016 CORPORATE SOCIAL RESPONSIBILITY REPOR

2016
CORPORATE SOCIAL RESPONSIBILITY REPORT



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# **About This Report**

Since its founding in 1964, Taiwan Glass Industry has been committed to the development of the industry, through the constant pursuit of innovation and the development of new products. TGI fulfills corporate social responsibility as a good global citizen. Since the first Corporate Social Responsibility Report was published in 2013, TGI has issued four Corporate Social Responsibility Reports, demonstrating 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 5 themes of this report include "Sustainable TGI", "About TGI", "Quality TGI", "Green TGI" and "Friendly TGI", which manifest TGI's efforts and results in sustainable development indicators such as the economy, environment, employee care, human rights and product responsibility, illustrated with relevant statistics.

For the public and stakeholders to learn more about TGI CSR initiatives, TGI created a designated section on the company website. In this corporate responsibility section, not only can this report be downloaded, 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, and the Company or we, all refer to Taiwan Glass Industrial Co., Ltd. For other key terms, letter abbreviations, or technical terms, used in this report will be noted in the same pages. The content of the report was arranged through a systematic analysis model to identify the priorities and decide interested parties' for being the reference base of information disclosure.

# **Report Coverage and Calculation Basis**

This report covers TGI's results in corporate social responsibility from January 1, 2016 to December 31, 2016. Some content also relates to projects in 2016 and beyond, as well as future policies, objectives and plans, which all form part of the report.

The scope of the 2016 annual report covered Taiwan Glass' Taipei headquarters and manufacturing facilities in Taiwan (Taoyuan Factory, Hsinchu Factory, Taichung Factory, Lukang Factory, Lukang Flat Glass Factory and Changpin Factory). If the index relates to other regions, these are separately described in the report. The 2016 data is presented in international generic indicators. Any estimated numbers will be noted so in related chapters. 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 2015.

# **Report Writing Principles and Programme**

The content and structure of TGI's 2016 Corporate Social Responsibility Report is in line with international standards by following Global Reporting Initiative's G4 Sustainability Reporting Guidelines. 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, with reference to the following related initiatives:

- Global Reporting Initiative's G4 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
- 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.

## **Editing**

The editing of this report was planned, edited and revised 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.

# **Audit of Report**

A draft of the report was submitted to the CSR group and individual team members proofread and revised their particular areas of data and content. After finalization an impartial third party verified the final content. It was then sent to the Chairman for final review prior to publication.

### Verification

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 2016 CSR Report, which was compiled according to the Global Reporting Initiatives G4 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.

# **Report Released**

TGI regularly publishes the CSR Report each year

Current version: Published in June 2017 Previous version: Published in June 2016

#### **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 2016 Corporate Social Responsibility Report, please contact us as follows:

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# Message from the Chairman



Directors and stockholders, thank you and look forward to having your opinion on 2017 operation perspectives.

The global economic situation of the first half of 2016 is weak and lack of motivation. Particularly, the industry competition intensified, and the exclusion effect of overcapacity and supply chain autonomy in China impacted the main national trade. Taiwan's export situation has decreased for 17 months. The exchange fluctuation between RMB and NTD caused exchange loss to enterprises. Each factor influenced enterprises' profits but the circulated economic rebound showed up in the second half of 2016. The expectation of economic performance in 2017 is positive although there are still lots of potential and uncertain risks which might limit the strength of recovery and affect the economic trend.

In regard to TGI's performance in 2016, it has improved significantly to compare with the recent two years. We make a brief report by product lines as follows.

In flat glass, both production and marketing in Taiwan is stable, and the percentage of market share is around 80%. The flat glass TGI's Taichung Factory and Lukang Factory produced has been reached the world class and laid a foundation for high class building material. Due to the problem of energy shortage in Taiwan, TGI continued to popularize Low-E energy-saving glass and enlarge the sales volume of energy-saving glass products to implement environmental awareness, and integrated its industrial chain, strived for the visibility of international brand and order from high-priced customers by its experienced production and marketing teams.

In new material ultra-thin glass, the products are mainly sold to China; meanwhile TGI has started to supply the product of high-level car mirror regularly since it obtained formal orders in March of 2017 after sampling to get certificate for one year. China flat glass market is still in the stage of structure innovation now. Moreover, China Authority implements environment protection strictly so

that the supply aspect is decreased slightly. Due to the rebound of whole real estate market, the sales price has been rising gradually since the second half of 2016. TGI's China flat glass factories are extended to 12 cities and 14 factories with the advantages of flexible management, specialization and automation, enhancing the high value added products effectively to supply products to China market adequately.

In fiber glass, TGI's products are stable to supply, and has firm foundation of reputation. Under the population of Low-Carbon Economy, the electronic products are developed toward the goal of light type. This trend enlarges the using amount of complex fiber glass material. Meantime the mature application of IoT (Internet of Things) and the needs of network communication, mobile device, emerging self-driving car, and etc. are expected to motivate the growth on the needs of industrial class and electronic class fiber glass. TGI's thin, high precision and high strength fiberglass fabric has market competitiveness. For the fast economic circle of electronics industry, TGI has to fully satisfy customers' requirement on specification, package and delivery date, and provide flexible service to cope with the market changes in the future.

In container glass, the exported products have been well received by European clients. TGI has promoted its publicity, created various channels, optimized online check and QC equipment, and maintained stable quality and excellent personnel service. The quality and production efficiency of TGI's tableware has been promoted by updating its furnace and equipment. Furthermore, TGI provides clients various choices with customized multi-printing and packaging processing abilities, and combines with other industrial products to apply on marketing.

Shihlien Chemical Industrial Jiangsu Co., Ltd. (SCJ) manufactures soda ash and ammonium chloride, has reached a capacity of 980,000 tons per annum each. To raise added value of products and cooperate with the China policy of encouraging industrial restructure and upgrade, SCJ has planned to involve in R&D and production of life and health industry to manufacture sodium chloride raw material, salt and salt for animals with a capacity of 300,000 tons and Alkaline water with a capacity of 450,000 tons.

Looking to the future, the international economic situation and both domestic and international investment environment are objective issues TGI has to concern about. For example, the implement of "one fixed day off and one flexible rest day" of Labor Standards Act led to 2% increase to TGI's cost, besides, TGI has its employee 3% raise. Under the situation, TGI's cost were total 5 % increased. The commerce and industry expect Government to fix the Labor Standards Act by adjusting limitation of overtime higher per month and relaxing the working-hour specification so that they can reach a win-win situation of employers and employees by arrange production and manpower flexibly to increase capacity and decrease cost.

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Under the versatile boom, TGI must assure it has well competition conditions. Over the 52 years after startup, TGI devotes itself to cultivate great persons, develop high unit price products, boost operation management, strength channel layout and marketing service and carry out corporate social responsibility including economy, environment protection, labor care and products responsibilities, making progress and boom to the corporate as well as society. TGI expects to implement sustainable operation by achieving the goal of financial structure strengthened and business development.

Chairman Lin, Por Fong

#### 8

# Key Achievements of the Year

Silver	TGI has been awarded silver price for the past two years in the "Traditional Manufacturing" category in corporate sustainability report award.
16 Major Aspects	16 major aspects were identified in 2016 and effective management policies were formulated accordingly.
600,000 <sub>M²</sub>	TGI manufactured a total of 36,300,000 $M^2$ of Low-E products in 2016, 600,000 $M^2$ higher than 2015.
+72%	Tableware accounted 43% of TGI's export in 2016, 72% higher than 2015.
39.5 million dollars	TGI received a total of NT\$39.5 million in special technology R&D subsidy from MOEA from 2014 to 2016.
Approximately 4.57 million	TGI donated a total of NT\$4,573,533 in 2016.
1 Million	TGI sponsored NT\$1 million to the Taiwan Lantern Festival in Taoyuan in 2016 and produced "Light tower of the Universe", a set of glass lanterns, for display during the festival.
<b>377</b> <sub>bags</sub>	In 2016, all factories of TGI donated a total of 377 bags of blood in response to the "Give blood, save lives" principle.
100%	100% of TGI products have passed relevant standards and certifications.
2 certificates	Obtained 2 Green Building Material Certificates from the Ministry of the Interior in 2016.
-30%	Low-E products can reduce 30% of air conditioner usage and energy consumption.
USD5,000,000	Increased our global product liability insurance coverage up to USD 5,000,000 in 2016.
ISO/TS 16949	The Taoyuan Factory obtained ISO/TS 16949 (global automobile quality management) in 2016.

AEO	Honored by Ministry of Finance for its outstanding contribution in 2016, TGI, with AEO supply chain safe measures, ensured safe quality of TGI products throughout the entire supply chain. By improving the safety, TGI was able to reduce intellectual property loss and satisfy the safety requirements of both Customs and clients.			
87%	Customer satisfaction exceeded 87% across all TGI departments.			
260 million	Environmental protection expense was NT\$260 million in 2016 for TGI.			
<b>190,000</b> tons	Recycled 190,000 tons of scrap glass in 2016.			
-76,416 tons/year	Reduced water consumption by 76,416 tons in 2016 across TGI factories.			
-1.55%	Total sewage discharge reduced by 1.55% in 2016.			
Below 15%	Employee turnover rate has been steadily under 15% in the last 3 years.			
+72%	TGI employed an average of 74 employees with disabilities in 2016, 72% higher than the legal minimum.			
60.87%	60.87% of employees returned after paternity/maternity leave without pay.			
3,952 people	3,952 employed received physical examinations in 2016.			

# 1 Sustainable TGI



- 1.1 Sustainable Management
- 1.2 Stakeholder Participation
- 1.3 Management of Major Aspects















# Achievements of Sustainable Operation in 2016



Silver Award

TGI has been awarded silver price for the past two years in the "Traditional Manufacturing" category in corporate sustainability report award.



Two times

Convened two sessions of our "Corporate Social Responsibility Committee" in 2016.



8 categories

TGI identified eight categories of stakeholders, including shareholders/investors/financial institutions, employees, business customers, suppliers, contractors, sub-contractors, dealers and government/authorities.



246 copies

In 2016, 246 people responded TGI's CSR questionnaires, of which 231 were valid. 15 impact questionnaires by TGI executives were also received.



16 Major Aspects

In 2016, we identified a total of 16 major aspects and an effective management solution was assigned to each of these aspects.

# 1.1 Sustainable Management

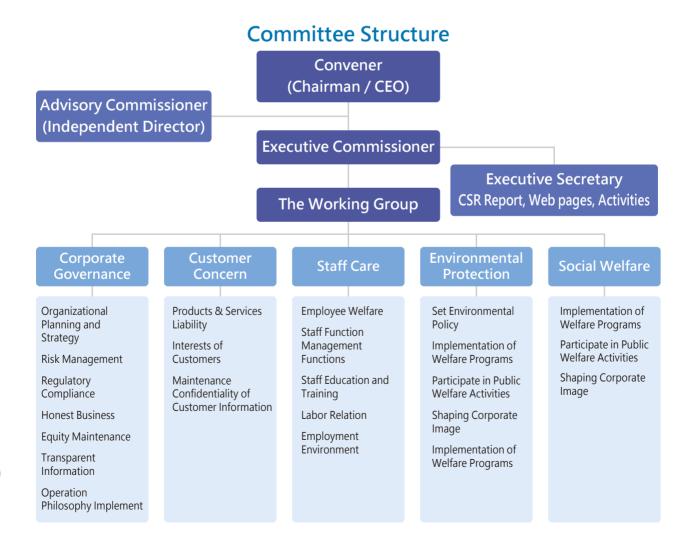
To fulfill our corporate social responsibilities, promote advancements in the economy, environment, the society and to achieve our sustainable development objectives, TGI has formulated "Corporate Social Responsibility Best Practice Principles", which included corporate social responsibility policies, systems, management guidelines and action plans that were formulated by the management and passed by the board of directors. 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:

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



#### **Formulation of CSR Committee**

TGI, to ensure the implementation of CSR policies, has established "Corporate Social Responsibility Committee" (CSR Committee), with our chairman and president as coordinators, independent directors as advisers and several executive committee members. A task force was formed under the CSR Committee, in charge of "Corporate Governance", "Customer Concern", "Staff Care", "Environmental Protection" and "Social Welfare", with the goal to protect the environment, boost the economy and help the needed.



- session a year. The Committee convened two sessions in 2016. The agendas are as the following:
  - a. Schedule for the 2016 TGI CSR report
  - b. CSR trainings
  - c. Further CSR education for the TGI board of directors
  - d. 2016 TGI energy conservation project

#### Committee Members

Committee Members						
Title	Name	Gender	Concurrent position at TG			
Convener	Lin Por Fong	Male	Chairman			
Convener	Lin Por Shih	Male	CEO			
Advisory Commissioner	Huang Chin Yuang	Male	Independent director			
Executive Commissioner	Su Yu Ted	Male	COO of Fiberglass Business Department			
Executive Commissioner	Hong You Qin	Male	Vice President of Management Department			
Executive Commissioner	Li Jing Tian	Male	Manager of Management Department			
Executive Commissioner	Pan Ya Lun	Female	Manager of Secretary Department			

TGI CSR Committee convenes a session every 6 months (flexible) but should convene at least a

#### Responsibilities of CSR Working Group

The working group has compiled the CSR report based on its communications with stakeholders. By surveying the issues concerned by the stakeholders, the working group evaluated the current execution and counterstrategies, which allowed them to disclose the economic, environmental and social issues arising from TGI's business activities. Members of the working group reviewed and amended the content and stats that they were responsible for respectively in the first draft, which was ultimately reviewed and checked by the supervisors in various departments. The final draft, after being verified by an independent third party, was submitted to the chairman for final review before being published.

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

### The Structure Diagram of CSR Working Group



#### **CSR Achievements**

TGI first signed up for the TCSA Taiwan Corporate Sustainability Awards for the first time in 2015 and won the silver Award in the "Traditional Manufacturing" category in the Taiwan Top 50 Corporate Sustainability Report Award in both 2015 and 2016. Taiwan Institute for Sustainable Energy invited professionals from various fields to be the judges for the award with an objective, fair, just and careful evaluation. The judges judge the reports by their completeness, credibility and the ability to get their points across. The award is meant to encourage businesses to fulfill their corporate social responsibilities towards sustainable development.



