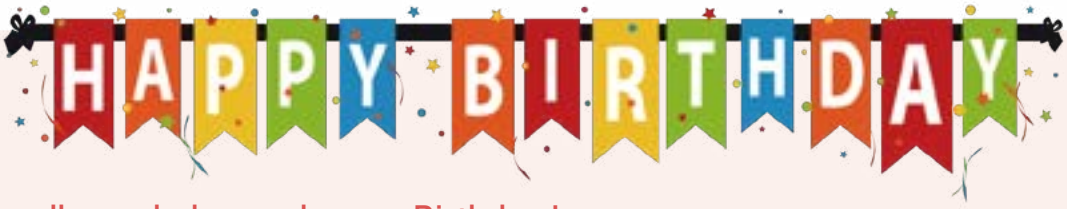
Internship Project in TGI Hsinchu Factory in 2019

A Diverse and Friendly Working Environment

TGI adheres to the government's statutory regulations on employment quota in disability. Although TGI is a traditional manufacturing industry, it aims to create a stable and friendly employment environment for the disabled employees. At the end of 2019, the average number of disabled employees in TGI is about 106 per month, which is more than 130% higher than the statutory standards. We will be more proactively to create diversified and optional job opportunities and environment ever since. In 2019, Taiwan Glass also employed 30 aboriginal employees, which fully demonstrates the diversity of employment. Also, there were no violations on the rights of indigenous peoples in 2019.

Taiwan Glass has always been aiming at creating a workplace environment that is "efficient work and happy life" for its colleagues. To show our gratitude towards colleagues who work together with the company, each employee will get a birthday-leave starting from 2019. For TGI, "Healthy and Happy employees come with the sustainable development of TGI" is not just a slogan, but the goal of our continuous efforts to improve, and believe we will do better.

To provide a better and more friendly working environment for the hearing impaired, Lukang factory applies for LCD Handwriting Wordpad so to assist hearing impaired to communicate in the twisted yarn, woven fabric and factory service section. To improve the friendly working environment, TGI founded the sign language club in 2015. The club member holds the activities irregularly and invite the teacher to instruct the sign language so to provide the opportunities to learn sign language and increase the barrier-free communication environment. In addition, if there were hearing impaired newcomers, the teacher would increase the working days around 3 to 4 days per week so to create the diversified optional working opportunities and environment.



TGI friendly workplace column - Birthday Leave

Happy and healthy employees is TGI's impetus. The aim of TGI is to build up a "caring the employee for a happily working" environment. To show the gratitude towards colleagues who work together with the company, each employee has one-day birthday leave from 2019. Until the end of 2019, the implementation rate of birthday leave is 81.46%, which shows the recognification of the benefit by TGI employees.

2019 Birthday Leave Welfare Implementation Result

Total number of having the Birthday Leave Welfare (A)

3,760

The number of applying for Birthday Leave Welfare (B)

3,063

Implementation Rate(B/A) (%)

81.46%

Employee Benefits

Fair Performance Management System

To improve and recognize the performance of the employee, we assess our employees based on their education level, experience, expertise, seniority, and performances. Gender, race, religion, political affiliation, marital status and membership in unions/social association will not affect our employee assessments. All TGI employees receive regular performance assessments mainly based on their job performances. Their work efficiency and sense of responsibility are the core evaluation criteria.

The male-to-female ratio of a basic salary of TGI in 2019 was 1:0.95, and the overall difference was less than 0.05. The analysis of this minor difference reflected the differences in job content and qualifications. TGI upholds equal pay for equal work and does not differ by gender. In addition, the personnel unit continuously tracked and analyzed the salaries of the general staff, which was higher than the statutory salary by 153%. The average annual salary of non-executive full-time employees is 577,000 NTD, and the median of the average annual salary of non-executive full-time employees is 547,000 NTD, which are both better than the average wages of glass industry.

Lukang factory awarded by Changhua Country Government for Signing Collective Bargaining Agreement

Union

To maintain an open communication channel between the company and the employees, TGI established labor union, which holds meetings with directors, supervisors, and members regularly. TGI's related personnel also attend such meetings to respond to all the suggestions for improvement proposed during the meetings. We held a collective bargaining agreement with the union in September 2018; Issues such as employee health and safety are also discussed during the meetings. The labor union holds a meeting every 3 months and member representative meetings every year. Representatives are selected with a majority vote. The union holds meetings regularly to discuss employee related affairs such as employee dining in the factories, group casualty insurance, travel and year-end banquet. There is also online suggestion box, bulletin board and phone number, which the employees can express their opinions. This allows the company to respond and deal with issues in a timely manner. Some factories do not have unions, until the end of 2019, the total number of union is 1,365.

2019 Union Participation

Factory	Hsinchu	Taichung
Male	864	386
Female	86	29
Total	950	415
Ratio	96.84%	81.85%

Note 1 The number of employees in Hsinchu Factory does not include that of foreign workers, and all the employees are union members in Hsinchu Factory.
Note 2 The Lukang Factory union could not provide related information.
Note 3 No union was established in Taoyuan Factory, Lukang Flat Glass Factory, and Changpin Factory.

Employee Benefit Committee

To provide adequate support to employees and ensure their living conditions, TGI provides or sponsors the promotion of relevant welfare programs in addition to providing basic protection according to the law and organizes the staff Benefit Committees to take charge (planning and implementing) of the benefit measures of all colleagues. The current welfare measures are as follows:

Employee Benefit and Welfare Measures

Health Care

- Provide employee health examination that are better than requirement.
- Offer stationed doctor and nurse health services
- Implement the four major occupational safety plans and employee health management.
- Actively promote sports clubs and health seminars.
- Set up basketball court, fitness room, billiard room.
- Plan to launch after- work sports courses (employee interest survey).

Life Care

- Provide with employee restaurant, dormitory, breastfeeding room
- Provide corporate cafeteria, dormitories, and breastfeeding rooms
- Half-price subsidies for employees' meals/ travel subsidies and subsidies for social activities
- Provide marriage and funeral gifts, childbirth gifts/gifts
- Provide family emergency leave
- Provide death pension

Insurance Care

- Offer employees group life accident insurance that is superior to regulated requirement and the family of employees exercise the same price
- Offer employee travel/ outbound travel safety insurance.

Holiday Care

- Provide employee birthday leave
- Offer Lunar New Year, Dragon Boat Festival and Mid-Autumn Festival bonus
- Hold annual year-end banquet and provide the year-end bonus
- Offer May 1st Labor Day bonus

Learning Care

- Develop the career development program and provide free foreign language courses.
- Provide employee self-training bonus
- Child education scholarships.

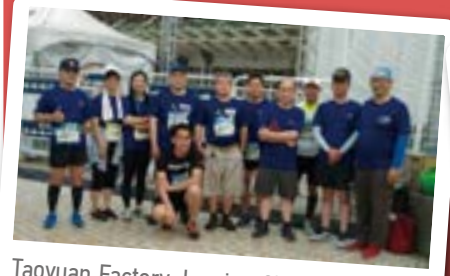
The number of foreign employees across factories in Taiwan is quite large. Usually, various kinds of dinners and activities will be held according to holidays. The Taoyuan Factory held exclusive tours for foreign employees in 2019, the laborers who had left their home countries could enjoy the leisure time. These activities promote cultural exchanges and increase recognition of TGI.

We encourage employees to form clubs, do exercise or relax after work. Such activities allow employees to cultivate friendships, enhance their mutual understanding, which helps forming the Company's centripetal force. Each factory has rich varieties of sports clubs, who participate in community-based or local governments tournaments.

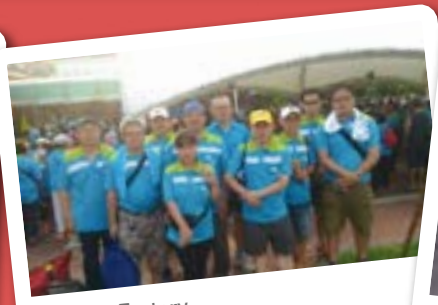
Taichung Factory Foreign Employee Tour

Taichung Factory Foreign Employee Tournament

2019 TGI Club Activities



Taoyuan Factory Jogging Club participated in the Taoyuan Run, realize sel-fullfillment and promote the friendship between colleagues at the same time.



Taoyuan Factory

Lukang Factory

Taichung Factory Basketball Club not only enjoys the fun of playing, but also cultivates the tacit understanding and feelings among colleagues

mountaineering clubs, not only enjoy the fun of climbing, but also fullfill the health and well-being

Changpin Factory Badminton Club

Parental Leave

23 TGI employees took a parental leave during 2018-2019, female employees accounted for 56.52% of the applicants, and male employees accounted for 43.48% of the applicants. 18 employees were reinstated in 2019, and the rate of reinstatement was 78.52%. TGI has always adheres to "work-life balance", applying for parental leave is not treated differently because of gender. In 2019, an average 92.31% of female workers and 60.00% of male workers were reinstated after a parental leave.