Silver Award in the 9th Taiwan
Corporate Sustainability Awards in 2016

# 1.2 Stakeholder Participation

#### **Identify Stakeholders**

To fulfill its commitment to stakeholders and respect and safeguard their legitimate rights and proper interests, the company has a variety of communication and appeals channels. TGI upholds the honest business principle, timely handling and positive response. TGI's working groups discusses issues with the heads of internal departments, and takes other industry groups' stakeholders as reference. We have identified the following 8 types of stakeholders:



#### **Communicate with Stakeholders**

TG believes that a company's sustainable development relies on good communications with stakeholders. The Board of Directors authorizes the CSR Committee to review the progress and results in corporate social responsibility periodically. In response to performance assessment, strategic planning is proposed and measures are taken to further the implementation of corporate social responsibility by the groups.

In TGI 2016 re-identified its stakeholders. Through a survey it collected issues of concern from these stakeholders and started communication on economic, environmental and social issues. 246 valid questionnaires were collected and the issues they raised were taken as the main foundation for TGI's corporate social responsibility measures. TGI maintains interaction in many forms with stakeholders. On the official website there is an email address dedicated to external communication: tgi@taiwanglass.com. This is the basis of communication method with stakeholders. The main contents are roughly divided into: product information, business opportunities, investor services, job opportunities, and corporate social responsibility. TGI has dedicated personnel to handle all the

emails sent to this address and forwards them to the responsible departments. TGI always tries to solve the issues and make adjustments when there are complaints. TG has the following communication platforms with stakeholders:

Stakeholders	Methods of communication	Frequencies
	<ul> <li>Reports business revenue information</li> <li>Annual financial statement and individual financial statements</li> </ul>	<ul><li>Every month</li><li>Once a year</li></ul>
Shareholders/ investors/ financial institutions	<ul> <li>Convene general shareholder meeting</li> <li>Select a spokesperson or an acting spokesperson</li> <li>Financial reports, statements, stock affairs, audits and major announcements in the "Information Disclosure" section on the TGI website.</li> <li>Institutional investors' conference</li> </ul>	<ul><li>Once a year</li><li>Aperiodic</li><li>Aperiodic / every year</li></ul>
		• Aperiodic
	<ul> <li>Internal information system</li> <li>Bilateral communication between the business operators and the management.</li> </ul>	<ul><li>Aperiodic</li><li>At least once a year</li></ul>
Employees	<ul> <li>Complaint phone number, fax and email for reporting sexual harassment incidents. Any report will be handled by dedicated staff.</li> </ul>	• Aperiodic
	• Face to face communication between the management and the union representatives.	Once a year
	Various meetings and committees, such as labor- management meetings and welfare committee	• Periodic/aperiodic
	• Questionnaire	Once every 6
	• Customer service email	months/once a year • Aperiodic
	<ul> <li>Customer satisfaction survey</li> <li>Participate in product exhibitions to gain a direct insight of the clients and market trends. For example,</li> </ul>	• Once every 6 months/once a
Corporate clients	the 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 the Shanghai.	Once every 2 years/ once a year

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Stakeholders	Methods of communication	Frequencies
Dealers	<ul> <li>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.</li> <li>Give project presentations, determine wind load deflections, glass strength design, plan types of glass and review of the standards.</li> <li>Assist with orders, samples, complaints, QC, equipment maintenance, technical service and so on.</li> <li>Customer satisfaction survey.</li> <li>Attend Taiwan and Germany Building Materials Exhibition.</li> <li>Attend China Composites Expo and France JEC Exhibition.</li> </ul>	<ul> <li>Aperiodic</li> <li>Aperiodic</li> <li>Aperiodic</li> <li>Once a year</li> <li>Once a year /once every 2 years/</li> <li>Once a year</li> </ul>
Suppliers	<ul> <li>Communicate with suppliers and contractors via phone, fax or email and communicate with related parties to help them deal with issues after receiving messages.</li> <li>Supplier audit.</li> </ul>	<ul><li>Aperiodic</li><li>One evaluation every quarter</li></ul>
Contractors	<ul> <li>Questionnaire survey.</li> <li>Interview/ phone calls and communications.</li> <li>Contractors are required to fill out letters of safety commitment.</li> </ul>	<ul> <li>Once a year</li> <li>Aperiodic</li> <li>Every time a contractor enters a factory for construction work</li> </ul>
Sub- contractors	<ul> <li>Questionnaire</li> <li>Sub-contractor evaluation</li> <li>Sub-contractor complaint number, fax, online platform or email. Communicate with related parties to help them deal with issues after receiving complaints.</li> </ul>	<ul><li>Once a year</li><li>Aperiodic</li><li>Aperiodic</li></ul>
Government / Authorities	<ul> <li>Maintain a good interaction with the competent authorities and attend public hearings held by the competent authorities.</li> <li>Mail room staff of TGI will sort through the letters and distribute them to responsible departments.</li> <li>Each factory has a dedicated department to handle documents and discussions with the local competent authorities.</li> <li>Invite government/ competent authorities to visit TGI factories and energy-saving product launch press conferences.</li> </ul>	<ul><li> Aperiodic</li><li> Aperiodic</li><li> Aperiodic</li><li> Aperiodic</li></ul>

# 1.3 Management of Major Aspects

#### Stakeholder identification process

2016, TGI introduced substantive analysis to the corporate sustainability report in the hope that through a systematic analysis, the sustainability issues, which the stakeholders concerned or interested in can be identified as the basic information to be disclose in the report to have effective communication with the various stakeholders. TGI's substantive analysis model was divided into:



TGI's working groups discusses issues with the heads of internal departments, and takes other industry groups' stakeholders as reference. TGI identified **8 categories** of stakeholders, including shareholders / investors / financial institutions, employees, corporate clients, suppliers, contractors, sub-contractors, dealers, government / authorities and so on.



Collect sustainability issues

The issues can be collected from external and internal sources. The external sources include the G4 Sustainability Reporting Guidelines published by Global Reporting Initiative. First of all, the **46 categories** and aspects listed in GRI's G4 Guidelines will be the foundation. Secondly, major international issues and standards will be included. These two will be compiled into a list of concerned aspects, which will be first reviewed by the stakeholder representatives into a preliminary list of concerned aspects. The internal sources include feedbacks and opinions from stakeholders collected from various sources.



Analyses of major aspects

To evaluate the value of the assessment by the results of returned questionnaires which were sent to different stakeholders and TGI executives with various concerned level. In 2016 TGI collected 246 CSR questionnaires, of which 231 were valid, 15 impact questionnaires from TGI executives were received.



Ranking substantial issues

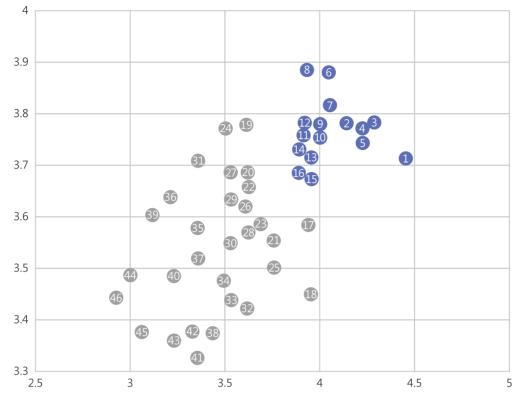
According to the results of the questionnaires, and considering the weighting for each issue in different assessment criteria and the extent of the impact of sustainable development as considered by company management, TGI calculated a risk for each issue, made a prioritization of disclosure, and considered each aspect in adopting an effective management approach. In 2016 TGI identified 16 substantial issues after analyzing the survey and discussed internally.



Review and discussion

The internal and external object and scopes were identified by internal discussion according to the priority of major aspects from the substantial analysis. It will be considered as the cornerstones of TGI's CSR Report disclosure.

# **Major Aspects Substantial Analysis**



# Drioritization of Major Acn

1. Economic Performance	17. Customer Privacy	33. Labor Practices Grievance Mechanisms
2. Labor Relations	18. Biodiversity	34. Human Rights Grievance Mechanisms
3. Emissions	19. Anti-corruption	35. Supplier Human Rights Assessment
4. Effluents and Waste	20. Supplier Community Impact Assessment	36. Indirect Economic Impact
5. Energy	21. Market Presence	37. Public Policy
6. Codes Compliance of Environment	22. Anti-competitive Actions	38. Equal Remuneration for Women and Men
7. Codes Compliance of Society	23. Forced and Compulsory Labor	<ol><li>39. Supplier Assessment for Labor Practices</li></ol>
8. Product and Service Labeling	24. Transport	40. Investment
9. Raw Material	25. Grievance Mechanisms For Impact on Community	41. Employee Diversity and Equal Opportunity
10. Customer Health and Safety	26. Local Communities	42. Assessment
11. Codes Compliance of Product	27. Supplier Environmental Assessment	43. Freedom of Assembly and Collective Bargaining
12. Products and Services	28. Child Labor	44. Non-discrimination
13. Water	29. Overall Situation	45. Indigenous Rights
14. Occupational Health and Safety	30. Environmental Grievance Mechanisms	46. Security Practices
15. Employment relations	31. Procurement Practices	
16. Marketing Communications	32. Training and Education	

## Prioritization of Major Aspects, Chapter Disclosure of Management Approach and Analysis of Scopes

- represents a significant issue. The management approach and performance indicators will be disclosed in this report.
- ▲ represents a significant issue. TGI will continue to strengthen the management and disclose the related information in this report by using the CSR evaluation and analysis of subsidiaries and suppliers.

Prioriti		Corresponding	Responding	Internal organization		External organization		
zation	Major Aspects	UN SDGs		TGI	subsidiaries	suppliers	Contractor	Sub- contractors
1	Economic Performance	8.Decent Work and Economic Growth	2 About TGI	•	<b>A</b>			
2	Labor Relations	5.Gender Equality	5 Friendly TGI	•	<b>A</b>			
3	Emissions	6.Clean Water and Sanitation, 13.Climate Action	4 Green TGI	•	<b>A</b>	<b>A</b>		
4	Effluents and Waste	12.Responsible Consumption and Production	4 Green TGI	•	<b>A</b>	<b>A</b>		
5	Energy	7.Affordable and Clean Energy, 13.Climate Action	4 Green TGI	•	<b>A</b>	<b>A</b>		
6	Codes Compliance of Environment	9.Industry, Innovation and Infrastructure	4 Green TGI	•	<b>A</b>	<b>A</b>	<b>A</b>	•
7	Codes Compliance of Society	5. Gender Equality, 16.Peace, Justice and Strong Institutions	2 About TGI	•	<b>A</b>	<b>A</b>	<b>A</b>	<b>A</b>
8	Product and Service Labeling	12.Responsible Consumption and Production	3 Quality TGI	•	<b>A</b>			
9	Raw Material	7.Affordable and Clean Energy, 12.Responsible Consumption and Production	4 Green TGI	•	<b>A</b>	<b>A</b>		

Prioriti-		Corresponding	Responding	Internal organization		External organization		
zation	Major Aspects	UN SDGs		TGI	subsidiaries	suppliers	Contractor	Sub- contractors
10	Customer Health and Safety	3.Good Health and Well-Being	3 Quality TGI	•	<b>A</b>			
11	Codes Compliance of Product	3.Good Health and Well-Being	3 Quality TGI	•	•	<b>A</b>	<b>A</b>	•
12	Products and Services	12.Responsible Consumption and Production	3 Quality TGI	•	<b>A</b>			
13	Water	6.Clean Water and Sanitation	4 Green TGI	•	<b>A</b>			
14	Occupational Health and Safety	3.Good Health and Well-Being	5 Friendly TGI	•	•	<b>A</b>	<b>A</b>	<b>A</b>
15	Employment relations	5.Gender Equality	5 Friendly TGI	•	•			
16	Marketing Communications	12.Responsible Consumption and Production	3 Quality TGI	•				

# 2 · About TGI



- 2.1 Introduction
- 2.2 Operation Information
- 2.3 Healthy Board of Director
- 2.4 Honest Business
- 2.5 Risk Management
- 2.6 Contribute to the society



# Achievements of Corporate Governance and Operation in 2016



TGI manufactured a total of 36,300,000 M<sup>2</sup> of Low-E products in 2016, 600,000 M<sup>2</sup> higher than 2015.



+72%

Tableware accounted 43% of TGI's export in 2016, 72% higher than 2015.



39.5 million dollars

Tableware accounted 43% of TGI's export in 2016, 72% higher than 2015.



**4,573,533** dollars

TGI donated a total of NT\$4,573,533 in 2016.



10 times

TGI convened 10 sessions of board meetings in 2016.



6 members

To establish a healthy director nomination system, a nomination committee was established with 6 members.



1 Million

TGI sponsored NT\$1 million to the Taiwan Lantern Festival in Taoyuan in 2016 and produced "Light tower of the Universe", a set of glass lanterns, for display during the festival.



**377** bags

In 2016, all factories of TGI donated a total of 377 bags of blood in response to the "Give blood, save lives" principle.



incidents

No TGI employee was involved in corruption, bribery or blackmailing in 2016. There were no political donations either.

# 2016 Corporate Governance Management Policy

Management Policy	Economic Achievements	Compliance
United Nations Sustainable Development Goals	8.Decent Work and Economic Growth	5.Gender Equality, 16.Peace, Justice and Strong Institutions
Management Policy	<ol> <li>Provide products that satisfy clients with advanced technologies and company-wide quality control.</li> <li>Reduce expenses, factory energy and water consumption with procurement and material cost control.</li> </ol>	"Honest Business" is the core principle of TGI. With operations worldwide, policies and regulations also have significant impact on the company's business
Objective Management	<ol> <li>1.Accelerate the R&amp;D of products with high added value and branding.</li> <li>2.Urge the government to include Low-E glasses in related building codes to create more business opportunities.</li> </ol>	Make sure that the entire staff understands and complies with relevant regulations and standards.
Resources Committed	<ol> <li>1.The TF-5 Ultra-Thin Glass production line in the Taichung Factory has been established and running.</li> <li>2.Developed innovative Low-DK glass fabric products.</li> <li>3.Engaged in development of energy-saving glass with high added value.</li> </ol>	<ol> <li>Retained a major law firm as legal consultant to provide legal counseling, reduce litigations, violations and improve the company's image.</li> <li>Provide training to ensure that the entire staff fully understands related rules and regulations.</li> </ol>
Management System	Production/marketing meeting for various product lines, production meeting for all factories and annual sales plan.	External institution: Company Act, Securities and Exchange Act, Business Entity Accounting Act, Political Donations Act, Anti-Corruption Act, Government Procurement Act, laws related to TWSE/TPEx listed companies and Personal Information Protection Act.  Internal institution: TGI's "Honest Business" Principle, Internal Control System, ISO 14001 Environmental Management System Criteria, Regulations Governing Procedure for Board of Directors Meetings, Employee Guidelines, Declaration of Performance of Duties and Confidentiality.

# 2.1 Introduction

Founded in 1964, Taiwan Glass, for the last 50 years, has been following the company founder Lin Yu-Chia's business principles of honest hardwork and focus on our core business of glass. As the leader in the glass industry in China, Hong Kong and Taiwan, Taiwan Glass has put Taiwan in an important position in the global glass industry. In the future, Taiwan Glass will continue to implement advanced technologies and company-wide quality management to provide our clients with satisfying products. We will continue to develop even advanced technologies, improve our supply, production, distribution, and service to achieve sustainability and make contributions to the society as an important player in the global market.

#### **Profile**

Market Oversea Chinese/foreign investment/publicly traded, TWSE company				
Stock Code	1802, Taiwan Glass Industrial			
	Manufacturing and sale of flat glass			
Industry	Manufacturing and sale of glass fabric and fiberglass reinforced			
	Manufacturing and sale of glassware			
Founded on	August 25, 1964			
Date of listing July 15, 1973				
Capital	NT\$29,080,608 thousand			
Turnover	NT\$12,952,715 thousand			
Number of employees Employees in Taiwan:4,368				
Headquarters  11F., Taiwan Glass Building, No.261, Sec. 3, Nanjing E. Rd., Songa Dist., Taipei City 105, Taiwan (R.O.C.)				

#### **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 OINGDAO 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
- 24-1HARIO TG GLASS CORP.

#### **AUTOMOTIVE GLASS**

- 25 TAIWAN AUTOGLASS IND. CORR.
- 26 TG YUEDA AUTOGLASS CO., LTD.

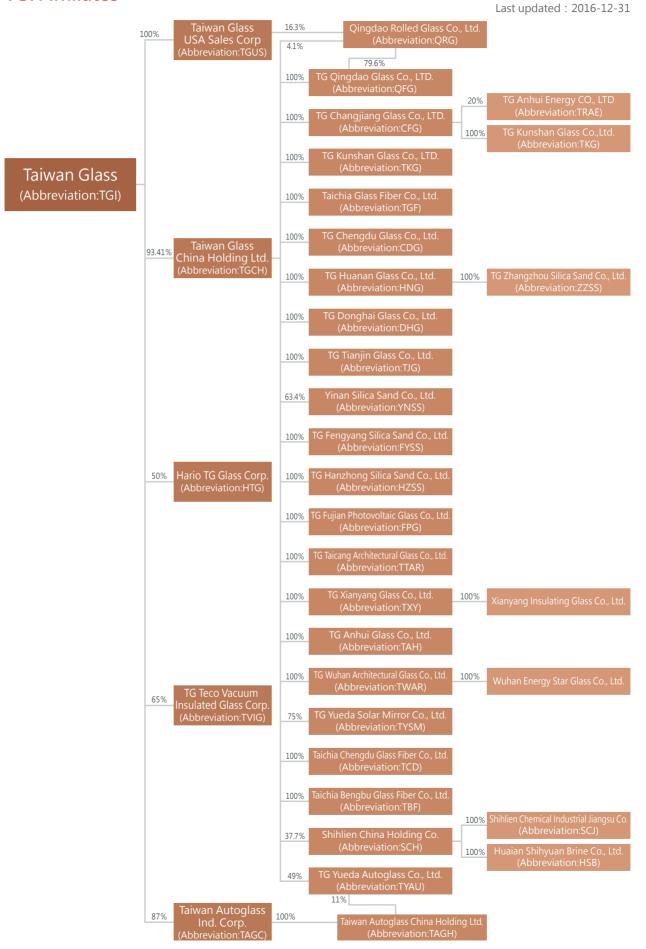
#### **SILICA SAND**

- 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.

#### **TGI** Affiliates



Foreign Subsidiaries

#### **Main Business and Products**

Division		Product Category		
Flat Glass Division	<ul> <li>Clear Float Glass</li> <li>Tinted Float Glass</li> <li>Rolled Glass</li> <li>Low-E Glass</li> <li>Low-E Vacuum Glass</li> <li>Reflective Glass</li> </ul>	<ul> <li>Bent Tempered Glass</li> <li>Ceramic Silkscreen/Spandrel Glass</li> <li>Heat Strengthened Glass</li> <li>Laminated Glass/Sound Control Laminated Glass</li> <li>Bent Glass/Bent Tempered Glass</li> <li>Mirror Glass</li> </ul>		
New Material Business	• Electronic Grade Ul¹	tra-Thin Glass		
Solar Business	<ul><li>Super Clear Glass</li><li>Low Iron Photovoltaic Cover Glass</li></ul>			
Automotive Glass Business	• Auto Glass			
Fiber Glass Business	• Fiberglass Yarn	Glass Yarn • Glass Fabric		
Container, Tableware & Kitchenware		Kitchenware Tableware/Kitchenware Glass Processing		
Salt Chemical	• Soda Ash	Ammonium Chloride		



TGI Group draws 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 production process to mitigate environmental impact, and devotes to develop environmental and energy saving related products.

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### **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.

Organization	Title
1. 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
2. Cross-strait Exchange Organizations	
Straits Exchange Foundation	Director
Straits Economics & Cultural Interchange Association	Managing Director
Cross-Strait CEO Summit	Director
3. Regional Economic and Trade Organization	
Chinese Association for Reinforced Plastic	Director
4. Industry-Related Associations	
Taiwan Glass Industry Association	Chairperson of board of
laiwan Giass muusti y Association	supervisors
Taiwan Photovoltaic Industry Association	Member
Taiwan Flat Panel Display Materials & Devices Association	Member
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
Chinese Association for Industrial Technology Advancement	Member
Hsinchu City Industrial Association	Member
Taichung Harbor Related Industrial Park	Member
Lukang Changhua Coastal Industrial Park	Member
5. Environmentally Sustainable Development Related Organization	ons
Center for Corporate Sustainability	Advisory Director



3rd of 24th Member General Conference of Chinese National Association of Industry and Commerce, Taiwan

### 2.2 Information

Since its foundation in 1964, TGI has upheld its belief in building a high-quality autonomous glass industry, laying a solid foundation by being a focused business, a global macro perspective, and a solid and sound financial basis. In 1973, TGI went public on Taiwan Stock Exchange, becoming a blue chip company on the open market. Nowadays TGI has become a leading company across the Taiwan Strait, putting Taiwan in an important position in the global glass industry. TGI's basic philosophy is that by using spiritual guidance, which must be rooted in each person of TGI, we can achieve our company's target and mission together.



#### Our Philosophy

Make Taiwan Glass a highly effective organization with outstanding achievement through global perspective, sounc operating strategy and strong financial foundation.

#### Our Goal

Create strong customer relationships through delivering outstanding quality and comprehensive service at reasonable prices to satisfy customers; make contributions to society through rewarding shareholders and taking care of employees.





#### **Our Quality Policy**

Provide satisfactory products to our customers through advanced technology and Total Quality Management (TQM).

#### **Financial Information**

Condensed Consolida	ated Income Sta	tement - Individ	lual Unit: 1,000 NTD
Items/Year	2014	2015	2016
Operating revenue	14,159,321	13,073,437	12,952,715
Operating costs	11,994,912	10,968,357	10,367,981
Gross profit	2,164,409	2,105,080	2,584,734
Operating expenses	2,144,891	1,982,880	1,999,422
Operating income (profit and loss)	19,518	122,200	585,312
Non-operating income and expenses	170,689	(4,778,584)	(2,168,231)
Profit before tax	190,207	(4,656,384)	(1,582,919)
Net income from continuing operations (Net income or loss after tax)	153,261	(4,687,597)	(1,641,685)
Other comprehensive income (loss)	2,016,259	(1,648,449)	(3,297,667)
Total comprehensive income (loss)	2,169,520	(6,336,046)	(4,939,352)

Items/Year	2014	2015	2016
EPS (NT\$) (Adjusted retroactively)	0.06	(1.97)	(0.62)
Personal expenditure	2,404,912	2,781,393	2,829,337
Financial contribution to the Government (Taxes, donations, fees)	97,513	41,892	62,822

Note 1: All figures have been audited and certified by a CPA.

Note 2: The company has adopted the International Financial Reporting Standards since 2013.

#### **Government Research Subsidies**

1. Ministry of Economic Affairs Division specialized industry plan:

Project Title	Description	Period	Funds (Unit: thousand NTD)
Economic Development Ministry of Science and Technology research project leading new product development plan	In collaboration with ITRI material for photoelectric level of ultra-thin soda lime glass development plan is under running.	2014/09/01~ 2016/02/28	Project total subsidy: NTD 20,000 thousand Actual amount of subsidy received: NTD 20,000 thousand

2. Ministry of Economic Affairs, development of scientific and technological research projects:

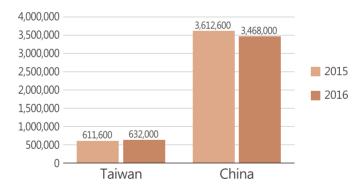
Project Title	Description	Period	Funds (Unit: thousand NTD)
High-speed high- frequency board material - low dielectric constant fiberglass fabric development plan	In cooperation with the Industrial Technology Research Institute to develop high-speed high-frequency board material - low dielectric constant fiberglass fabric.	2014/09/01~ 2016/02/28	Project total subsidy: NTD 20,000 thousand  As of December 2016, the project was granted a total of NTD 19,500 thousand in subsidy.

3.In accordance with the Statute for Upgrading Industries, exempted from business income tax for five years (2014-2018): application of TGI's factories are Changpin Factory, Hsinchu Furnace TS-7 and Taoyuan Furnace TT-1.

### **Production and Sales**

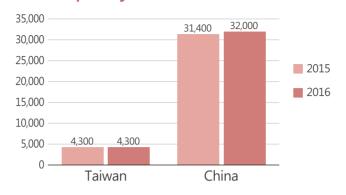
Taiwan Glass Group 2016 Annual Capacity for Each Product						
Dundunt	Taiwan		China		Total	
Product	Furnaces	Metric tons	Furnaces	Metric tons	Furnaces	Metric tons
Float glass	2	340,000	12	3,084,000	14	3,424,000
Electronic grade ultra-thin glass	1	15,000	-	-	1	15,000
Photovoltaic cover glass	-	-	1	219,000	1	219,000
Solar mirror	-	-	1	72,000	1	72,000
Rolled glass	-	-	1	33,000	1	33,000
Glass fabric	2	25,000	4	60,000	6	85,000
FRP fiberglass reinforced	2	72,000	-	-	2	72,000
Glass container	5	170,000	-	-	5	170,000
Glass tableware/ kitchenware	2	10,000	-	-	2	10,000
Total	14	632,000	19	3,468,000	33	4,100,000

# Annual Production Capacity of Taiwan Glass Group (Ton)



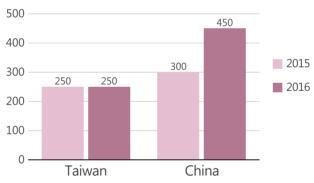
TGI Group's Total Production Capacity of Low-E						
Taiwan		China		Total		
Product	Production line	1,000M <sup>2</sup>	Production line	1,000M <sup>2</sup>	Production line	1,000M <sup>2</sup>
Low-E glass	1	4,000	8	32,000	9	36,000
Low-E vacuum glass	1	300	-	-	1	300
Total	2	4,300	8	32,000	10	36,300

# TGI Group's Total Production Capacity of Low-E (1,000 M<sup>2</sup>)



TGI Group's Total Production Capacity of Automotive Glass							
	Taiv	van	China		Total		
Product	Production line	Thousand cars	Production line	Thousand cars	Production line	Thousand cars	
Auto glass	1	250	4	450	5	700	

# TGI Group's Total Production Capacity of Automotive Glass (Thousand cars)



# **Distribution of Sales Regions**

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Sale Areas of Main Products in 2016							
Serial number	Product category	Ratio of domestic sales	Ratio of export sales	Sale areas			
1	Flat glass	90% (including cooperative export)	10%	Asia, Central & South America, Australia, Europe, Africa and North America.			
2	Fiberglass Fabric and Fiberglass	41%	59%	Europe, USA, China, Japan, South Korea, Middle-East, Southeast Asia, New Zealand and Australia.			
3	Glass container	62%	38%	USA, New Zealand, Australia,China and Germany.			

1	Serial number	Product category	Ratio of domestic sales	Ratio of export sales	Sale areas
	4	Glass tableware	57%	43%	Taiwan, India, South Korea, Germany and Australia.
		Glass kitchenware	20%	80%	China
	5	New material- Ultra-thin glass	5%	95%	China

	Domestic Market Sha	are in 2016
Serial number	Product category	Market share
1	Flat glass	About 80% of the domestic market
2	Fiberglass Fabric	About 35% of the domestic market
3	Fiberglass	About 55% of the domestic market
4	Glass container	About 35% of the domestic market
5	Glass tableware/kitchenware	About 35% of the domestic market
6	New material- Ultra-thin glass	About 10% of the China market

# 2.3 Sound Board of Directors

TGI adheres to transparent operations, focusing on shareholders' equity, and believes that a sound 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. The main corporate governance policies are the "publicly traded corporate governance code of practice" and relevant laws and norms apply. Under these principles, 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 the Committee's report on its activities and decisions to the Board of Directors on a regular basis.



#### **Board of Directors**

TG's 2016 Board of Directors included 15 directors. Each director, supervisor and legal person/ representative has rich academic or business operation experience. Among them, 3 were independent directors. TG's sustainability relies on these directors' rich knowledge, insight and sense of business. Each director has a 3-year term, elected by the shareholders' meeting from among the persons with disposing capacity. Directors may be eligible for re-election. A chairman of the board of directors shall be elected among the directors. The chairman will lead the board of directors on behalf of the company. Taiwan Glass' chairman does not serve as the company's CEO concurrently. The board meeting is held at least once in each quarter and TG held 10 board meetings in 2016. 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 close of each fiscal year. Special shareholder meetings are held based on the law when necessary.