Reinstatement after Parental Leave (2018)	Male		Female		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
A. Number of Workers Scheduled for Reinstatement (=B+C)	10	43.48%	13	56.52%	23	100.00%
B. Number of Reinstated Workers	6	26.09%	12	52.17%	18	78.26%
C. Number of Workers that Resigned after Parental Leave	4	17.39%	1	4.35%	5	21.74%
Reinstatement Rate (B/A) %	60.00%		92.31%		78.26%	

Between 2018 and 2019, 12 employees were reinstated after a parental leave in 2018. Among which 12 employees were reinstated for one year in 2019. The retention rate is 100.00%.

Reinstatement after Parental Leave (2018-2019)	Male		Female		Total	
	Number	Percentage	Number	Number	Percentage	Number
E. Number of Reinstated Workers after a Parental Leave in 2018	6	50.00%	6	50.00%	12	100.00%
F. Number of Reinstated Workers after a Parental Leave in 2018 with 2019 Marking One Year after their Reinstatement	6	50.00%	6	50.00%	12	100.00%
Retention Rate (F/E %)	100.00%		100.00%		100.00%	

Mother-Friendly Workplace

For pregnant women and women within one year after giving birth, we conduct a risk assessment of their work environment, categorize and manage their health conditions. Doctor visits are arranged to provide appropriate assessment and advice. We follow up regularly with a working mom and provide them with health education information based on their stages of pregnancy. Their workload/duties can be adjusted accordingly to ensure workplace safety. Pregnant employees at TGI have their dedicated parking spaces. Our facilities are also equipped with breastfeeding rooms where working moms can pump during working hours, allowing them to take care of their family and job at the same time.

The certification of Headquarter and The Hsinchu Factory

TGI creates a friendly, welcoming and relaxing breastfeeding room with the soft colors. To make the mother feel comfortable, the room could be locked, and TGI provide the comfortable couches, breastfeeding pillows, breast milk refrigerator, pure water baby wipes, bottle sterilizer, spare breast milk bags and glass bottles. All items are free of charge and all the breastfeeding rooms are cleaned every day and

the temperatures of the refrigerators are also monitored. TGI also provides breastfeeding related information, activities, and consultations. As a mother experiences physical changes during the pregnancy, TGI provides necessary support and arranges other experienced colleagues to help these new mothers. All in all, we strive to provide the friendliest workplace for mothers.

1 There are desk and TV in the nursing room of Taichung Factory

2 Headquarter

3 Hsinchu Factory

4 There is a message board in the nursing room of the Changpin Factory, allowing female employees exchange experiences.

Retirement system

According to the Labor Standards Act and Labor Pension Act, TGI has formulated a retirement policy. Employees who joined TGI before June 30, 2005 (inclusive) are entitled to the old retirement system, of which pension is paid to the old retirement reserve account of the Central Trust Bureau on a monthly basis of 6%. The new pension is paid by the employer 6% to the employee's individual pension account. In addition, employees can choose to pay the pension ranging from 0% to 6% according to their own wishes. The coverage of the TGI employee retirement system is 100%. In addition to appropriating pension to the respective accounts regularly, TGI has a professional accounting consultant that precisely calculates the pension to ensure that the company appropriates enough pensions every month so that our employees can receive a pension after retirement. In 2019, 69 employees retired, with an average of 30.03 years of service. Senior supervisors were presented with medals from the chairman/president as a token of appreciation for their service over the years.

Old Retirement System

- The pension of old retirement system is paid to the old retirement reserve account of the Central Trust Bureau on a monthly basis of 6%.

New Retirement System

- The pension of new retirement pension system is paid by the employer 6% to the employee's individual pension account.
- Employees can choose to pay the pension ranging from 0% to 6% according to their own wishes.

Minimum Notice Period of Labor Contract Termination

Where TGI terminates a labor contract pursuant to Article 11 or the provisions of Article 13, the provisions set forth below shall govern the minimum period of advance notice：

1. Where a worker has worked continuously for more than 3 months but less than 1 year, the notice shall be given 10 days in advance.
2. Where a worker has worked continuously for more than 1 year but less than 3 years, the notice shall be given 20 days in advance.
3. Where a worker has worked continuously for more than 3 years, the notice shall be given 30 days in advance.

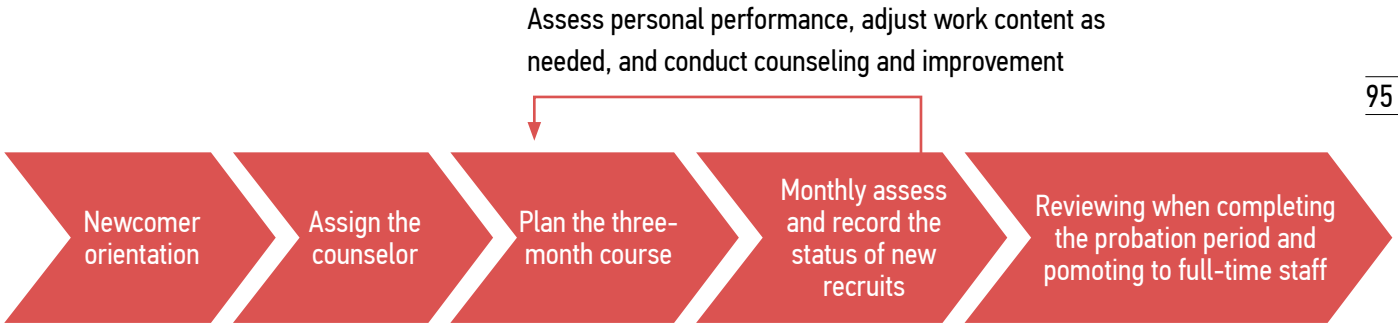
5.2 Employee Care & Training

We attach great importance to the career planning, personal development of our employees, and aim to develop professional talents and expect to convey the mission, vision and core values of TGI. TGI has established a comprehensive training policy to provide new and incumbent personnel diversified training experience ranging from common courses to professional courses, and even to management knowledge. Every year, TGI arranges courses according to organizational strategies and unit needs. Through systematic education and training, for example, standardization of workflow of staff employees, optimization of supervisory competence, and promotion of workplace safety and health education, and awareness to human rights, workplace safety and regulatory compliance; Besides, to respond to rapidly changing market demands, digital and information explosion generations, we cultivate optoelectronics, energy conservation, touch-responsive glass, to enhance the company's competitiveness and continuity of sustainable operation.

Education and Training System for TGI Employees：

New employee orientation and education

- New employee orientation and education
- Common Course (including corporate culture, history, regulation, Human resource system, professional document reading)



1 Professional Course (including course, factory internship)

In order to promote employee experience inheritance, tacit knowledge sharing and enhance the sense of honor of senior employees, in 2019, TGI introduced the "New Personnel Counseling System". Through the organization, culture, professional and skilled senior counselors, we provided newcomers the most direct and one-to-one guidance and teaching. With the same employee mutual assistance mechanism, new recruits can quickly integrate into the work environment and increase the retention rate. In 2019, there were 26 counselors in total. Two of the recruits had found that they were not right for the job during the counseling. After the mutual discussion, TGI and the two recruits have decided to terminate the labor contracts. Except for the two exceptions, the other 24 people were promoted to full-time staff at the expiry date of the trial period. Until December 31, 2019, the in-service rate is 95.83% which indicates that the counselor mechanism had shown certain results.

On-the-job education and training

1 Annual education and training plan: All units and departments report the needs for the courses at the end of the year to determine the planning and schedules of the courses for the following year.

2 Application for external training: Depending on the needs of each department, employees will be selected to participate in external training to strengthen professional knowledge.

Diverse skill training

According to the requirements of regulations and the independent proposals of the company's factories, TGI has set up a diversified development training course to enhance employee's considerable knowledge and skills:

1. Legitimacy requirement: Information security course, Fire safety course, Personal data protection, Occupational safety and health advocacy, Workplace violence advocacy

2. Professional skill: Language courses, First aid course, Artificial Intelligence course, Crane/forklift truck operator training

To encourage continuous learner, and enhance competitiveness, TGI promotes "Off-work Learning Plan", and provided "Introduction to Japanese Speaking", "Situational English" courses in 2019. Those who pass the course are awarded a certificate by the teacher. The company provides annual award certificates and bonuses to encourage employees.

2019 Headquarter：Situational English

2019 Headquarter：Introduction to Japanese Speaking(2)

With the evolution of technology, AI has become the current industry development trend. TGI and Chung Hua University have conducted training cooperation to set up AI system courses and invite the deputy managers of the information department and various factories to participate. It is hoped that the courses will stimulate AI application and improvement in various fields.

2019 AI Basis Course

The average of staff education & training of TGI in 2019

Staff: **16.2** hours

Supervisors **21.4** hours

Managers **15.6** hours

Executives **9.8** hours

TGI set up dedicated manpower and training units to plan all categories of courses, establish an annual training plan. Through the professional curriculum planning, training and exercise programs, TGI aimed to develop the glass-related technical and management talents. If other competencies (such as education level, skills or license, experience, etc.) are required for the work, the Factory Affairs Section will select and evaluate the competent personnel. For example, the operation of overhead cranes and forklifts requires a professional license from a government registered external training institution.

To encourage youngsters to understand the industry and to join TGI in the future, the Taichung Factory has participated in the government's "Youth Flagship Program" and employed young people who were aged 15-29. The program was subsidized with 10 thousand NTD for the first 3 months. The Taichung Factory also joins the Ministry of Labor's industrial talent promotion plan. Within three years, an external lecturer can be invited to lecture the course. What's more, the program also provides. Hsinchu Factory also implements "Charging Take-off and Industrial Talent Investment" projects through trade unions and government agencies. From general staff to senior executives, all welcomed to participate in this training, learning briefing techniques, interviewer skills, workplace etiquette, and business correspondence, etc. Through the various projects, hopefully, it could bring TGI whole new opportunities and images instead of the traditional manufacturer industry.

Taichung Factory 2019 Youth Flagship Program

Taichung Factory 2019 Youth Flagship Program

Hsinchu Factory English Practical Traning Course

Hsinchu Factory Problem Analysis and Solution Class

Hsinchu Factory Supervisory Management Class

Hsinchu Factory Speech Training Course

2019 TGI Staff Education & Training Statistics

Employee	Factory	Male		Female		Total	
		Number	Hours	Number	Hours	Number	Hours
Staff	Headquarter	35	341.7	24	201	59	542.7
	Taoyuan	308	11,152.5	77	2,803.5	385	13,956
	Hsinchu	648	9,499.5	79	1012	727	10,511.5
	Taichung	321	2,961.5	30	218	351	3,179.5
	Lukang	596	7,129	184	1,983	780	9,112
	Lukang Flat Glass	116	2,846	9	116	125	2,962
	Changpin	184	2,259.8	32	333.5	216	2,593.3
	Total	2,208	36,190	435	6,667	2,643	42,857
	Average Hours	16.4		15.3		16.2	
Junior-level Manager	Headquarter	32	425	44	370.5	76	795.5
	Taoyuan	134	4,090.5	13	520.5	147	4,611
	Hsinchu	300	6,878	13	432.5	313	7,310.5
	Taichung	213	6,060.5	7	231.5	220	6,292
	Lukang	196	2,074	13	110	209	2,184
	Lukang Flat Glass	67	2,095	1	4	68	2,099
	Changpin	126	1,533.4	1	8	127	1,541.4
	Total	1,068	23,156.4	92	1,677	1,160	24,833.4
	Average Hours	21.7		18.2		21.4	
Mid-level Managers	Headquarter	21	130	12	111.3	33	241.3
	Taoyuan	5	132	0	0	5	132
	Hsinchu	15	284	1	45	16	329
	Taichung	12	379	1	1	13	380
	Lukang	1	2	0	0	1	2
	Lukang Flat Glass	3	47	0	0	3	47
	Changpin	4	42	0	0	4	42
	Total	61	1,016	14	157.3	75	1,173.3
	Average Hours	16.7		11.2		15.6	
Senior-level Managers Exacutives	Headquarter	4	25	0	0	4	25
	Branch Factories	2	34	0	0	2	34
	Total	6	59	0	0	6	59
	Average Hours	9.8		0		9.8	

5.3 Occupational Safety & Health

Occupational safety and health committee

In order to create a safe and secure working environment, Taiwan Glass has set up occupational safety committees in the head office, factories, and implemented a communication mechanism. The headquarters and all factories of TGI all have a Safety and Health Committee, which provides an open channel for communication. 1/3 of the committee members are employee representatives, as required by law. The committees hold quarterly meetings to discuss safety and health-related issues. The meetings serve as a formal platform allowing horizontal communications between all departments and vertical communications between the management and the employees. Our Occupational Safety and Health Committee's mission is to formulate safety and health-promoting strategies, establish company-wide safety, environmental and health-promoting objectives and to implement and revise relevant plans when necessary. The headquarters and the factories all have dedicated Occupational Safety Management Units which conduct occupational safety inspection every month to detect a problem and take precautionary measures as early as possible. The Occupational Safety Unit in all facilities are committed to promoting environmental safety & health as well as risk control. They also report to the highest-ranked factory supervisor, relevant authorities and Employee Representatives during Safety and Health Committee sessions every quarter. The "5S" plan provides education and training to new and current employees to enhance their working safety awareness and ability to handle situations at work and prevent accidents to ensure staff safety and health and a safe and healthy working environment.

Main Issued Discussed During the Occupational Safety and Health Committee Sessions:

01. To make recommendations on occupational safety and health policies.
02. Coordinate and propose occupational safety and health management plan.
03. Review the safety, health education and training implementation plans.
04. Review the operational environmental monitoring plan, monitoring results, and measures.
05. Review the health management, occupational disease prevention and health-promoting measures.
06. Review various safety and health proposals.
07. Review the automatic inspections and safety & health audits of all business units.
08. Review the disaster prevention measures of machinery, equipment, or raw materials and materials.
09. Review the occupational injury investigation reports.
10. Assess the on-site safety and health management results.
11. Review the operational safety and health management matters in contracted work.
12. Other matters related to occupational safety and health management.

Committee Member/Employee Representative Ratio in 2019

Item/ Factory	Headquaters	Taoyuan	Hsinchu	Taichung	Lukang	Changpin	total
Committee Members	14	17	15	23	15	53	137
Employee	6	7	6	5	5	18	47
Representatives (%)	42.86%	41.18%	40.00%	21.74%	33.33%	33.96%	34.31%

Note: Based on the law, Lugang flat glass factory does not need to establish a labor safety and health committee, but it continually promotes employee education and training programs every year to strengthen the occupational safety and health awareness.

Occupational Safety Management

The objective of the disaster management is to reduce the disability frequency (FR) and the severity of the disability injury (SR) by 20%, as the starting point of the zero-disaster target and as an indicator to enhance the safety activities of the factories. The operational mechanism of occupational accident management is aimed at accidents, traffic accidents and false alarms.

Emergency notification and Management

Unit/ supervisor of the injured person to inform within 3 days → Complete the "Employee Injury Report" and "Employ to/from Work Injury Report" → Signed by safety manager, department supervisor, Labor Safety Section and Safety & Health supervisor in the order. → Original and copied report archived by HR deparment and Injury/ Accident Unit

TGI also compiles the occupational injury/accident numbers every six months to understand the causes and make them the first thing to prevent in the facilities. The company notifies all units of the results and preventive measures to prevent the same types of injuries or lower the severity of such injuries. If major accidents take place in other businesses, TGI will notify all units and ask them to promote safety further in all operations with the risk of identical accidents. The 2017-2019 safety indicators are as follows:

Item/Year	Gender	2017	2018	2019
Disabling Frequency Rate (FR). Total Disabling Incidents (more than 8 hours of rest) ×1,000,000/ Total Manhours	Male	8.43	6.85	7.12
	Female	7.17	3.62	4.48
	Total	8.26	6.38	6.73
Disabling Severity Rate (SR) Days Charged ×1,000,000/Total Manhours	Male	119	165	159.23
	Female	244	118	76.1
	Total	136	158	147.13
Absence Rate (AR) Total number of days lost / Total days Worked	Male	0.01	0.01	0.01
	Female	0.02	0.02	0.02
	Total	0.01	0.01	0.01

Note: Total days of absentee include the number of days of leave, sick leave, and work-related injury leave.
1. Sick leave (including unpaid sick leave, half-pay sick leave, menstruation leave): 47,686 hours
2. Leave (including family care leave): 41,435.5 hours
3. Work-related injuries: 14,363.5 hours
4. Total working hours: 9,209,320 hours

In 2019, TGI had continued to cooperate with the hired British consultant Warwick Mayall for occupational safety consulting, counseling, and advocating "100 days without an accident". During the continuous investigation and observation, TGI enhanced the risk management ability, acquired how to divide different types of injury, possibilities, further analyzed the reason and learn (for example on-site treatable injury and turned the occupational safety concept into the working attitude. TGI acquired to co-work with each other and put the safety in the first place so to build up asafe working environment and reach the zero-incident goal.

Occupational Safety Consultant visited the Lukang Flat Glass Factory in 2019

Workplace safety principles

01 "Employee" is the key to the success of a safety and health management program.

02 All injuries and occupational diseases can be prevented.

03 Every employee has a responsibility to prevent possible injuries and illnesses.

04 Emphasis on safety is one of the conditions of employment, and each employee must bear the responsibility for workplace safety.

05 Workplace safety training is the foundation for establishing a safe workplace.

06 A continuous workplace safety audit is necessary.

07 All security deficiencies must be corrected immediately.

08 Investigating possible accidents is just as important as investigating accidents that have occurred.

09 Safety after work and safety at work are equally important.

10 Preventing workplace injuries can bring effective benefits.

Until the end of 2019, occupational safety consultant Warwick Mayall had visited Taoyuan, Hsinchu, Taichung, Lukang and Lukang flat factories and made many suggestions for improvement. For example, the Hsinchu Plant has proposed different themed training programs according to the characteristics of each unit, and strengthened the concept of safety prevention according to the characteristics of different plant areas and the risk of units operating equipment; In 2019, in accordance with the recommendations of occupational safety consultants, the foreign language guidance should be added to industrial safety publicity PowerPoint so to facilitate foreign employees to understand.