TC Be and when he cessary.				
TG Board members				
Title	Name	Gender	Job Title/Experience	Concurrent Position at TG
Chairman	Lin Por Fong	Male	TG General Manager	None
Director	Lin Por Shih	Male	TG Managing Director	TG General Manager
Director	Lin Por Chun	Male	TG Managing Director	None
Director	Yun San Corporation Chang Po Shin	Male	Chairman, Chang Hwa Bank	None
Director	Lin Han Tong	Male	Chairman, Bo Chi Investment	None
Director	Lim Ken Seng Kah Kih Corp. Hsu, Li Lin	Female	Sunrise Department Store General Manager	None
Director	Tai Feng Investment Su Yu Ted	Male	GM, Fiber	COO, Fiber
Director	Tai Feng Investment Lin Chia Hong	Male	GM, China Prod.	COO, China Prod.
Director	Tai Feng Investment Lin Chia Yo	Male	VGM, Fiber	GM, Fiber
Director	Tai Chien Investment Lin Chia Ming	Male	VGM, Finance	GM, Finance

		TG Bo	G Board members		
Title	Name	Gender	Job Title/Experience	Concurrent Position at TG	
Director	Ho Ho Investment Chen Cheng Chang	Male	Plant Director, Lukang Factory	Project VGM, Lukang Factory	
Director	Ho Ho Investment Lin Bao Tsun	Male	Plant VGM, Taichung Factory	GM, New Glass	
Independent director	Lin Feng Cheng	Male	Minister of the Interior	None	
Independent director	Chen Chin Chi	Male	Chairman, Wan Hai Lines	None	
Independent director	Huang Chin Yuang	Male	Director, TWSE	None	

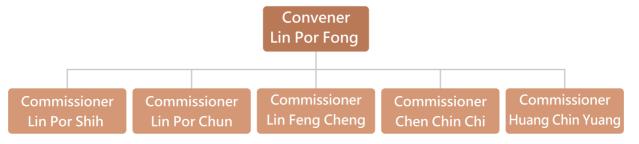
Note: 12 directors over the age of 50; 3 directors between 30 and 50.

#### **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 hiring 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. TG's Board of Directors listens to the management team's reports periodically, which also cover economic and environmental protection issues. The Board of Directors also spends a lot of time communicating with the management, which has to propose company strategies to the Board of Directors. The Board of Directors evaluates the feasibility of these strategies, keeps track of their progress and urges the management team to make adjustments when needed.

#### **Nomination Committee**

To establish a healthy nomination system, TGI, following Item 3 of Article 27 of Corporate Governance Best Practice Principles for TWSE/TPEx Listed Companies, established the Nomination Committee in 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 of directors to ensure a healthy Board of Directors.

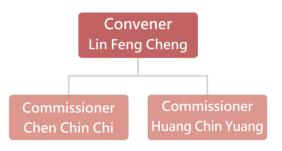


The committee's main duties include:

- A. Seek proper director candidates and propose the candidate list to the board of directors; review the candidates' qualifications, education level, experience and whether or not the candidates are under any of the circumstances in Article 30 of Company Act. After the review, the committee will submit the recommended list to the Board of Directors, which will confirm the list before sending it for the shareholder's meeting for reference. The proxy form for shareholders meeting should include the information of the recommended candidates. If a candidate recommended by a shareholder with more than 1% of the company shares is, after reviewed by the committee, not included on the recommended list, the names of the shareholders and the reasons for not including such candidates should be disclosed. When nominating independent director candidates, the candidates' experience, professional skills, integrity and whether or not they comply with Securities and Exchange Act, Regulations Governing Appointment of Independent Directors and Compliance Matters for Public Companies and the independent director qualification requirements by TWSE or TPEx must be carefully examined. Such careful qualification examination aims to serve the long-term interests of TGI's shareholders.
- B. Draft formation guidelines for the committees under the Board of Directors and recommend their organizational procedures. Suggest revisions to the board when necessary.
- C. Review the qualifications and potential conflicts of interests of the candidates of all committees. Suggest new candidates and chairpersons of all committees to the Board of Directors.
- D. Review the qualifications of the chairpersons and members of all committees and suggest replacements to the Board of Directors if needed. Chairpersons and members of all committees should serve a 3-year term and be on the same term as the directors.

#### The Audit Committee

For the establishment of good corporate governance, under regulations for prescribed public company audit, the committee exercises of authority. With effect from August 2015, all the 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 for TGI's 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 of the directors and managers. The committee will propose the remuneration for each director and manager for TGI's reference in policymaking.



\*Note: Please visit TGI's official website for the organizational procedures and duties of the Audit Committee and Remuneration Committee.



#### **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 on a regular basis or when necessary. This company has its own Internal Audit Implementation Rules, based on which the IDA reviews and assesses the company's internal control system, business performance and efficiency. The IDA then offers timely suggestions for improvement to ensure that the internal control system is implemented continuously and effectively. Its scope of audit covers all operations of this company and our subsidiaries. The IAD mainly conducts audits based on the audit plan passed by the board of directors. The audit plan is based on recognized risks. The IAD also conducts audit on a case-bycase base when necessary. The aforementioned general and case-by-case audit help the company's management keep track of the internal control functions and understand existing flaws or potential risks in time. The internal audit reviews the self-inspections of all units and subsidiaries. The selfinspection results, the internal control flaws and any matters that need improvement discovered by the IAD will be reported to the chairman and the Board of Directors as a reference in the evaluation of the internal control system's effectiveness and the foundation of Management's Reports on Internal Control.

### 2.4 Honest Business

"Honest Business" is always TGI's core principle and the company's promise and responsibility to our stakeholders. TGI's Board of Directors and management have, in various public occasions, vowed to run an honest business. TGI did not commit any major violations nor face any major fines in 2016.

#### **Avoidance of Conflict of Interest**

TGI's rules of procedures for meetings of its Board of Directors include clauses for avoidance of conflict of interest for directors. If any director or a juristic person represented by a director is an interested party with respect to any agenda item, the director may express his/her opinions and answer questions at the respective meeting. When the relationship is likely to prejudice the interests of the company, the director may not participate in discussion or voting on that agenda item, and

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further, shall enter recusal during discussion and voting on that item and may not act as another director's proxy to exercise voting rights on that matter. Furthermore, this company has professional and unbiased independent directors, who offer unbiased and 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 this company's interests.

#### **Anti-corruption**

TGI has "Honest Business Principles" and "Employees' Honest Principles" and provides trainings to new recruits to ensure that each employee understands these principles.

- (1) Where there is a meal invitation between manufacturers or they offer gifts, these should be declined on principle.
- (2) If invited to dinner entertainment, this should be reported; if offered accepting gifts or money, these should given reported and handed over for official handling the same day.
- (3) Employee shall not exploit their relationship with manufacturers for private business dealings or money.

In 2016, no employee of Taiwan Glass was involved in corruption, bribery or extortion. Any donations or sponsorships from Taiwan Glass 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 Taiwan Glass did not make any political donations in 2016.







TGI's Honest Business Principles

Employee's Honest Principles

### Complaints mechanism

As Taiwan Glass pursues growth, the company has, as an honest business, established its accounting and internal control systems to ensure that all operations in the company stay in line with relevant laws and regulations, including Company Act, Securities and Exchange Act and any other laws related to listed and OTC companies and other business activities. This company has a dedicated line, email address to which employees can file their complaints. There is also an email address on

the company's website that the public can use to file complaints or provide suggestions. TGI has both internal and external complaints consultation procedures as follows:

- 1. Internal staff can download a staff complaint form from the company's internal bulletin. All the detailed supporting information should be attached. Spurious and unfounded or blackmailing complaints are strictly prohibited. Complaints shall be treated in a confidential manner. Depending on the type of problem the complaint, the complaints will be delivered to the relevant departments (personnel, audit, legal units, etc.) directly, or will be sent by personnel for response. The complaints can be sent directly to corporate headquarters.
- 2. Please follow the email addresses listed in the contact information on the TGI website and submit inquires to the responsible department based on the type of the inquiry.







Internal Complaint mechanism

External complaint mechanism

Workplace Violence Statement

# 2.5 Risk Management

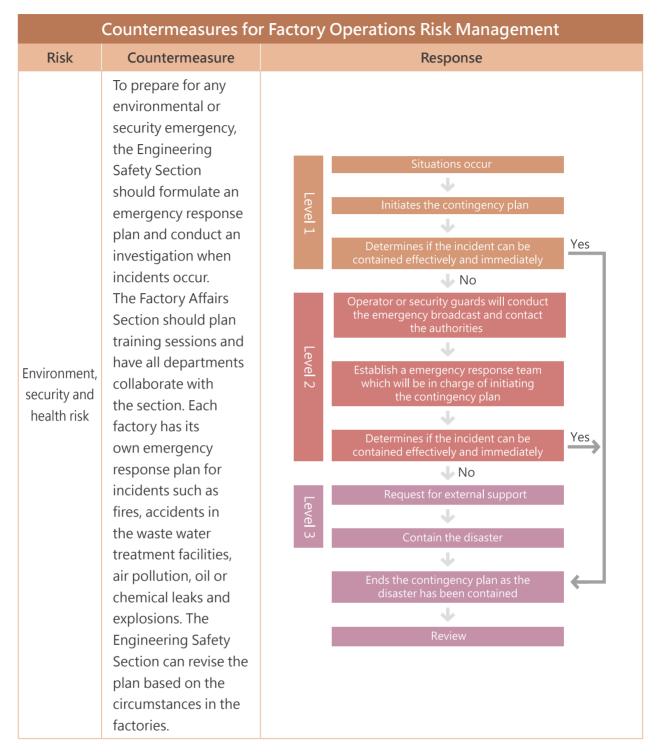
To prevent risk to continuous operation or sudden disruption of operation, Taiwan Glass has all departments conduct comprehensive risk evaluations and reviews periodically, implement various planned risk management measures for a sound and comprehensive risk management. The risk management involves lowering the possibility and reducing the impacts of recognized risks. Lowering business risk exposure, improving crisis management and sustainability are the objectives of risk management.



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Counterr	neasures for Financial Risk Management
Risk	Impacts and future countermeasures
Interest rate risk	We always maintain a good financial structure, as a financial institution and negotiating favorable bargaining chips, and in close contact with the banks in order to obtain more favorable borrowing rates.
Exchange rate change risk	Due to non-functional currency of the purchase or sales of the risk arising to netting, our exchange rate risk is not significant.
inflation	No significant impact on our Company.
<ul> <li>High risk and highly leveraged investment</li> <li>Loans to others</li> <li>Endorsements and Guarantees</li> <li>Policy derivative transactions, the profit or loss</li> </ul>	In 2016 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 working capital.

Countermeasures for Factory Operations Risk Management			
Risk	Countermeasure	Response	
Production risk	Glass production is very sensitive to even the slightest change in formula. The materials going into the kiln must be monitored carefully because incorrect formula will lead to major losses.	Risk  • Material misplaced in the wrong silo  Risk Occured  • Wrong formulate resulted in unqualified glass  Countermeasures  • Fully implement material storage control  • Enhance staff training  • Store raw materials in an isolated and consistent location  • Include names and inspection results in the labelings	



#### **Photos of Emergency Response Activities**



Fire Drill of putting out fire



Fire Drill Training Courses



Fire emergency drill-Status report and communication







Explanation of putting out fire

Fire emergency drill-group evacuation and taking refuge

# 2.6 Contribute to the society

To give back to the society, TG founded Taiwan Glass Foundation which participates in charitable activities all over Taiwan. This foundation aims to bring the community closer, promote school development, assist communities and encourage TG's own employees to participate in charitable activities to give back to the society. In addition to taking actions to give back to the society, the foundation also leads and encourages other organizations to participate in charitable activities to make our society a better place.

#### Taiwan Glass Foundation Past Activities (by year)

laiwan Glass Foundation Past Activities (by year)				
Year	Activity	Location	Descriptions	
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.	
2013	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.	
2012	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.	
2011	Art Exhibition	Taipei City	Co-organized and sponsored "Alvaro Siza : The Beauty of Function" .	

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Year	Activity	Location	Descriptions
	Scholarship	Taipei City	160 students awarded scholarships , each issued NTD 10,000.
2010	Movie Premiere	Taipei City	Co-organized special screening for "Let the Wind Carry Me" with 200 attendants. TG used this opportunity to promote excellent Taiwanese movies and develop more talents in the movie industry.
2010	Green Building Lecture	Taipei City	"Taipei Beautiful: Green Building Lecture": 300 participants. TG worked with 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 environment-friendly.

# Donations in 2016

Prioritization	Organization Title	Total Donation (NTD)			
1	Chinese National Association of Industry and Commerce	1,300,000			
2	Taiwan Chamber of Commerce & Industry	450,000			
3	National Yang-Ming University *	430,420			
4	The Little Sisters of the Poor Retirement Home, New Taipei City*	412,513			
5	Taiwan Institute for Sustainable Energy	280,000			
6	Taiwan Glass Industry Association	104,000			
7	Straits Economic & Culture Interchange Association	80,000			
8	Chinese National Federation of Industries	20,000			
9	Taoyuan Glass Commercial Association	20,000			
10	Hsinchu Glass Commercial Association	20,000			
11	Keelung Glass Commercial Association	20,000			
12	The Allied Association for Composite Industries	11,000			
13	Catholic Non-Profit Tsz-Ai Mercy Hospice of Taichung Diocesan Body Corporate, Taiwan	10,600			
14	The Third Wednesday Club	10,000			
15	Taiwan Golf & Country Club	5,000			
Total 3,173,533					
Note: "*" indicates recipients of glass products					

### Sponsored the Taiwan Lantern Festival of 2016

Taiwan Lantern Festival was held in Taoyuan City for the first time in 2016. Not only did TGI sponsor NT\$1,000,000 for the event, it also produced "Light tower of the Universe", a glass lantern made with 10,000 pieces of glass with the height of 10.25 meters and a 22-meter diameter. The tower weighs more than 20 tons and is made entirely with steel construction. The glass used was polished, reinforced, carved, laser-sprayed and glued. It was installed with a crane and is a testament to Taiwan' s amazing glass craftsmanship and creativity. Combined with 3D laser lighting and audio, the tower was able to recreate the beauty of the Milky Way and the starry sky to the viewers.