The Taichung factory reviewed the last week's occupational safety incident at the factory affairs meeting every Monday. The unit where the incident occurred reported to the supervisors of all units and proposed improvement measures. The work safety department and other departments will also give suggestions if there isn't any incident in the factory. It will collect other major occupational safety incidents from time to time for simulation, analysis and review. The Changpin plant is especially aimed at evaluating and managing risks for people, machines and improving equipment and protective equipment for high-risk projects to prevent potential hazards as much as possible. Lukang Plant regularly organizes traffic safety programs for foreign employees to avoid possible commuting accidents.

In addition to occupational safety and health-related training, there are related training, drills, and advocacy courses for emergency events in the factory. For example, hire professionals to conduct CPR courses in the factory, or additionally promote the concept of fire prevention, escape and emergency response to employees.

In October 2019, the Hsinchu factory conducted a fire drill with a total of 125 people. Through the fire extinguishment notification and evacuation guidance courses, it explained how to operate the drill to the personnel at the plant end, and strengthened the emergency handling procedures for fire incidents.

Fire Fighting Notification and fire escape Guidance Course

Fire Fighting Training Practice

In order to enhance employees' work safety and health knowledge, in addition to conducting occupational safety and health education training, emergency response and fire fighting training, and full-time off-site training for newly recruited employees, TGI conducts monthly environmental safety and health education training for employees in all units. Taoyuan factory conducts occupational safety and health education and training for contractors and supervisors in the factory and conducts course lectures on common lack of work safety and regulations-related requirements.

◀ Emergency Evacuation Plan

▼ Evacuation Assembly Instruction

In 2019, the Changpin Plant conducted employee occupational safety education and training

In 2019, Taoyuan Factory conducts occupational safety education training for contractors and internal supervisors

In 2019, Lukang Flat Glass Plant conducted a simulation drill on the leakage of sulfur dioxide gas, and taught the site personnel to be familiar with the emergency procedures and rescue methods.

Labor Safety Inspections and Regulatory Compliance

TGI has no use of child labor in 2019 and complaints about major labor-related issues; there are no forced or compulsory labor risks in any operational activities within the company, and relevant labor conditions are handled under relevant laws and regulations. In 2019, Changpin factories accept the government or the Ministry of Labor. The labor inspection of the Occupational Safety and Health Center of the Occupational Safety and Health Administration is as follows:

Changpin Factory	There are no violations of the regulations on February 27th, 2019
	There are no violations of the regulations on June 27th, 2019

Note: Taipei Headquarters, Taichung, Lukang, Lukang Flat Glass has no inspection and illegal records

Factory	2019 Occupational Safety Violation	Fine	Resolution
Taoyuan Factory	Failure to take necessary measures to prevent rotation, resulting in personnel operating the moving ladder and accidentally falling from the ground	6 thousand NTD	Immediately added safety protection equipment and appliances to the omissions, updated the operating specifications and required personnel to report before operation, and listed the relevant cases as full staff education and training, thereby minimizing potential occupational accidents and risks.
Hsinchu Factory	Not installed in the passage of TS-2 weighing area according to law, there is a risk of falling, install handrails	240 thousand NTD	
	Without seting up and down safety equipment for stairs which do not exceed the height difference of 1.5 meters between TS-2 weighing materials		
	At the opening of the wastewater treatment plant pool and the sludge filter mechanical material opening, for the height more than 2 meters, there is a risk of falling, and no appropriate fence set up, which violates the rules of occupational safety and health facilities		
Changpin Factory	Without following the regulation to set the effective facilities such as installing retaining piles so to cause the potential risk of collapse	60 thousand NTD	

Employee health promotion and management

2019 Employee Health Promotion

A quarterly physical and mental health questionnaire survey is conducted for the on-site shift personnel of each factory, and the results of statistical analysis are used as references for follow-up care, further medical treatment or job adjustment.

For those with potential health risks (such as shifts, long working hours, overweight, abnormal blood pressure, diabetes, etc.), doctors regularly consult to provide suggestions for improving life, diet and habits.

Each factory continues to promote health promotion courses, such ashealthy diet, physical fitness, psychological stress management and burn prevention lectures, etc., and continue to encourage colleagues to participate in and form sports clubs to promote the physical and mental health of employees.

Each plant of TGI set up health centers, equipped with professional factory nurses and special on-site service specialists to jointly promote health management programs including health care, special protection, and health promotion. It is expected to take into account practical needs, risk management and continues to work in occupational disasters and make efforts to prevent diseases and promote employees' physical and mental health.

Headquarters on-site health consulting services

Workplace Safety Maintenance
"Workplace Environment Adjustment to Reduce Visual Stress"

Recruits must complete the physical examination before registering, and use the report results as the basis for the allocation of personnel to carry out health classification management, health education, and tracking. Regular employees undergo health checkups every two years; those engaged in special hazard operations will undergo special medical checkups and conduct four health and health education and training sessions each year. The full-time factory nurses will organize, analyze, and save the inspection reports. Health status, giving health education to high-risk groups of health, arranging follow-up and treatment, regular care, and assessing the suitability of the current job, assisting in work adjustment if necessary, integrating health status to plan and promote health promotion activities. According to the season and current epidemic situation, TGI regularly provides health education information through the electronic bulletin board. To assist colleagues in prevention, TGI recommends that colleagues in high-risk groups vaccinate and apply the correct information to personal home care for colleagues to click on.

Our health center is equipped with a full-body composition monitor, which can measure body weight, body fat, body age, BMR, visceral fat and the subcutaneous fat and skeletal muscle of the entire body, arms, torso, and feet.

Based on the relevant provisions of the "Regulations of the Labor-Health Protection", TGI regularly arranges employees to receive physical examinations to provide a healthy and hygienic working environment for employees. The company has commissioned professional physicians to manage the employees' health base on the physical examination results. In 2019, there were 1,876 times general health check-ups and 2,898 special health check-ups, 4,414 times in total.

The kiln at the Taichung Factory produces extreme heat and therefore the factory has in place the "Prevention Plan for Ailments Induced by Exceptional Workload" and takes necessary prevention and improvement measures accordingly to make sure all the employee's work hours, breaks and days off work comply the labor regulations, which can contribute to physical, mental health and balanced family life for our employees.

In 2019, Taoyuan, Hsinchu, Taichung, Lukang and Lukang Flat Glass Factory arranged the environment examination so to protect the employees from extreme heat, noise, dust and ionizing radiation.

2019 Physical Examination Statistics

Physical Examination Statistics									General Physical Examination	total
High Temperature	Dust	Noise	n-Hexane	Lead	Chromic acid and chromates	Ionizing radiation	Night Shift	total		
468	455	1,647	8	66	11	164	827	2,898	1,876	4,414

Note: 2019 General Physical Examination is practiced in Taoyuan, Taichung, Lukang, Lukang flat glass and Changpin factory.

In 2019, Department of Occupational Safety, based on the work hour sheets from Human Resource Department, selected a group of employees with potential risks from employees with excessively long hours, excessive shifts and other factors contributing to cardiovascular diseases such as for overweight, smoking, unusual blood pressure and diabetes.

The department evaluated this group of employees and arranged doctor appointments. Some employees were referred to other treatments and some were provided with health education. The department adjusted/limited the job responsibilities of these employees if needed and continued to follow up to protect the employees' physical and mental health as well as the company's rights.

2019 Changpin Factory General Physical Examination

2019 Headquater General Physical Examination

Encourage Willingness to Exercise & Create a Good Life and Healthy Work Place

TGI has kept to the principle of "Work-Life Balance" as the sustainable management of the enterprise. It regularly checks the health of colleagues through regular medical care in the plant/site. Because of the general lack of exercise of colleagues, most of the colleagues have the intention of Exercise, but due to busy working and housework, it is difficult to practice, or the intention of exercise can be limited by locations and weather factors.

In 2019, the headquarter established the "Fitness Club", the "Healthy and Active GO GO" activity so to encourage colleagues to participate in walking, grasping small hours, without any restrictions, and combine mobile apps to check the number of walking steps anytime, anywhere. The community LINE group shares the total number of club steps, total calories consumed, and walking distance each month. Besides, "Fitness Club" sets a step goal every month and counts the steps to share the results of the exercise. During the walking step activity, the goal is to reach 150,000 steps, and rewards are given to encourage colleagues. After the activity, the certificate would be given so that colleagues can not only continue the spontaneity of the exercise but also get a sense of accomplishment in the process.

Fitness Club Activity

Fitness Club Activity Walking Steps Certificate

2019 <Fitness Club>Activity Compliance Rate:

Healthy and Active GO GO			
Month	April	May	June
Participants	34	41	42
The number of reaching the goal	27	34	35
The number of not reaching the goal	7	7	7
Compliance Rate	79.41%	82.93%	83.33%

2019 The Avaerage Steps of the Finess Club:

Healthy and Active GoGoWalking steps in total		
Month	Walking Steps	Average Walking Steps
April	6,207,966	229,925
May	7,342,088	215,944
June	7,716,771	220,479
In total	21,266,825	644,449

Sports Enterprise

Adhering to the concept of "employees are the most important asset", TGI continuously promotes various sports clubs, courses, lectures, etc., and actively encourages colleagues to exercise after work. Through the call of club activities, many colleagues have been infected by the atmosphere and joined in one after another. Exchanges and discussions not only enhance the emotions between each other in the moment of sweating but also relax the body and mind and promote their health.