Source: Official website of Taoyuan City Government

#### TGI Charity (all factories)

To give back to the society, TG founded Taiwan Glass Foundation which participates in charitable activities all over Taiwan. This foundation aims to bring the community closer, promote school development, assist communities and encourage TG's own employees to participate in charitable activities to give back to the society. In addition to taking actions to give back to the society, the foundation also leads and encourages other organizations to participate in charitable activities to make our society a better place.

make our society a better place.						
Factory	Activity	Details	Images			
Hsinchu Factory	Joined the Hsinchu City River Patrol	The Hsinchu Factory adopted the section of the Shan-Shin River from the Da-Zuan bridge to the ocean. The company is responsible for patrolling the river regularly every month to keep it clean and monitor water quality. It can notify the Environmental Protection Bureau of Hsinchu City for any unusual or illegal incidents on the rivers. The Hsinchu Factory received a letter of appreciation from the Hsinchu City Government.	River patrol  River patrol  新竹市政府威谢状  多灣成場工業股份可以為動竹  最小環境延守,對本方河川環境維  積極条資歌是多。  特國此歌,確欽衛於。  市長林智坚  + # K R II  Letter of appreciation from the Hsinchu  City Government			

Factory	Activity	Details	Images
Lukang	Participated in the 2016 job fair for people with disabilities	Both factories participated in this job fair held by the Taichung/Changhua/Nantou branch of the Workforce Development Agency to help provide job opportunities to people with disabilities.	上etter of appreciation from the Taichung/Changhua/Nantou branch of the Workforce Development Agency
Factory/ Lukang Flat Glass Factory	2016 Changhua Carnival for people with disabilities	Both Lukang Factory and Lukang Flat Glass Factory participated in this carnival held by Catholic Non-Profit Tsz-Ai Mercy Hospice of Taichung Diocesan Body Corporate, Taiwan. Charities, businesses and the local communities were invited to this event to raise awareness and help people with disabilities.	感謝台灣城場工業展館有限分司 協助本院時間 「お願心が島、北岛商上党」 唯即開始開報園迫會 設備活動、使大金物建築等。株島樹枝。 特頭此便予以致謝 建設 東華和 周年文 和丹本島世紀 現在 現中 中等民間 1858-114 月 日 Mercy Hospice
Changpin Factory	Participated in the Changhua County Friends of the Police Association	Membership fee is NT\$20,000 a year. The association promotes police-civilian cooperation and assists with local crime prevention.	None

#### **Blood Donation**

"Give blood, save lifes" is a principle that TGI can identify with when it comes to giving back to the society. The Taichung Factory, Lukang Factory, Lukang Flat Glass Factory and Changpin Factory all held blood donation in 2016. Among them, the Lukang Factory and Lukang Flat Glass Factory holds blood donation with the Taichung Blood Center, with prizes sponsored by Lions Club International to encourage employees to donate blood. The two factories aim to lead as example to encourage all TGI employees to give blood and save lives. In 2016, TGI's factories donated a total of 377 bags of blood.













### A Friendly Environment for Employment of Disability

We have total 26 disability employee in Lukang Factory, 8 in Twisting Section and 18 in Weaving Section. TG's Lukang Factory has a LCD writing tablet at the Yarn Twisting, Weaving and Factory Affairs

Department to help the employees communicate with the hearingimpaired workers. To build a friendlier working environment, TGI established the sign language club in 2015. The club holds activities periodically, such as inviting the sign language teacher from the Tsz-Ai Mercy Hospice to teach the employees sign language and break down communication barriers among them. If a new recruit is hearing impaired, the teacher from the hospice will visit the Lukang Factory more often (3 to 4 days a week) to help create a diverse and friendly environment for workers with disabilities.

On June 30, 2016, the Taichung Sound Bright Association visited the Taichung Factory to help the hearing-impaired young people prepare themselves for the job market.





# 3 \ Quality TGI



- 3.1 Purchasing Policy
- 3.2 Production Introduction
- 3.3 Management System Certification
- 3.4 Customer Service





0 violations

No violations in 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 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.



2 certifications

Obtained 2 Green Building Material Certificates from the Ministry of the Interior in 2016.



-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.



USD5,000,000

Increased our global product liability insurance coverage up to USD5, 000,000 in 2016.



ISO/TS 16949

The Taoyuan Factory obtained ISO/TS 16949 (global automobile quality management) in 2016.



**AEO** 

Honored by Ministry of Finance for its outstanding contribution in 2016, TGI, with AEO supply chain safe measures, ensured safe quality of TGI products throughout the entire supply chain. By improving the safety, TGI was able to reduce intellectual property loss and satisfy the safety requirements of both Customs and clients.



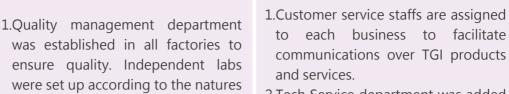
0 violations

TGI did not receive any complaint regarding client privacy violation or loss of client data.



# 2016 Product and Customer Service Quality Management Policy

Management Policy	Customer health, safety and product regulation compliance	Product and service labels, products and services, marketing and communications		
United Nationals Sustainable Development Goals	3 Good health and well-being	12 Responsible Consumption and Production		
Importance	TGI, as the leader in the glass industry in Taiwan, aims to protect the clients and consumers' safety as well as the company's reputation by proper compliance and execution.	For more than half a century, TGI has built itself as a quality brand. The company will continue to maintain the trust among clients by actively communicating to help our clients better understand our products and services.		
Policy	Provide satisfactory products to our customers though advanced technology and Total Quality Management (TQM).	Steady quality, passion, professionalism, fulfilling orders, prompt response to customer complaints and replying with correct information.		
Objective	<ol> <li>1.Provide safety regulation complying glass products to protect the consumers' interests.</li> <li>2.Boost customers and consumer's confidence and willingness to use glass products.</li> <li>3.Strengthen TGI's image as a brand with excellent service.</li> </ol>	<ol> <li>Reduce production cost, enhance professional capabilities and profit.</li> <li>Maintain a health distribution network to provide consistent quality, reasonable prices and excellent service.</li> <li>Improve customer satisfaction and reduce the loss from unsubstantial customer complaints to 0.</li> </ol>		







- of the products.

  2.Global product liabilities insurance was increased to USD5,000,000.
- 1.Established ISO 9001 Quality Management System.
- 2.Established FSSC 22000 Food Safety System.
- 3.Passed the CNS standards in Taiwan and the Prop65 standard from California.
- 4.Compliance with the CE standard from EU and the ANSI standards from the US.
- 5.Obtained Green Building Material Certificate from Ministry of the Interior.

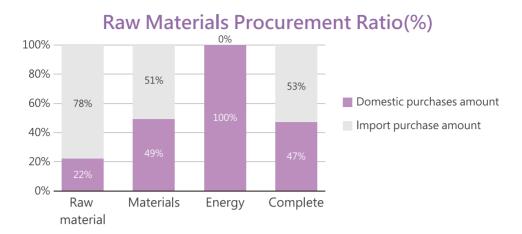
- 1.Established ISO 9001 Quality Management System.
- 2.Established FSSC 22000 Food Safety System.
- 3.Compliance with relevant food safety regulations and send samples for examination regularly.
- 4.Regular customer satisfaction survey with follow-up analysis and review.

# 3.1 Purchasing Policy



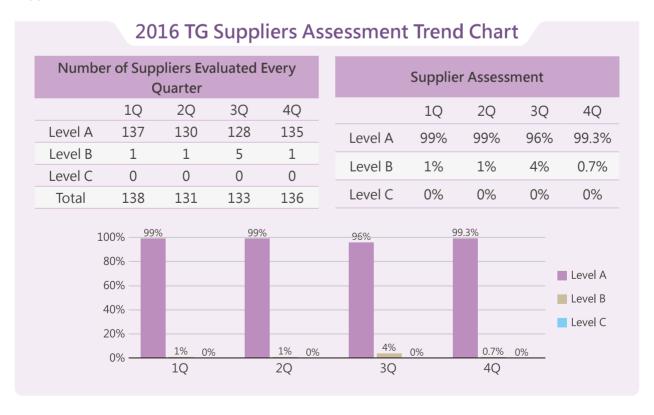
Taiwan Glass implements a fair, just and transparent procurement policy to supply our factories with materials with acceptable quality, reasonable prices and such materials are also low polluting, do not contribute to public hazards and compromise the supply chain's safety. Every quarter Taiwan Glass evaluates the prices, delivery punctuality and quality of suppliers that might affect our product quality for the reference of future procurements.

In 2016, TGI worked with a total of 1,821 suppliers in Taiwan and 226 suppliers 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. As the result, TGI imports 78% of the minerals and procures 22% of them locally. 49% of materials were procured locally and 51% was imported. With the exception of premium diesel (from Formosa Petro), TGI purchases fuel oil, natural gas and L.P.G 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 1-PO-B05-08 (supplier evaluation form) to evaluate the prices, punctualities and qualities of suppliers that might affect our product quality. The result serves as 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 of future procurements. 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.



#### Review and Recommendations:

- 1. The above chart showed there is no C-class manufacturer, which meets TGI's requirements.
- 2. Manufacturers are required to provide high quality material only and do so punctually. They are also to provide the lowest prices possible.

#### Details:

#### 1.Evaluation Schedule:

- 1-1 Annual evaluations are conducted at the end of every December and are completed by the 20th of the following month. 115 Environmental Subcontractor Qualifications and Evaluations Every year Taiwan Glass uses 1-PO-B05-12 (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 TG contractor. Based on TG's requirements, subcontractors should have necessary licenses/certifications or receive training in order to have smooth cooperation with TG.
- 1-2 Quarterly evaluations are conducted every March, June, September and December and completed before the 15th of the following months.
- 2.Class: We categorize our suppliers as A, B and C classes.

Class A : Continue cooperation (≥90 points)

Class B: Barely acceptable (70-89 points)

Class C: Terminate (≤69 points)

- 3.Quality assurance units (and the units that actually 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.
- 4.Quarterly evaluation results will be preserved by the procurement units for future reference. Annual evaluation results will be submitted to the chairman or president.

#### **Environmental Sub-contractor Qualifications and Evaluations**

Every year Taiwan Glass uses 1-PO-B05-12 (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 TG contractor. Based on TG's requirements, subcontractors should have necessary licenses/certifications or receive training in order to have smooth cooperation with TG.

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 afterwards.



Changpin Factory – Scrap glass disposal company license



Changpin Factory – Scrap glass collecting company license



Environmental sub – contractor evaluation form

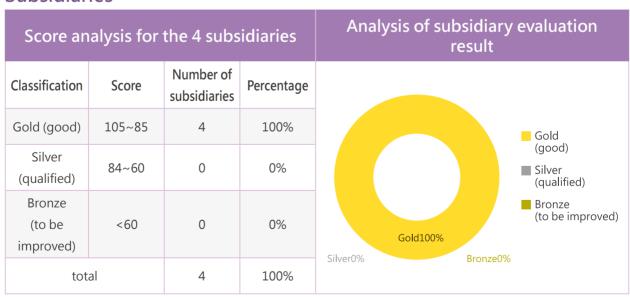
#### **Supply Chain CSR Management**

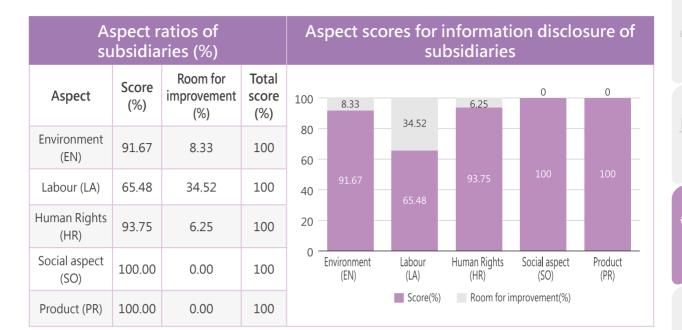
In addition to fulfilling our own corporate social responsibility, Taiwan Glass also extends the concept of sustainability to our supply chain. TGI realized, in 2014, that traditional evaluations are no longer sufficient for the suppliers. Sustainability management should also be included in evaluations in order to manage supply chain's risk and enhance their values. Therefore Taiwan Glass 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 corporate social responsibilities of its subsidiaries and suppliers and analyzed the scores from all aspects. The evaluation was conducted by using information disclosure questionnaires, which became the foundation of our suppliers' CSR evaluation results. Questionnaires were collected from four subsidiaries and 16 suppliers and the results of the subsidiaries were all excellent. However, generally speaking, scores for labor-oriented questions were low, mainly due to work injury incidents at a subsidiary company during the survey period; results indicated 68.75% of the suppliers as excellent and qualified suppliers were about 31.25%. There were no suppliers who needed improvement (0%). Overall results for each aspect showed that the environmental control should be stressed further. Whether this was labor issues of subsidiaries or environmental issues of suppliers, perhaps in the future TGI will review the score and analysis methods and continue tracking the progress of improvement. 2 of 16 suppliers have issued CSR related reports. The following is the results of the analysis:

#### **Subsidiaries**





### **Suppliers, Sub-contractors and Contractors**

Score analysis for the 16 suppliers				Analysis of supplier evaluation result		
Classification	Score	Number of subsidiaries	Percentage	銅0%		
Gold (good)	105~85	11	68.75%			
Silver (qualified)	84~60	5	31.25%	銀31% 金(優良)		
Bronze (to be improved)	<60	0	0%	■ 銀(合格) ■ 銅(待改善)		
tot	al	17	100%	м. 0970		

Aspect ratios of suppliers (%)			Aspect scores for information disclosure of suppliers						
Aspect	Score (%)	Room for improvement (%)	Total score (%)	100 -	21.53	12.8	9.9	4.17	7.92
Environment (EN)	78.47	21.53	100	60 -			-		
Labour (LA)	87.20	12.80	100	40 -	78.47	87.2	90.1	95.83	92.08
Human Rights (HR)	90.10	9.90	100	20 -					
Social aspect (SO)	95.83	4.17	100	0 -	Environment (EN)	Labour (LA)	Human Rights (HR)	Social aspect (SO)	Product (PR)
Product (PR)	92.08	7.92	100			Score(%)	Room for i	mprovement(%)	

# 3.2 Production Introduction

TGI's main products include flat glass, fiberglass and glassware. There was no any violation of regulations related to product health & safety, labeling and marketing and no product's sale was prohibited in 2016.

Flat glass is one of the core products of TG. With production plants based in Taiwan and China, TG's major markets reach Taiwan, China, Japan, Korea, North America, Middle East, Australia, Europe, South Africa and so forth. TGI was not involved in any anti-competitive behavior, anti-trust and monopoly practices or legal proceedings in 2016.



Note: For product details, please scan the respective QR Code with your smart phone.

#### 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 advanced lead-free copper process, to avoid heavy metal pollution. TGI also actively promotes the hot-dip process to strengthen glass, even if broken it will become small pieces to reduce harm. Laminated Glass has the PVB interlayer withstands penetration from 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 much higher strength to resist shock, burglary, burst and bullets. Cladding, coating, vacuum and other energy-saving glass has more excellent thermal insulation so it can reduce the heat exchange of indoor and outdoor to save air conditioning usage, and indirectly reduce greenhouse gas emissions.

### **Technical cooperation**

1980

TAA with Pilkington PLC (UK) for the introduction of float glass production know-how.

1999

Off-line sputtering & Double Low-E coating technology and equipment from Applied Films (USA).

2012

Cooperated with TECO to develop continuity Nano vacuum glass manufacturing technology.

1984

Off-line sputtering coating technology and equipment from Leybold AG (Germany).

2003

Off-line sputtering & Double Low-E coating technology and equipment from Von Ardenne (Germany).





CE



**CNS** 









ISO-14001 PASMARK /SGS

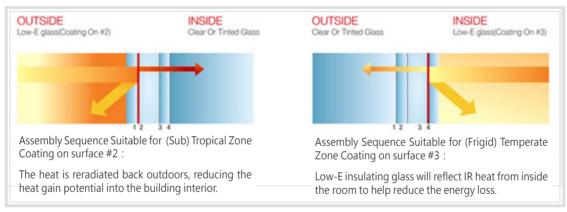
IGCC

#### **Green Product - Flat Glass**

ANSI

The new generation 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 are in compliance with CNS12681 standard and certified with ISO 9001 standard and IGCC. Currently the product has been vastly used in buildings.

TGI actively promotes the green building concept. The Low-E Glass can reduce 30% energy consumption of air-conditioning, and Low-E vacuum energy-saving glass insulation performance is 4-6 times of ordinary glass chip. The energy-saving products can better conserve energy than other industrial products. Therefore energy-saving buildings will become a key to the energy conservation energy of the country.





# TGI's Information

#### 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 indoor temperature from rising, conserving energy and reducing carbon emission.

Thermal radiation from the sun mainly contains ultraviolet, visible light and infrared radiation. Emissivity ( $\epsilon$  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 ( $\epsilon$  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**

Our Fiberglass Department actively promotes the application of fiberglass in daily life products. Compared to metal supporters, fiberglass has better resistance to corrosion and elements. Fiberglass is low-cost, more durable and has great a strength/weight ratio. Different types of fiberglass, based on their structures and features, are extensively used in thermal insulation, heat insulation, fireproof material and reinforcement.

TG'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.











#### Glass container, tableware, and kitchenware

Glass containers, with excellent transparency, showcase the real color of anything inside the container. They also have the advantages of easy sealing and flavor preservation. Furthermore, glass containers can be heated up gradually without deforming. TG's glass containers come in various shapes. A suitable container can further highlight your product's texture.

The manufacturing facility of container, tableware and kitchenware has received FSSC 22000 certification. All products meet Taiwan's Sanitation Standard for Food Utensils, Containers and Packages. TG 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. All of our coffee pots come with heat-resistant labeling. TG has established a waste glass recycling factory where waste glass is cleaned and recycled. This company periodically sends samples from this factory to SGS to test for lead content. Due to an increase in export-share, TG has an USD 5,000,000 global product liability insurance covering all the products.









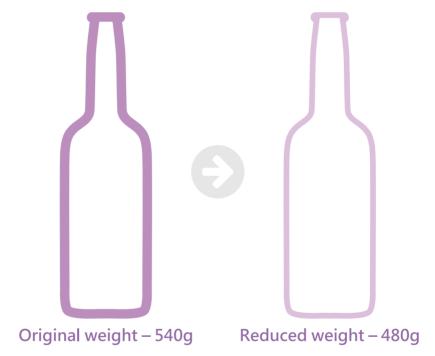


#### **Green Products - Glassware**

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 less resources and energy.

### **Advantages of Lightweight Bottle**

- Conserves raw materials use. It has the same strength despite a thinner bottle wall.
- Reduces energy consumption.
- Reduces clients' production costs.
- Glass containers are 100% recyclable and will not destroy the earth's ecological environment.



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

#### Asia's top quality heat-resistant baby feeding bottle



Starting on June 1, 2011, China banned the baby bottles containing bisphenol A, which is also regulated in countries worldwide. TGI container factory started the production of heat-resistant borosilicate bottles from April of 2013. These bottles have the CTE of 33, which is certified by AGR (American Glass Research) with leading quality in Asia.



#### TGI's Information

#### Coefficient of thermal expansion (CTE)

CTE describes how the geometric characteristics of an object change with a change in temperature. Glass with lower CTE is better at handling sudden change of temperature. Currently heat-resistant glass products from other Asian glass manufacturers have the CTE of more than 40.

# 3.3 Management System Certification

To achieve economic growth and prosperity, social prosperity and sustainable living environment, 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	Headquarters	Taoyuan Factory	Hsinchu Factory	Taichung Factory	Lukang Factory	Changpin Factory
AEO	•	•	•	•		
ISO 9001		•	•	•	•	•
ISO 14001		•	•	•	•	•
ISO 14064-1			•	•	•	
ISO 50001				•		
ISO/TS 16949		•				
FSSC 22000			•			
Note: "•" refers to the factory has the related certificate						

#### **Quality Systems**

Good quality management system gives a good product quality, meets customer needs, and improves economic efficiency. TGI's factories meet ISO 9001 quality management system certification. Flat glass products obtained CNS Certificate from Bureau of Standards, Metrology and Inspection, Green Building Material Certificate from Ministry of the Interior, Certificate of Australia CSi Safe Glass Certificate Authority and the Certificate of United States IGCC Multilayer Glass Certification Association. Fiberglass products have obtained Norway's DNV certification and Germany's GL certification. The Taoyuan Factory obtained the ISO/TS 16949 certification for quality management systems in 2016. The Changpin Factory submits their processed glass products for examination to maintain the certification by SGCC (tempered glass and laminated glass) and IGCC (insulating glass).





#### **Environment, Health, and Safety System**

The global ecological environment is getting worse day by day. TGI, as a part of the global village, knows the importance of environmental protection and sustainability of the earth. In environmental management, all TGI's factories are certified with ISO14001 for environmental management and ISO 14064-1 for greenhouse gases (except Changpin Factory). TGI's Taichung Factory was among the 2nd batch of companies/factories to report its greenhouse gas emission following EPA's "Greenhouse Gas Emissions Reporting Guidelines". Thus, in 2015, Taichung Factory established a committee of promoting greenhouse gas management to implement measures and report on these. It obtained third-party verification SGS compliance with ISO 14064-1: 2006 Greenhouse Gas review statement to achieve the target of waste reduction and protecting the global ecological environment effectively through ISO management procedure.





In recent years, tainted food incidents are quite common. To meet our food industry clients' food safety requirements and to improve our international competitive advantages, since 2010, the Hsinchu Factory has actively imported ISO 22000 food safety management system for process

hazard control. On March 7, 2011 it was SGS verified, and issued the "FSSC 22000 food safety management system certificate". The Taoyuan Factory also met Lloyd's Register product safety certification for shipbuilding and the TÜV safety certificate for food container manufacturing.





#### **Product Transport Safety System**



In 2014, TGI was among the top 500 blue-chip manufacturers for import and export and was awarded Bureau of Foreign Trade's certification. TGI, as a partner, also helped Customs implement comprehensive supply chain security measures to obtain substantial and convenient customs clearances. On 19 April 2012, Taiwan glass obtained an AEO certification (for excellent enterprises with compliances) from the Keelung Customs Department. On April 19, 2015, the certificate was extended for another 3 years. Honored by Ministry of Finance for its outstanding contribution on May 10, 2016, TGI, with AEO supply chain safe measures, ensured safe quality of TGI products throughout the entire supply chain. By improving the safety, TGI was able to reduce intellectual property loss and satisfy the safety requirements of both customs and clients.

#### **Energy Management System**

After the Kyoto Protocol took effect, the global warming and climate change have become an important sustainable development issue. Greenhouse gas emission reduction has become important in each country. To fulfill corporate social responsibility, TGI seeks to reduce greenhouse gas emissions, improve energy efficiency, and implement energy source management. In 2014 it began to introduce the "ISO 50001: 2011 Energy Management System". On November 21, 2014 the Taichung Factory was certified and received the certificate from Bureau Veritas Certification Taiwan. The Hsinchu Factory is planning the introduction of this certification.



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#### **Accounting Systems**

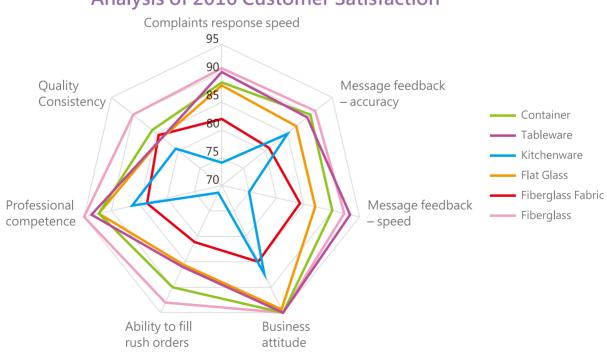
The Company's financial report was prepared based on the FSC standards, recognized by the international financial reporting Associate, the International Accounting Standards, International Financial reporting interpretation and Interpretations establishment.



# 3.4Customer Service

TGI has been in business for over 50 years and attaches great importance to customer feedback. Therefore getting customers recognition and trust is a key objective, which is what TGI works towards every year. TGI every six months or every year conducts a "customer satisfaction survey", covering seven issues including "complaints response speed", "message feedback - correctness", "message feedback - promptness", "business attitude", "ability to fill rush orders", "professional competence" and "quality consistency". Based on customer response the indicators are reviewed and analyzed for follow-up meetings about improvement measures and to implement issues raised in customer feedback. The satisfaction for tableware customers in 2016 suffered a drop from 2015, due to TGI's inability to fulfill urgent orders for a rapidly growing market in China. To meet our clients' needs, TGI has adjusted its production schedule. While ensuring production safety, TGI has postponed the scheduled cold repairmen for the tableware kiln from August 2016 to February 2017. In 2016, customer satisfaction averaged more than 87% across various TGI departments.

### Analysis of 2016 Customer Satisfaction



To practice personal data security management, TGI follows the relevant provisions of "personal data security maintenance management approach" and the "personal data protection act." We provide new staff education and training in personal profile protection to strengthen the awareness. Every six months staff from each department will be assigned to the education and training of personal profile protection. This is to reduce possible legal risks for the company and employees, protect the interests of customers and maintain the credibility of the company and enhance colleagues' handling capability of information security.

In addition, we are also committed to protecting customers' confidential information. To prevent data leakage, our information equipment has strict permissions control, and all employees are required to protect customers' confidential and proprietary information carefully, and prevent inappropriate loss of customer data. TGI provides information safety 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 2016, TGI did not receive any complaint regarding client privacy violation or loss of client data.



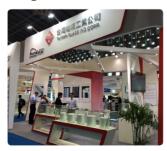


Information Security Seminar

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 the Shanghai.



Fiber Glass – JEC Exhibition



Fiber Glass – China Composites Expo



Container & tableware – Children Baby Maternity Industry Expo





Flat Glass – Building Materials Exhibition

# 4 · Green TGI



- 4.1 Sustainable Environment Strategy
- 4.2 Sustainable Resource Management
- 4.3 Green Manufacturing Process



# Achievements of Green Production in 2016



260 million NTD

No violations in health and safety of products, labeling and marketing regulations.



190,000 tons Recycled 190,000 tons of scrap glass in 2016.



**67**%

Taoyuan Factory recycled 67% of its waste in 2016.



-76,416 tons

No violations in health and safety of products, labeling and marketing regulations.



-1.55%

Total graywater discharge reduced by 1.55% in 2016.



10%

Environmental equipment, pollution handling expense, environmental management system and training expenses increased by 10% compared to 2015.



**-1,956**<sub>GJ</sub>

Diezel consumption was 56,120 liters lower than 2015 and the heating value dropped by 1,956GJ.



ISO 50001

The Hsinchu Factory, for better energy management, implemented the ISO 50001 energy management system to maximize its energy efficiency through systematic examinations.



8.99%

Changpin Factory increased its water recycle rate by 8.99% compared to 2015.

# 2016 Environmental Management Policy

Facing climate changes as the result of global warming, Paris Agreement was adopted by the United Nations Framework Convention on Climate Change in 2015, which showed the significance of climate change issues. TGI, in response to climate changes, has included the risks and opportunities brought by climate changes in our environmental management and implemented energy conservation, carbon reduction and water conservation measures.

conservation, ca	conservation, carbon reduction and water conservation measures.					
Managemen Policy	t Environmental Regulation Compliance, Discharge, Graywater and Waste Management	Raw Materials and Energy Management				
United Nationals Sustainable Development Goals	<ul> <li>6 Clean Water and Sanitation,</li> <li>7 Affordable and Clean Energy,</li> <li>9 Industry, Innovation and Infrastructure,</li> <li>12 Responsible Consumption and Production,</li> <li>13 Climate Action</li> </ul>	7 Affordable and Clean Energy, 12 Responsible Consumption and Production, 13 Climate Action				
Importance	Environmental regulation compliance, pollution emission control, improve water recycling, reduce environmental impacts and exercise duty as a citizen of the earth.	The choice of raw materials and energy management are closely related to the production quality and schedule, and also determine the final product quality.				
Policy	<ol> <li>Comply with government environmental regulations and requirements.</li> <li>Establish an environment management system that all staff participate and properly execute with performance reviews.</li> <li>Promote environmental protection through training and develop emergency response capabilities.</li> <li>Improve production efficiency by improving the manufacturing process improve pollution prevention.</li> </ol>	<ol> <li>Effectively manage the use of raw materials and sources of materials; keep track of the raw material procurement.</li> <li>Properly implement the energy management system with all staff contributing to energy conservation and carbon reduction.</li> <li>Improve energy efficiency.</li> </ol>				
Objective	Ensure that the emissions are in compliance with all regulations and standards; provide environmental -friendly, safe and high quality products; reduce environmental impacts, pollution and waste.	Manage raw material sources, procure materials with consistent quality, use resources effectively, reduce cost, improve company's competitiveness and follow the objectives in the ISO 50001 energy management system. TGI aims to maintain a power conservation rate of 1% annually from				

2015 to 2019.