In 2019, TGI won the sports enterprise trophy

TGI Sports Enterprise Medal

In order to promote the importance of spontaneous sports, and to take root in sports concepts, TGI participated in the selection of "108 Sports Enterprise Certification of the Ministry of Education". Under the competition of many companies, it stood out and won the certification, indicating that each factory is in sports. The hard work is obvious to all, highlighting the core value of "Employees are the most important asset". In the future, we will continue to promote sports concepts and create a sports atmosphere, so that healthy colleagues will become the driving force behind the advancement of TGI.

2019 Hsinchu Factory Labor Union participated in the Hsinchu City Sports Day for Laborers and won second place in the team competition

Healthy Workplace Certification

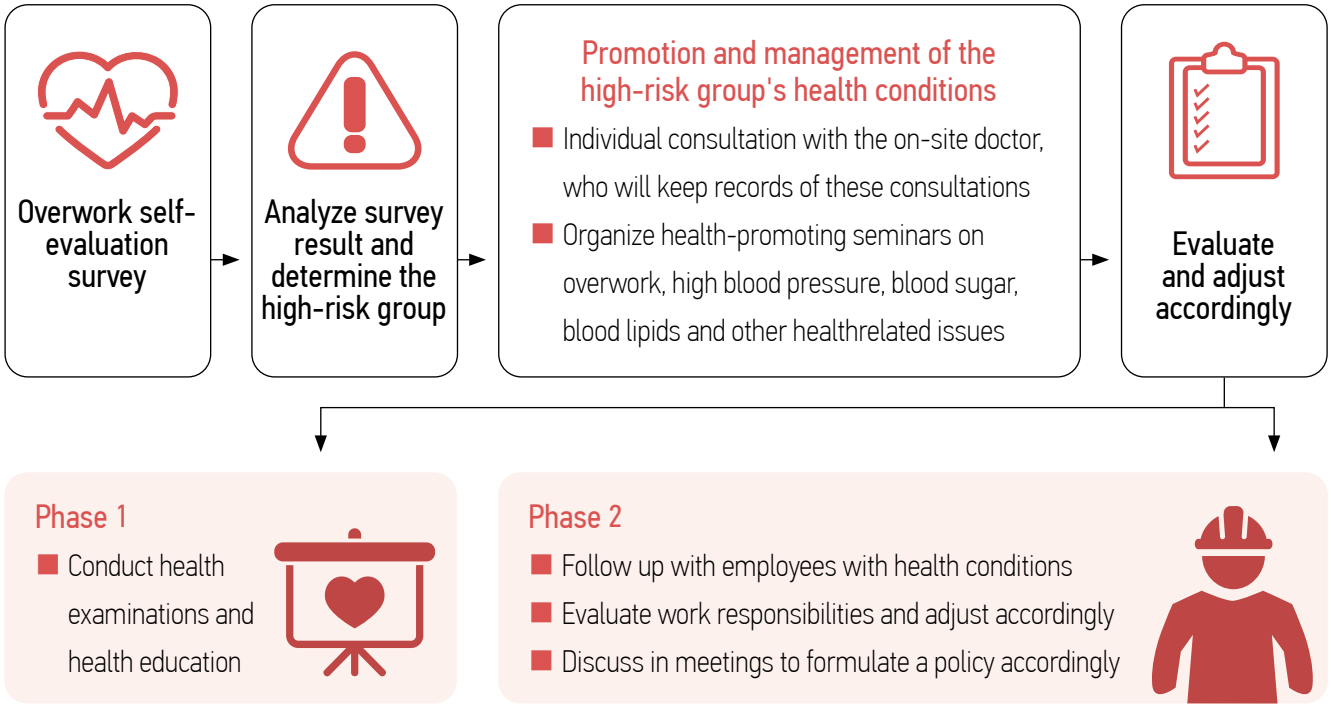
In 2019, TGI won the "Healthy Workplace Certification" issued by the National Health Administration of the Ministry of Health and Welfare. The company is committed to creating a comfortable, healthy and safe workplace environment so that all TGI colleagues "will be happy to work and enjoy life."

TGI Healthy Workplace Certification

Plan to Prevent Disease Caused by Unusual Workload

TGI keeps track of and evaluates risks of our employees' health conditions, nature of work (shifts, night shifts, long work hours and unusual workload) and work hours. For employees with potential health risks, TGI arranges for employees to provide them with health education or refers them to seek medical assistance from doctors.

Exceptional Workload Improvement Flow Chart

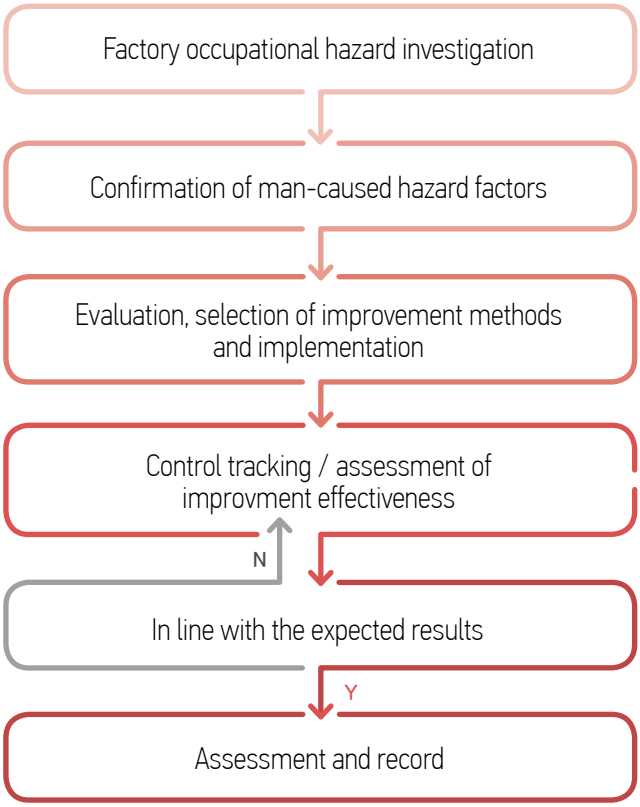


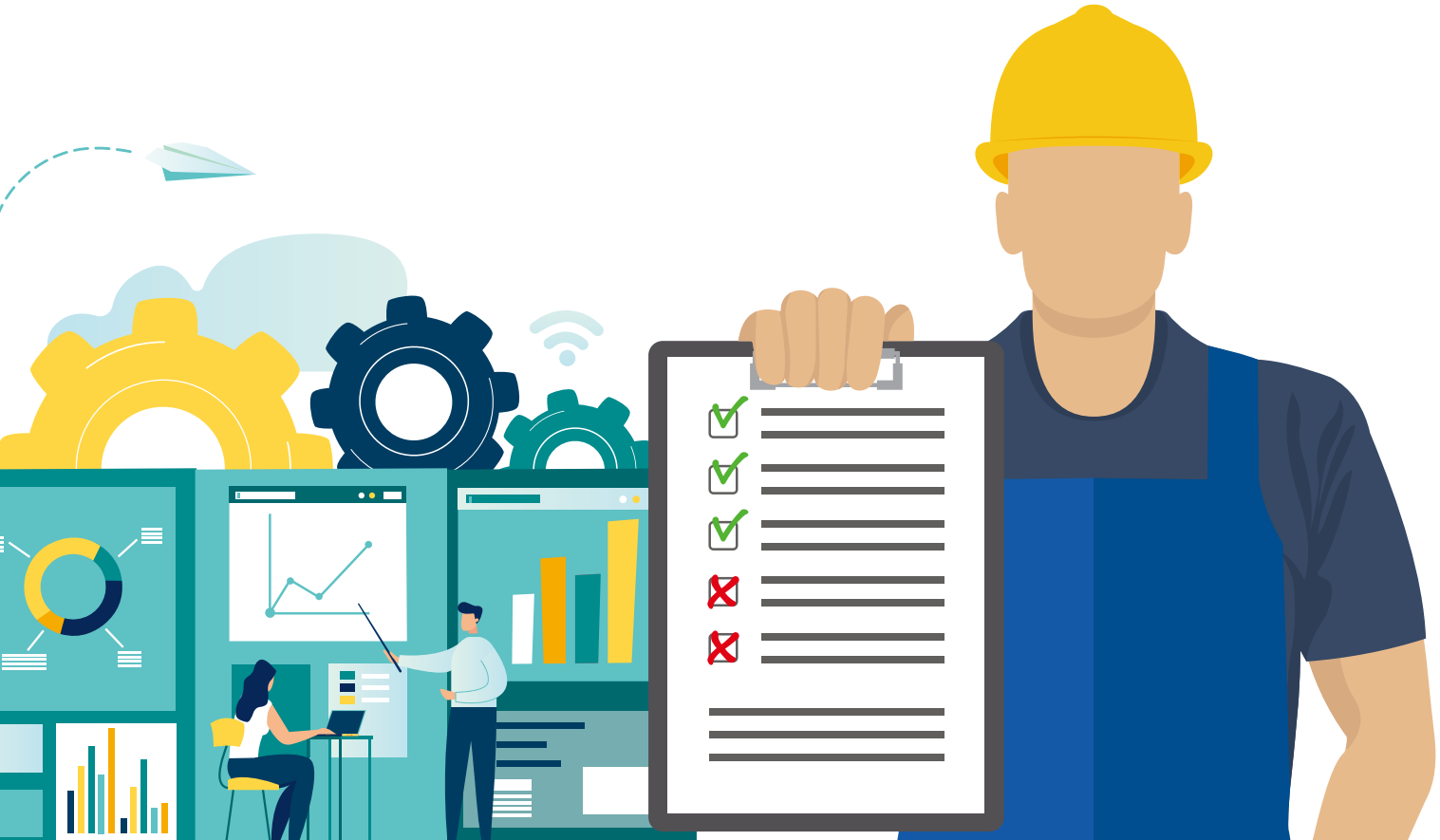
Man-caused hazard prevention implementation instructions

Data collection, analysis, and hierarchical management are implemented according to the work type of colleagues. TGI proposed improvement methods and health promotion to reduce musculoskeletal injuries, improve the work environment, prevent man-caused harm and avoid repeated musculoskeletal injuries to establish a safe and healthy workplace. For example, the procedures of the chopped strand are as follow:

- The on-site doctor accompanied the chopped strand managers to inspect storage and delivery units and observe how personnel handle glass products.
- The height of the table that on-site personnel handles the finished glass product is above the waist and below shoulder, which fit the ergonomic work area. The space for handling the product is spacious to ensure correct posture. Products weighing more than 10 kg will be handled by a group of two or more people according to the exact weigh. The work is repetitive, so the prevention of man-caused harm is necessary
- The doctor guides the correct handling posture at the site and recommends handling the finished glass products and indeed wearing protective equipment to prevent glass cuts and related musculoskeletal disorders.

Process of man-caused risk analysis and prevention





CH6 Social and Community Care

- 6.1 Contributions to the Society
- 6.2 Local Engagement

Achievements of Community Care in 2019

2,523 Students
2,935 Million NTD

Taiwan Glass Culture and Education Foundation has sponsored 2,523 college students and provided a total of NTD29.35 million scholarships since 2000.

90 Students
10 Thousand NTD Each

90 students awarded scholarships with NTD 10,000 each in 2019.

As co-organizer of "Chinese Zodiac Exhibition", we won the 14th Art and Business Award held by the Ministry of Culture in 2019.

4.18 Million NTD

Donation in 2019 totaled NTD 4,185,800.

243 bags

In 2019, Taiwan Glass responded to the concept of "donating a bag of blood and saving one's life", and a total of 243 bags was donated by emplyees of TGI factories.

6.1 Contributions to the Society

To give back to society, TGI founded Taiwan Glass Foundation with the purpose of rewarding young students for their efforts in learning and supporting cultural and educational activities. Since its establishment in 1989, in addition to co-organizing cultural and educational activities, it has awarded 2,523 college university students with a scholarship of 29.35 million NTD.

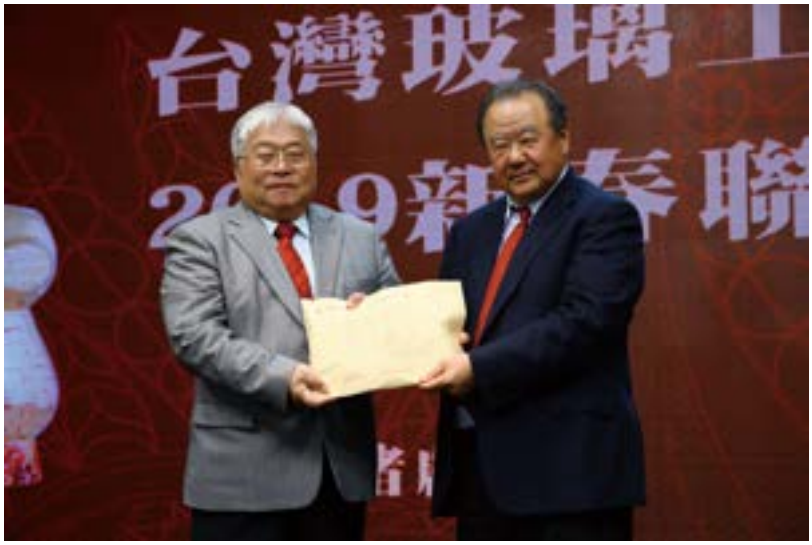
Taiwan Glass Foundation was invited by Xuexue Foundation to collaborate on the "Chinese Zodiac Exhibition". With Chinese Zodiac as the theme, domestic and foreign artists were invited to participate. The exhibition was held in Taipei and Kaohsiung and artworks are sold for fundraising. The fundraising proceeds were all invested in the Taiwanese cultural color education courses across counties and cities. As a result, Taiwan Glass Foundation won the 14th Art and Business Award for devoting to Art and Culture.

The Art and Business Award is an award awarded by the Ministry of Culture. The purpose is to pay tribute and praise to the enterprises, groups ,or individuals that support the culture and art causes. Cultural literacy is an important backing and driving force for a country. The integration of government and non-governmental resources not only stimulates the participation of corporate groups in arts and cultural activities but also enables the growth and promotion of cultural power and becomes an important soft power of the country.

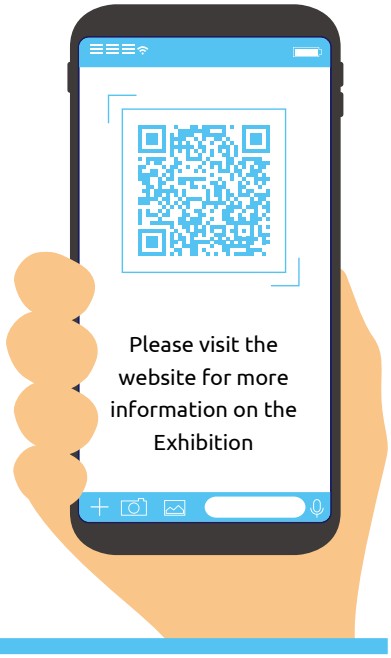
TGI is committed to transforming social support for us into actions that contribute to the people. This award is an affirmation to us, and it is also the driving force for continuous feedback to society in the future.

▲ Chinese Zodiac Artworks

▶ Art and Business Award from the Ministry of Culture



2019 Scholarship Award Ceremony



Taiwan Glass Foundation Activities

Year	Activity	Location	Descriptions
2019	Scholarship	Taipei City	90 students awarded scholarships, each issued NTD 10,000.
2018	Scholarship	Taipei City	90 students awarded scholarships, each issued NTD 10,000.
	Art Exhibition	Kaohsiung City	Collocated and sponsored the "Chinese Zodiac Exhibition"
2017	Scholarship	Taipei City	80 students awarded scholarships, each issued NTD 10,000.
2016	Scholarship	Taipei City	140 students awarded scholarships, each issued NTD 10,000.
2015	Scholarship	Taipei City	140 students awarded scholarships, each issued NTD 10,000.
2014	Scholarship	Taipei City	129 students awarded scholarships, each issued NTD 10,000.
2013	Scholarship	Taipei City	143 students awarded scholarships, each issued NTD 10,000.
	Culture & Art	Taipei City	131 Beautiful Taiwan (Taiwan from the Air) movie tickets.
2012	Scholarship	Taipei City	196 students awarded scholarships, each issued NTD 10,000.
	Art Exhibition	Taipei City	Co-organized and sponsored "Alvaro Siza: The Beauty of Function".
2011	Scholarship	Taipei City	180 students awarded scholarships, each issued NTD 10,000.
	Art Exhibition	Taipei City	Co-organized and sponsored "Alvaro Siza: The Beauty of Function".
2010	Scholarship	Taipei City	160 students awarded scholarships, each issued NTD 10,000.
	Movie Premiere	Taipei City	Co-organized special screening for "Let the Wind Carry Me" with 200 attendants. The foundation used this opportunity to promote excellent Taiwanese movies and develop more talents in the movie industry.
	Green Building Lecture	Taipei City	"Taipei Beautiful: Green Building Lecture": 300 participants. The foundation worked with the Department of Urban Development, Taipei City Government on this urban renewal plan. In addition to renovating old houses, this project also aims to make buildings more environmental-friendly.