- 2.Established staff for air pollution prevention, waste and wastewater processing. Environmental monitoring companies are contracted regularly to monitor the environment in TGI facilities.
- 3.Lukang Factory has installed high efficiency air pollution prevention equipment and equipment to reduce sludge.
- 4.Lukang Factory has initiated the project to recycle waste water and RO concentrate.

- 1.Established a department for material grinding and distribution to provide materials that comply with the manufacturing requirements.
- 2.Established a laboratory to carefully examine each batch of materials and ensure regulation compliance.
- 3. Hsinchu Factory has established a recycling plant for scrap glass to improve the recycle rate of scrap glass in Taiwan.
- 4.Energy-saving team revises on-site procedures or improves equipment for energy conservation.
- 5.Use high efficient motors and inverter for control.

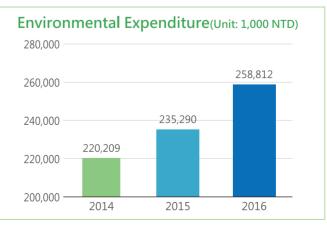


- 1.Periodically review environmental regulations, Greenhouse Gas Reduction and Management Act, Air Pollutant Emissions Standards, Waste Disposal Act and sewage discharge standards via ISO 14001.
- 2.Properly manage environmental protection practices in line with the major environmental concerns.
- 1.Ensure raw material quality via ISO 9001 quality management system.
- 2.Improve energy efficiency by introducing ISO 50001 energy management system.

# 4.1 Sustainable Environment Strategy

TGI continued its investment in equipment related to environmental protection, pollution treatment, environmental management systems and environmental education related personnel training, to achieve compliance with environmental legislation, lower environmental pollution, and achieve sustainable environmental management. In 2016, TGI invested a total of NT\$260 million in environmental protection, 10% higher compared to 2015, a testament to TGI's commitment to environmental protection.

Year	Environmental Expenditure (Unit: 1,000 NTD)
2014	220,209
2015	235,290
2016	258,812



#### **Climate Change Policy**

Global warming and extreme weather caused by climate change has an impact on the world and Taiwan as well. Human society and businesses are facing unprecedented challenges. TGI tries to understand the core of the problem, reflect on environmental ethics and has a sense of responsibility for climate change. It adopts policies of positive development and actively participates in carbon reduction programs as a response to climate change.

TGI's Factories (Taoyuan, Hsinchu, Taichung, Lukang, Lukang flat glass, and Changpin Factories) are located in industrial zones and conform to the environmental impact assessment for industrial areas instead of being located in any ecological conservation zones or protected habitats. In terms of biodiversity, the company's activities, products and services have no significant impact on conservation areas or other areas important to biodiversity. Since the factories opened there have never been any petitions about their effect on the ecology.



Response to water shortage

All factories have implemented water conservation projects.



Recycle crushed 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 TG constantly takes inventory of greenhouse gas emissions at all factories to understand the actual situation and take measures to reduce emission accordingly. By continuing reducing our energy consumption in manufacturing, we are able to lower our energy consumption intensity.

The Taichung Factory is a legal person with a contract capacity of more than 800 kilowatts. Based on Article 9 of Energy Administration Act, the factory should have an annual energy conservation rate of more than 1%. The factory has introduced the energy management system to work towards this goal.



Energy-saving products

We continue to develop and manufacture Low-E glass and vacuum insulated glass.

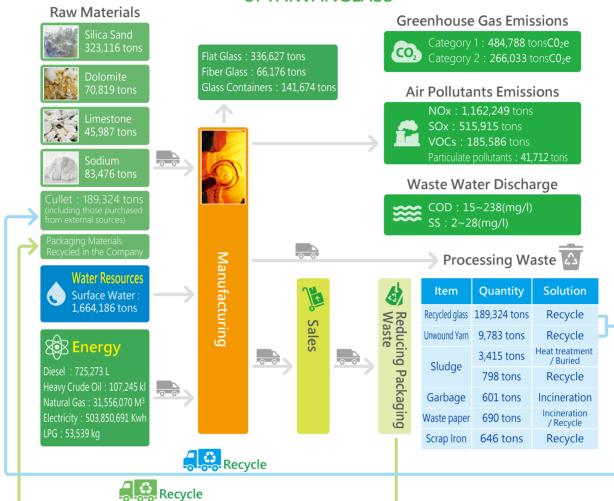


Green procurement

Taiwan Glass conducts priority procurement of energy-saving products.



#### The 2016 Environmental Input and Output Diagram of TAIWANGI ASS



#### Compliance with Environmental Regulations

**Environmental Input and Output** 

Taiwan Glass has Legal Department and Audit Department to ensure that all units' operations comply with environmental, labor safety, product and any related regulations and Labor Standards Act. We offer education and training to help and ensure that each employee understand related rules and regulations. TG believes in honesty and hard work and always complies with governmental regulations. Under the "environmental protection and occupational safety first" principle, TG 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. With the exception of the Hsinchu Factory, no major leak incidents or complaints about environmental impacts occurred to TGI factories. All violations had been remedied and the compliances with environmental regulations are as the following:

Factory	Violations	Fine (NTD)
Taoyuan	Fined for illegal levels of boron in industrial wastewater	344,000
	1. Violation of Item 1 of Article 18-1 in Water Pollution Control Act.	4,698,000
Hsinchu	2. Violation of Article 65 of Water Pollution Control Measures and Test Reporting Management Regulations.	27,000
	3. Violation of Article 31.1. (2) of Waste Disposal Act.	6,000
	4. Violation of Item 1 of Article 7 in Water Pollution Control Act.	165,000
	5. Violation of Item 1 of Article 7 in Water Pollution Control Act.	135,000
Taichung	Nitrogen oxide emission exceeding legal levels and in violation of Air Pollution Control Act.	100,000
	Fetched water without permission.	12,000
Lukang	Lukang None	
Lukang Flat Glass	None	
Changpin	None	-

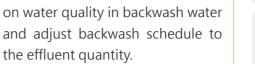
## **Taoyuan Factory Violation Details:**

Violation	Improvement Measures
The Environmental Protection Bureau of Taoyuan examined the wastewater discharge of the Taoyuan Factory and found illegal level of boron in the discharge. The factory received a NT\$344,000 fine.	The manufacturing process was switched to a boron-free fiber glass manufacturing process.

# Hsinchu Factory Violation Details:

Violation	Improvement Measures
Some molten glass was leaking from the kiln and fire hydrant was used to help cool down the temperature, resulting higher water consumption. The water from the fire hydrant flew into the graywater processing system and slightly clogged up the bump, which was resolved immediately but as the result, the water processing capacity was reduced. The cooling water was discharged to the surface water body without being processed, which was a violation of Article 18.1.  (1) of Water Pollution Control Act. The factory received a NT\$4,698,000 fine.	<ul> <li>1.All supervisors convened a meeting to review water consumption.</li> <li>Reduce water consumption and monitor strictly. Process water should be enough for cooling only.</li> <li>If the kiln requires a massive amount of cooling water, it should be reported so that action can be taken in response.</li> </ul>









The effluent meter was replaced and calibrated by an external service provider.

**Improvement Measures** 

Monitor water consumption based

2.Companies are contracted to improve the effluent treatment system to increase its capacity and install auto-monitoring system and other equipment to improve effluent quality. The work is estimated to be

the effluent quantity.

complete by July 2017.

The Environmental Protection Bureau of Hsinchu notified the Hsinchu Factory that there is inconsistency between the produced, discharged and stored quantities of the D-0699, D-0499, D-0902 and R-0402 waste from the filed inventory. The confirmation of the produced quantities and inventory of these wastes is very time consuming and the notification came during holidays. Therefore the plant did not make corrections until May 10, 2016 and violated Article 31.1. (2) of Waste Disposal Act and received a NT\$6,000 fine.

On the inspection day, the reading of the effluent meter at the Hsinchu Factory was zero because the wastewater treatment equipment was on the high-

load automatic spoil discharging mode, lower than

the meter's flow range (5.65m<sup>3</sup>/H~1357.175m<sup>3</sup>/H).

This constituted to a violation of Article 65 of Water Pollution Control Measures and Test Reporting

Management Regulations.

Violation:

The factory made corrections on May 10, 2016. The factory checked the produced quantity, inventory and discharged quantity before filing it online.

Wastewater treatment equipment operates automatically with liquid level control. The effluent sampled on February 24, 2016 was the residual effluent in the equipment when it was not running. The residues in the pipes may have increased the sample's chemical oxygen demand to the level in violation of Article 7.1 of Water Pollution Control Act.

- 1.Increase sludge pumping frequency at the junction well and conduct regular maintenance of wastewater treatment equipment.
- 2.Install screens to filter wastewater to reduce pump malfunction as the result of clogging.
- 3.Clean the residue in the effluent discharge pipes to prevent residues from affecting the water quality.

Violation :	Improvement Measures
Graywater system has been running for more than 10 years. The initial design capacity was 40CMH, which can no longer handle the all the wastewater from the backwash, wastewater overflow from production, employee wastewater and rainwater. The inconsistent water quality from these types of wastewater often causes a system overload and affect the effluent quality, contributing to a violation of Article 7.1 of Water Pollution Control Act and a fine of NT\$135,000.	<ol> <li>Increase sludge pumping frequency at the junction well and conduct regular maintenance of wastewater treatment equipment.</li> <li>Install screens to filter wastewater to reduce pump malfunction as the result of clogging.</li> </ol>

#### **Taichung Factory Violation Details:**

Violations	Improvement Measures
A 2016 inspection found that Taichung Factory's nitrogen oxide emission exceeding legal levels. The factory received a NT\$100,000 fine for violating Air Pollution Control Act.	The control equipment was adjusted and functioning normally. The nitrogen oxide emission dropped below the legal level.
Fined for NT\$12,000 for fetching water from a underground water well in 2016.	The well has been sealed.

Note: "Major leak incidents" refer to environmental violations with a fine of more than NT\$1,000,000 and must be reported to TWSE.

# 4.2 Sustainable Resource Management

#### Raw Material Management

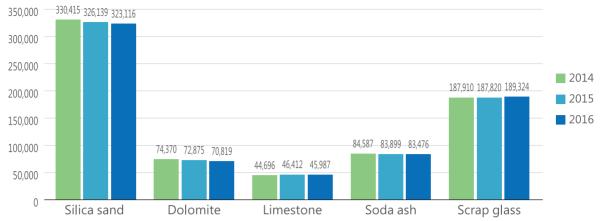
Taiwan Glass' main products include flat glass, fiberglass and glassware. The major materials used in production include silica sand, limestone, dolomite, soda ash and recycled scrap glass (cullet). In 2016, TG used approximately 323,000 tons of silica sand, more than any other material. The consumption of these materials is listed below:

Unit : Ton

Year/Category	Silica sand	Dolomite	Limestone	Soda ash	Scrap glass
2014	330,415	74,370	44,696	84,587	187,910
2015	326,139	72,875	46,412	83,899	187,820
2016	323,116	70,819	45,987	83,476	189,324

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



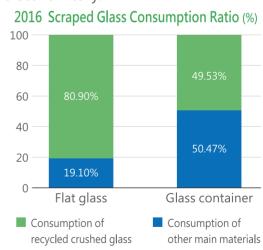


#### **Environmental Protection and Recycle of Scrap Glass**

Glass is highly recyclable and therefore does not affect the environment significantly. Thanks to this feature, in the future the 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. In addition to recycling scrap glass, TGI also recycles all the reusable packaging material in the production process. Not only does this reduce cost, it also reduces our environmental impact and fulfills our corporate social responsibilities.

TGI's container factory recycles its blemished and scraped products, which reduces the consumption of ore the environmental impact. Recycle yards recycle scraped 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. 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.

Scraped Glass Consumption Ratio Unit: %						
Year/Product	Flat glass	Glass container				
2014	18.06%	49.04%				
2015	19.24%	50.99%				
2016	19.10%	50.47%				



#### **Energy Management**

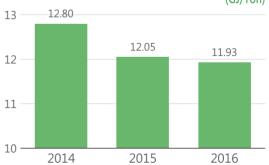
The main energy sources for TGI factories are: electricity, heavy oil, natural gas and diesel fuel, there is no sale of electricity or energy (electricity, heat, cold, or steam). Each TGI's factory improves its energy efficiency in the production of glass, through a furnace heat storage exchange chamber 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 (M³)	Liquefied petroleum gas (KG)	Electricity (kWh)		
	Total	105,405	990,195	32,798,585	-	481,392,950		
2014	Calorific value (GJ)	4,235,764	34,818	1,098,359	-	1,732,995		
	Total	106,241	781,393	30,736,076	24,577	499,263,887		
2015	Calorific value (GJ)	4,269,371	27,476	1,029,290	1,241	1,797,330		
	Total	107,245	725,273	31,556,070	53,539	503,850,691		
2016	Calorific value (GJ)	4,309,710	25,520	1,056,750	2,704	1,813,842		

#### Flat glass energy consumption intensity



Glass container energy consumption intensity (GJ/Ton)



### **Greenhouse Gas Inventory**

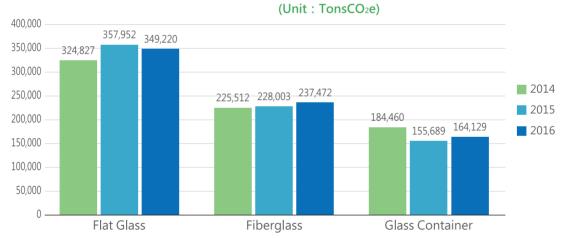


Every member of the Taiwan Glass is contributing to energy conservation, carbon reduction and greenhouse gas emission reduction. We also promote the awareness of green production and fulfill our corporate responsibility.

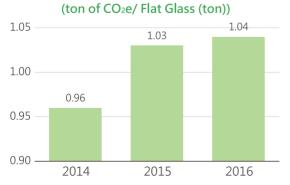
Taiwan Glass' greenhouse gas emissions can be divided into two categories: direct and indirect. The direct category includes the energy (such as heavy crude oil, diesel and natural gas) used during production. The indirect category mainly consists the electricity purchased from external sources. TGI's direct carbon emission was approximately 485 thousand tons of  $CO_2e$ , 0.68% higher than 2015. (Please note that this report does not include the 3rd category or fugitive emission sources and only lists major emission sources.)