Donations in 2019

Prioritization	Organization Title	Total Donation (NTD)
1	Chinese National Association of Industry and Commerce	1,500,000
2	Straits Economics & Cultural Interchange Association	48,000
3	Taiwan Golf & Country Club	20,000
4	Taiwan Glass Industry Association	214,300
5	Taiwan Institute for Sustainable Energy	300,000
6	Chinese National Federation of Industries	20,000
7	Hsinchu Glass Commercial Association	20,000
8	Keelung Glass Commercial Association	42,000
9	Taipei City Glass Assembly Craft Association	12,000
10	Taiwan Federation of Glass Trade Associations	40,000
11	Taipei Glass Commercial Association	65,000
12	Changhua County Glass Assembly Craft Association	12,000
13	Tainan City Glass Union Association	12,000
14	Taichung City Glass Assembly Craft Association	12,000
15	Kaohsiung Glass Commercial Association	30,000
16	Changhua County Glass Commercial Association	20,000
17	Taichung City Glass Commercial Association	30,000
18	Tainan City Glass Commercial Association	20,000
19	Taichung City Chamber Glass Commercial Association	20,000
20	New Taipei City Glass Commercial Association	20,000
21	Chiayi City Glass Commercial Association	20,000
22	Management Institution In Taipei	100,000
23	Tainan City Glass Assembly Craft Association	12,000
24	Taoyuan City Glass Commercial Association	20,000
25	National Policy Foundation	300,000
26	Hsinchu City Glass Assembly Craft Association	12,000
27	Chung-Hwa Nuclear Society	100,000
28	The third Wednesday Club	50,000
29	National Taipei University	100,000
30	Chinese Law Society	200,000
31	Chung-Hwa Police Friend Association	20,000
32	Taiwan Composite Association	176,500
33	Enlightening Earth Association	600,000
34	Husheng Temple Educational Foundation	10,000
35	Koo Foundation Sun Yat-sen Cancer Center	8,000
Total	4,185,800	

6.2 Local Engagement

In addition to the social care and other activities held by the headquarter, TGI constantly strengthens the relationship with local communities. Rooted in the local area, TGI actively contributes to the communities, greening the environment, hire local talents to create employment opportunities and prospering the local economy. In order to enhance the company's corporate image, create the value of a green factory, and establish a comfortable working environment for employees, TGI participated in the green adoption activities in the industrial areas and hoped to make a contribution by the greening environment. In addition, we also provided TGI products to sponsor schools and associations. We continued to make positive connections with communities.

Blood Donation

Based on the principle of giving back to society, we hoped that employees can participate in charity in response to the concept of "Give blood, save lives". Lukang Factory and Lukang Flat Glass Factory, partnered with the Taichung Blood Center, hold blood donation events every year. Taichung Plant also joined the event in 2019, with 4 blood donation campaigns being held during 2019 The factories aimed to lead as an example to encourage all TGI employees to give blood and save lives. In 2019, TGI's factories donated a total of 243 bags of blood.

The Taichung Factory

Glass Donate to the police station

TGI is thankful that local police officers to maintain the security of local folks, guard their lives, and take the risk of life safety. They hope to be able to contribute their own efforts to the police units that contribute to the society and invest in the renovation of the local police organs on duty. With the cooperation of the police and the public, we will work together to eliminate crimes and maintain the safety of law enforcement personnel. We will give the free bulletproof glass to maintain the office quality of police officers and hope to make our community better and safer.

Certificate of Appreciation

Visit to Our Plant and Human Resource Cultivation

We believe that the cultivation of talents in Taiwan starts from school, and we hope to provide students studying at school with an opportunity to understand the practical operation of the industry, help to understand the characteristics and development of the industry and integrate with the workplace in the future. During the student's visit to the factory, Taiwan Glass personnel through education, training, operation, and explanation, let students understand the characteristics of coated energy-saving glass and various glass processing processes, and help students understand the fiberglass industry environment through experience sharing. Through the explanation of the industry chain and the on-site observation of the factory, it has also won praise from students and teachers. I hope that in the future, I will have such an opportunity to contribute to education in the long term, and also convey the professionalism and spirit of Taiwan Glass to attract more talents to join Taiwan industry.

Students from Taipei Fuhsing Private School and Tunghai University

Community Activities and Relationship

Hsinchu City River Water Patrol

In 2019, TGI donated 72,000 NTD of river patrol materials and set up an environmental patrol team. Through internal sponsorship and employee participation, in addition to contributing money, it also contributes more and invests in the maintenance of the community environment in a practical way.

新竹市政府感謝狀

台灣玻璃股份有限公司新竹廠巡守隊熱心積極參與河川水域巡守，對本市河川環境維護認善貢獻良多。

特頒此狀，謹致謝忱。

市長 林智堅

Park Environment Maintenance

In 2019, TGI arranges for employees to take turns once a month to take turns to assist the environmental protection volunteer cleaning day in Puqian Park and to bring the community closer to them also to encourage employees to recognize Taiwan Glass and participate in the community through activities.

TGI Takes responsibility of the cleaning of public toilets next to Mr. Wu's temple from 2018-2021.

Appendix

Appendix I：Global Reporting Initiative(GRI)Standard Index

The following content has been verified by an independent third-party and the result is published in the independent assurance report in Appendix V. "*" indicates Material Topics while " ● " indicates external verification.

General standard disclosure

Option	No.	Disclosure	External Verification	Chapter	Page
Core	102-1	Name of the organization	●	2.1 About TGI	026
Core	102-2	Activities, brands, products, and services	●	2.1 About TGI 3.1 TGI Product	026 045
Core	102-3	Location of headquarters	●	2.1 About TGI	026
Core	102-4	Location of operations	●	2.1 About TGI	026
Core	102-5	Ownership and legal form	●	2.1 About TGI	026
Core	102-6	Markets served	●	2.1 About TGI 3.1 TGI Product	026 045
Core	102-7	Scale of the organization	●	2.1 About TGI	026
Core	102-8	Information on employees and other workers	●	5.1 Talent Management and Benefits	083
Core	102-9	Supply chain	●	3.5 Sustainable Supply Chain	058
Core	102-10	Significant changes to the organization and its supply chain	●	2.1 About TGI	026
Core	102-11	Precautionary Principle or approach	●	2.3 Risk Management 3.2 Product Quality	041 052
Core	102-12	External initiatives	●	About this Report 3.2 Product Quality	002 052
Core	102-13	Membership of associations	●	2.1 About TGI	026
Core	102-14	Statement from senior decision-maker	●	Message from the Chairman	004
Comprehensive	102-15	Key impacts, risks, and opportunities		Message from the Chairman 2.3 Risk Management	004 041
Core	102-16	Values, principles, standards, and norms of behavior	●	1.1 TGI Sustainable Management 2.2 Integrity TGI	008 036
Core	102-18	Governance structure	●	2.2 Integrity TGI	036

General standard disclosure

Option	No.	Disclosure	External Verification	Chapter	Page
Core	102-40	List of stakeholder groups	●	1.2 Stakeholder Communication	015
Core	102-41	Collective bargaining agreements	●	5.1Talent Management and Benefits	083
Core	102-42	Identifying and selecting stakeholders	●	1.2 Stakeholder Communication	015
Core	102-43	Approach to stakeholder engagement	●	1.2 Stakeholder Communication	015
Core	102-44	Key topics and concerns raised	●	1.2 Stakeholder Communication	015
Core	102-45	Entities included in the consolidated financial statements	●	2.1 About TGI	026
Core	102-46	Defining report content and topic Boundaries	●	1.3 Identification of Material Issues	019
Core	102-47	List of material topics	●	1.3 Identification of Material Issues	019
Core	102-48	Restatements of information	●	No restatements of information	-
Core	102-49	Changes in reporting	●	No changes in reporting	-
Core	102-50	Reporting period	●	About this Report	002
Core	102-51	Date of most recent report	●	About this Report	002
Core	102-52	Reporting cycle	●	About this Report	002
Core	102-53	Contact point for questions regarding the report	●	About this Report	002
Core	102-54	Claims of reporting in accordance with the GRI Standards	●	About this Report	002
Core	102-55	GRI content index	●	Appendix I	118
Core	102-56	External assurance	●	Appendix III	124

Material Topics

"*" indicates Material Topics while " ● " indicates external verification.

*Material Topics

Topic	No.	Disclosure	External Verification	Chapter	Page
Economic					
Economic Performance	201-1	Direct economic value generated and distributed		2.2 Integrity TGI	036
	201-2	Financial implications and other risks and opportunities due to climate change		4.1 Sustainable Environment Strategy	064
Market Presence	202-1	Ratios of standard entry level wage by gender compared to local minimum wage		5.1 Talent Management and Benefits	083
Procurement Practices	204-1	Proportion of spending on local suppliers		3.5 Sustainable Supply Chain	058
Anti-corruption	205-3	Confirmed incidents of corruption and actions taken		2.2 Integrity TGI	036
Anti-competitive Behavior	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	●	3.1 TGI Product	045
Environmental					
Materials	301-1	Materials used by weight or volume		4.2 Sustainable Resource Management	068
	301-2	Recycled input materials used		4.2 Sustainable Resource Management	068
	301-3	Reclaimed products and their packaging materials		4.2 Sustainable Resource Management	068
Energy	302-1	Energy consumption within the organization		4.2 Sustainable Resource Management	068
	302-3	Energy intensity		4.2 Sustainable Resource Management	068
	302-5	Reductions in energy requirements of products and services		4.2 Sustainable Resource Management	068
Water	303-1	Water withdrawal by source		4.2 Sustainable Resource Management	068
	303-3	Water recycled and reused		4.2 Sustainable Resource Management	068
Biodiversity	304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas		4.1 Sustainable Environment Strategy	064

Topic	No.	Disclosure	External Verification	Chapter	Page
Emissions	305-1	Direct (Scope 1) GHG emissions		4.3 Green Production & Management	077
	305-2	Energy indirect (Scope 2) GHG emissions		4.3 Green Production & Management	077
	305-4	GHG emissions intensity		4.3 Green Production & Management	077
	305-5	Reduction of GHG emissions		4.3 Green Production & Management	077
	305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions		4.3 Green Production & Management	077
*Effluents and Waste	306-1	Water discharge by quality and destination	●	4.3 Green Production & Management	077
	306-2	Waste by type and disposal method		4.3 Green Production & Management	077
	306-3	Significant spills		4.1 Sustainable Environment Strategy	064
* Environmental Compliance	GRI 103	Management Approach		1.3 Identification of Material Issues	019
	307-1	Non-compliance with environmental laws and regulations	●	4.1 Sustainable Environment Strategy	064
Supplier Environmental Assessment	308-1	New suppliers that were screened using environmental criteria		3.5 Sustainable Supply Chain	058
	308-2	Negative environmental impacts in the supply chain and actions taken		3.5 Sustainable Supply Chain	058
Social					
*Employment	GRI 103	Management Approach		1.3 Identification of Material Issues	019
	401-1	New employee hires and employee turnover	●	5.1 Talent Management and Benefits	083
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees		5.1 Talent Management and Benefits	083
	401-3	Parental leave		5.1 Talent Management and Benefits	083

Topic	No.	Disclosure	External Verification	Chapter	Page
Labor/Management Relations	402-1	Minimum notice periods regarding operational changes		5.1 Talent Management and Benefits	083
*Occupational Health and Safety	GRI 103	Management Approach		1.3 Identification of Material Issues	019
	403-1	Workers representation in formal joint management–worker health and safety committees		5.3 Occupational Safety & Health	099
	403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	●	5.3 Occupational Safety & Health	099
Training and Education	404-1	Average hours of training per year per employee		5.2 Employee Care & Training	095
	404-2	Programs for upgrading employee skills and transition assistance programs		5.2 Employee Care & Training	095
Diversity and Equal Opportunity	405-1	Diversity of governance bodies and employees		5.1 Talent Management and Benefits	083
Forced or Compulsory Labor	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor		5.1 Talent Management and Benefits	083
Supplier Social Assessment	414-1	New suppliers that were screened using social criteria		3.5 Sustainable Supply Chain	058
	414-2	Negative social impacts in the supply chain and actions taken		3.5 Sustainable Supply Chain	058
Customer Health and Safety	416-1	Assessment of the health and safety impacts of product and service categories	●	3.1 TGI Product	045
	416-2	Incidents of non-compliance concerning the health and safety impacts of products and services		3.1 TGI Product	045
Marketing and Labeling	417-1	Requirements for product and service information and labeling		3.1 TGI Product	045
Customer Privacy	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data		3.4 Customer Service	055
*Socioeconomic Compliance	GRI 103	Management approach		1.3 Identification of Material Issues	019
	419-1	Non-compliance with laws and regulations in the social and economic area	●	2.2 Integrity TGI 3.1 TGI Product 5.3 Occupational Safety & Health	036 045 099
Others					
Corporate Governance	Non GRI Standards index			1.3 Identification of Material Issues GRI 102-18	019
Innovation and R&D	Non GRI Standards index			1.3 Identification of Material Issues 3.3 Research and Innovation	019 054
Customer Service	Non GRI Standards index			1.3 Identification of Material Issues 3.4 Customer Service	019 055

Appendix II：United Nation Global Compact Index

Number	Article	Relevant Sections	Page(s)
	Human Rights		
1	Businesses should support and respect the protection of internationally proclaimed human rights.	3.5 Sustainable Supply Chain 5.1 Talent Management and Benefits	058 083
2	Make sure that they are not complicit in human rights abuses.	5.1 Talent Management and Benefits	083
	Labor		
3	Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.	5.1 Talent Management and Benefits	083
4	The elimination of all forms of forced and compulsory labor.	Ch5 Safe Workplace & Trusted Growth	082
5	The effective abolition of child labor.	5.1 Talent Management and Benefits	083
6	The elimination of discrimination in respect of employment and occupation.	5.1 Talent Management and Benefits	083
	Environment		
7	Businesses should support a precautionary approach to environmental challenges.	2.3 Risk Management Ch4 Sustainable Operation	041 063
8	Undertake initiatives to promote greater environmental responsibility.	Ch4 Sustainable Operation	063
9	Encourage the development and diffusion of environmentally friendly technologies.	3.1 TGI Product 4.2 Sustainable Resource Management 4.3 Green Production & Management	045 068 077
	Anti-Corruption		
10	Businesses should work against corruption in all its forms, including extortion and bribery.	2.2 Integrity TGI	036

Appendix III：Independent Assurance Report

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安永聯合會計師事務所
11012 台北市基隆路一段333號9樓
9F, No. 333, Sec. 1, Keelung Road
Taipei City, Taiwan, R.O.C.
Tel: 886 2 2757 8888
Fax: 886 2 2757 6050
www.ey.com/taiwan

會計師獨立確信報告

台灣玻璃工業股份有限公司　公鑒：

一、 確信範圍

本事務所接受台灣玻璃工業股份有限公司（以下簡稱台玻公司）之委任，對 2019 年度企業社會責任報告書中所選定之永續績效資訊進行有限確信並出具報告。

有關台玻公司所選定之標的資訊及其適用基準，詳附件一。

管理階層責任
台玻公司管理階層應依據適當之基準編製2019年度企業社會責任報告書，包括參考全球永續性標準理事會(Global Sustainability Standards Board, GSSB)發布之GRI準則(GRI Standards)，並應設計、執行及維護與報告編製相關之內部控制，以蒐集並揭露報告書內容。

本事務所責任
本事務所係依照財團法人中華民國會計研究發展基金會所發布之確信準則公報第一號「非屬歷史性財務資訊查核或核閱之確信案件」之要求規劃並執行有限確信工作。

二、 確信工作

有限確信案件中執行程序之性質及時間與適用於合理確信案件不同，其範圍亦較小，所取得之確信程度明顯低於合理確信案件。為取得有限確信，本事務所於決定確信程序之性質及範圍時曾考量台玻公司內部控制之有效性，但目的並非對台玻公司內部控制之有效性表示意見。

為作成有限確信之結論，本事務所已執行下列工作：

- 與台玻公司之管理階層及員工進行訪談，以瞭解台玻公司履行企業社會責任之整體情況，以及報導流程；
- 透過訪談、檢查相關文件，以瞭解台玻公司之主要利害關係人及利害關係人之期望與需求、雙方具體之溝通管道，以及台玻公司如何回應該等期望與需求；

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- 針對報告中所選定之永續績效資訊進行分析性程序；蒐集並評估其他支持證據資料及所取得之管理階層聲明；如必要時，則抽選樣本進行測試；
- 閱讀台玻公司之企業社會責任報告書，確認其與本事務所取得關於企業社會責任整體履行情況之瞭解一致。

三、 先天限制

因企業社會責任報告中所包含之非財務資訊受到衡量不確定性之影響，選擇不同的衡量方式，可能導致績效衡量上之重大差異，且由於確信工作係採抽樣方式進行，且任何內部控制均受有先天限制，故未必能查出所有業已存在之重大不實表達，無論是導因於舞弊或錯誤。

四、 品質管制與獨立性

本事務所遵循審計準則公報第四十六號會計師事務所之品質管制之規範，建立並維護完備之品質管制制度，包含遵循職業道德規範、專業準則及所適用法令相關之書面政策及程序。本所亦遵循會計師職業道德規範中有關獨立性及其他道德規範之規定，該規範之基本原則為正直、公正客觀、專業能力及盡專業上應有之注意、保密及專業態度。

五、 結論

依據本事務所執行之程序及所獲取之證據，未發現台玻公司所選定之永續績效資訊有未依照適用基準編製而須作重大修正之情事。且本事務所未發現台玻公司 2019 年度企業社會責任報告書有未依據 GRI 準則(GRI Standards)之核心選項編製而須作重大修正之情事。

安永聯合會計師事務所

會計師：董翠慧

民國一〇九年六月三十日

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附件一：

編號	頁次	內文標題	標的資訊	適用基準
1	符合性確信		台玻揭露2019年度企業社會責任報告書係依據全球永續性標準理事會(Global Sustainability Standards Board, GSSB)發布之GRI準則(GRI Standards)之核心選項編製	GRI準則(GRI Standards)核心選項
2	39	3.1 台玻產品	台玻產品2019年無違反產品健康與安全、標示及市場推廣相關法規，亦無發生產品被禁止銷售之事件；亦無涉及反競爭行為、反托拉斯與壟斷措施之法律訴訟	公司適用之商品標示法、食品安全衛生管理法、國際反托拉斯法、消費者保護法
3	60	4.1 永續經營策略-環保法規遵循	2019年環保違規事件裁罰金額	公司適用之環境法規及公司統計資料
4	72	4.3 綠色生產管理-水污染管理	2019年水污染管理	公司統計資料
5	78-79	5.1 人力資源及福利-員工新進率及離職率統計	2019年員工新進率及離職率統計	公司統計資料
6	92	5.3 職場安全與健康-職業安全管理	2019 年失能傷害頻率、失能傷害嚴重率、缺席率	公司統計資料
7	95	5.3 職場安全與健康-勞動安全檢查與法令遵循	2019年職業安全違規罰款金額	公司適用之職業安全法規及公司統計資料

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