Product Carbon Emissions (by year)  Unit: Ton CO₂e								
Due duet/	2014 2015		2014 2015		2016			
Product/ Year	Direct emission	Indirect emission	Direct emission	Indirect emission	Direct emission	Indirect emission		
Flat Glass	259,812	65,015	274,791	83,161	270,231	78,989		
Fiberglass	97,175	128,337	100,100	127,903	103,279	134,193		
Glass Container	126,524	57,936	106,637	49,052	111,278	52,851		
Subtotal	483,510	251,287	481,528	260,116	484,788	266,033		
Total	734,797		734,797 741,644		750,821			

#### Product Carbon Emissions (by year)



#### Flat Glass GHG Emission Intensity



#### Glass Container GHG Emission Intensity



Note: The emissions have not been verified by a third party organization.

#### **Energy Conservation & Carbon Reduction**

In 2016 TGI continued to promote energy conservation and take action on carbon reduction. Taiwan Glass mainly relies on electricity, heavy crude oil, natural gas and diesel. Based on corporate social responsibility and the pursuit of green production and sustainability, our Taichung factory introduced ISO 50001:2011 (energy management system) and was certified on November 21, 2014 with the certificate from Bureau Veritas Certification Taiwan. The main purpose was to provide a structure for necessary procedures by establishing energy management principles and methods. The structure will allow TG to optimize its energy efficiency without affecting current operations 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 TG uses energy. By lowering energy cost and reducing greenhouse gas emissions, Taiwan Glass will achieve sustainability and be more environment-friendly. The experience from the Taichung Factory will be replicated at other factories.

#### **Carbon Reduction Commitment from TGI Factories**

Taoyuan Factory	To achieve reduction of indirect energy consumption through the (ISO 14001) environmental management system management program. Every year it implements energy saving measures, mainly including lighting energy consumption reduction, production process improvement, equipment deprecation or compressor performance adjustment. Execute energy management in the plant and voluntarily comply with the government's greenhouse gas reduction policy.
Hsinchu Factory	TAIWANGLASS joined in MOEA's Voluntary GHG Reduction Program in 2012 and was reviewed and approved by the Green Foundation commissioned by MOEA. Continue to promote energy conservation and carbon reduction while encouraging the entire staff to participate energy-saving activities, raising their energy-saving awareness. Follow the annual energy conservation objectives by the government and submit the energy conservation action plan to the Bureau of Energy of MOEA. Replace current equipment with energy-efficient counterparts to reduce energy consumption. Commission SGS to validate our ISO 14064 greenhouse gas inspection statement. To effectively manage the energy consumption of this plant, we are planning to implement the ISO 50001 energy management system. We hope that via systematic audits, we can maximize our energy efficiency.
Taichung Factory	As a legal person and natural person of a contract capacity of more than 800 kilowatts, the factory has, according to the Article 9 of Energy Administration Act, established the objectives of conserving 1% of electricity and 0.421% of oil. As the kilns run longer hours, the energy consumption will increase accordingly every year, which makes it more difficult to reach the objectives. Nonetheless, all departments at the Taichung Factory still are committed to energy conservation in all areas. In 2016, the Taichung Factory conserved 403,548 kilowatts of electricity and reduced carbon dioxide emission by 213.07 tons.

Lukang Factory and Lukang Flat Glass Factory	From 2011, Lukang Factory and Lukang Flat Glass Factory joined the Industrial Development Bureau's Greenhouse Gas Emission Voluntary Reduction Program. Each year, through the environment management system, the factory proposes its energy conservation plan to become more friendly to the environment, fulfill its corporate social responsibilities and achieve sustainable development.
Changpin Factory	With growing problems of climate anomalies, coupled with limited conventional energy reserves, major countries of the world all implement carbon reduction strategies. The Changpin Factory is aware of the importance and urgency of climate change so it actively improved equipment and adjusted production modes, for the development of a green energy industry, and to help create a sustainable low-carbon society and develop a low-carbon economy.

TGI reduced its carbon emission by a total of 1,631.95 tons in 2016. The energy conservation and carbon reduction measures and results for all TGI's factories are listed below:

carbon reduction measures and results for all TGI's factories are listed below :						
Item Factory	Energy conservation measures	Energy conserved	Amount conserved	CO <sub>2</sub> reduced (ton)	Photo	
	Reduced steam emission; adjust boiler operation and emission mode to 1 running and 1 standing by.	Electricity (KWH)	91,460	47.4		
Taoyuan Factory	Other energy saving measures.	Pastes (KG)	10,260	7.6		
Hsinchu	Replaced spiral compressors with two 600 HP centrifugal compressors.	Electricity (KWH)	876,000	462.53		
Hsinchu Factory	Replaced H-28 Mold cooling with 90KWIE3 motors and inverter controls.	Electricity (KWH)	398,580	210.45	⊕ ASSZEI	

Item Factory	Energy conservation measures	Energy conserved	Amount conserved	CO <sub>2</sub> reduced (ton)	Photo
	Replaced the emergency exit lights.	Electricity (KWH)	370	0.20	Name of the second seco
Taichung	Added front and back door switch to the boiler to conserve energy.	Electricity (KWH)	54,892	28.98	
Factory	Alternative plan for the dehumidifiers in the lamination cleanroom on off days.	Electricity (KWH)	28,990	15.31	
	Other energy saving measures.	Electricity (KWH)	5,677	3	
	Switch to LED light bulbs across the factory.	Electricity (KWH)	37,843	19.98	
Lukang	Energy conservation for HVAC in fabric examination.	Electricity (KWH)	113,005	59.67	
Factory	Switch to LED light bulbs in street lights.	Electricity (KWH)	14,668	7.76	
	Use the high pressure pump VFD to control the RO water output.	Electricity (KWH)	5,280	2.79	THE RESIDENCE OF THE PARTY OF T
Changpin Factory	Two 150hp circulating water pumps are shut down during the maintenance (60 hours each month for the coating line).	Electricity (KWH)	80,640	42.6	

Item Factory	Energy conservation measures	Energy conserved	Amount conserved	CO <sub>2</sub> reduced (ton)	Photo
Changpin Factory	Replaced the air conditioners in the 2 <sup>nd</sup> laminated glass assembly room with energy-saving products.	Electricity (KWH)	815,556	430.6	
Tota	l of CO <sub>2</sub> reduction across all	ns)		1631.95	

#### Water Resources Management



TG improves water efficiency and conducts priority procurement of water-conserving equipment. We promote awareness of green production and fulfill our corporate social responsibility.

In the manufacturing process for processed glass, glass edging, anvil and drilling all require water. TGI, after assessments, upheld the principle of water resources recycling, continued assessment and applications of water-saving techniques to reduce water consumption. The entire factory's water consumption includes water for industrial use, water for daily use and recycled water (used in part for the waste gas emission system). The factories use recycled water instead of tap water, reducing the water consumption.

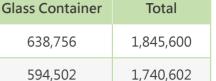
The way in which TGI obtains water for each factory does not have a significant impact on the local water supply. Water is obtained from Taiwan Water Company, Area 11, Liyutan Reservoir, etc. For water supplies of less than 5%, water sources for each factory are in the following table:

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

TGI factories consumed approximately 1.66 million tons of water in 2016. The water consumption intensity of flat glass was increased by 6.02% and 14.14% for fiberglass. However, the water consumption intensity for glass containers dropped by 26.01%. The total water consumption of all TGI's factories in 2016 was 76,416 tons lower than 2015.

# Total

1,664,186



#### Product Water Consumptions (by year)

**Product Water Consumptions (by year)** 

**Fiberglass** 

1,031,018

998,874

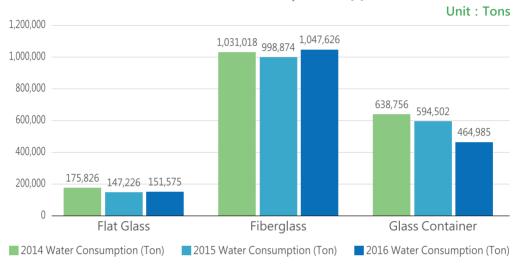
1,047,626

Flat Glass

175,826

147,226

151,575



#### Flat Glass Water Consumption Intensity (Water/ flat glass (ton))

**Project / Product** 

2014 Water Consumption (Ton)

2015 Water Consumption (Ton)

2016 Water Consumption (Ton)



#### Glass Container Water Consumption Intensity (Water/ flat glass (ton))

464,985



#### **Factory Water Recycling and Conservation Measures**

In response to extreme climate change, development and allocation of water resources has become an important issue worldwide. Therefore, water management, water conservation and water shortage emergencies became an important part of corporate climate change adaptation and disaster risk management. In view of this, TGI continue to spare no effort to promote water conservation. In addition to improving facilities and equipment, TGI also conducted outreach to staff on water use for behavioral changes to improve the efficiency of water conservation.

The Changpin Factory had a higher water recycle rate in 2016 than 2015 because the factory introduced filtered pure water with high conductivity to the cooling circulating pool and increased the

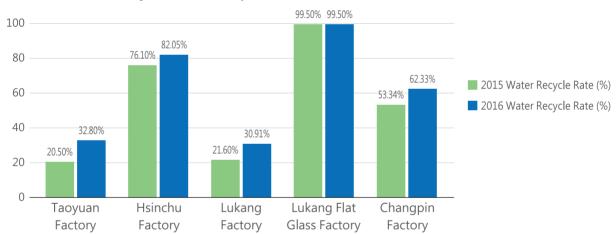
conductivity standard of the cooling pool. This means the wastewater will not go to the wastewater pool and as the result the amount of wastewater had decreased while more water had been recycled, which contributed to a higher recycle rate.

The following table shows each TGI factory's amount of water recycled and recycle rate in 2016:

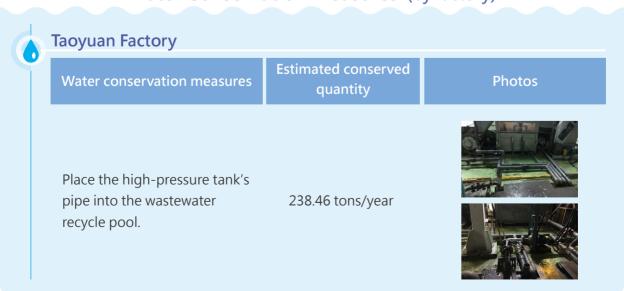
TGI 2016 Factory Recovery and Recycling of Water Resources									
Project / Factory	Taoyuan Factory	Hsinchu Factory	Lukang Factory	Lukang Flat Glass Factory	Changpin Factory				
Recycled Amount (M <sup>3</sup> )	173,740	417,339	230,556	12,270,733	55,949				
Recycle Rate (%)	32.8 %	82.05%	30.91%	99.5%	62.33%				

- Notes: 1. Processing capacity: the amount of waste water 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 related numbers.

#### Water Recycle Rate Comparison Across Facilities



#### Water Conservation Measures (by factory)





#### **Hsinchu Factory**

#### Water conservation measures

# **Estimated conserved**

#### **Photos**

Install backwash water recycle equipment to reduce discharge from the TS-6 water plant.

17,000 tons/year



Installed water recycle equipment to TS-9 Mold Cooling Water.

8,000 tons/year



#### **Taichung Factory**

Currently 23 faucets have water efficiency label.

2.1%/year

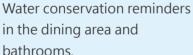




#### Lukang Factory & Lukang Flat Glass Factory

Recycles water and RO concentrate.

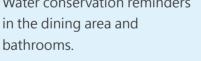
38,664 tons/year



All the toilets were replaced

with water conserving

2 tons/year



5 tons/year







#### **Changpin Factory**

counterparts.

Introduced filtered pure water with high conductivity to the cooling circulating pool and increased the conductivity standard of the cooling pool. This means the wastewater will not go to the wastewater pool and as the result the amount of wastewater had decreased.

8,028 tons/year

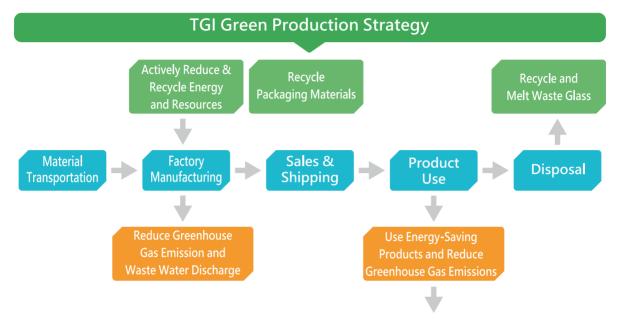




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#### 4.3 Green Production

#### **Green Production Strategy**



Facing the trend of environmental protection and green production, TGI is committed to improving its raw material efficiency and reducing the environmental cost during production. Energy and resource consumption numbers can help TGI evaluate the greenhouse gas emission intensity, air pollution, wastewater and waste from the production to help the company work towards reducing waste and environmental impacts.

#### **Air Pollution Control**

For air pollution prevention, TG starts with reducing the pollutants in the exhaust. Our priority is to comply with EPA' emissions standards and reduce pollutants emitted every year. TG 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 2016, increases in production in all TGI factories resulted in higher air pollutant emission than 2015. However, all the air pollutant emission levels at TGI factories remained under legal limits. To effectively manage air pollutant emission and in response to air pollution regulations that will only get stricter, all TGI factories are working hard to introduce the new exhaust treatment system. Currently the Taichung Factory and Lukang Flat Glass Factory are building the new desulfurization, denitrification and dust removal system, which is estimated to be running for the 2nd flat glass production line in 2017.

# 1h



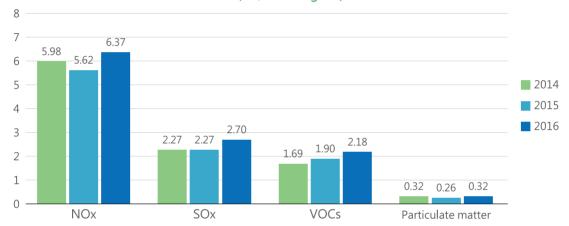






Total Air Pollutants Emissions for Each TGI Factory Units: Ton								
Year Air pollution evaluation item	2014	2015	2016					
NOx	1,080,399	1,032,223	1,162,249					
SOx	441,065	449,483	515,915					
VOCs	174,439	175,223	185,586					
Particulate matter	39,875	36,081	41,712					

#### TGI Air Pollutant Emission Intensity Record (KG/ tons of glass)



#### **Water Pollution Prevention**

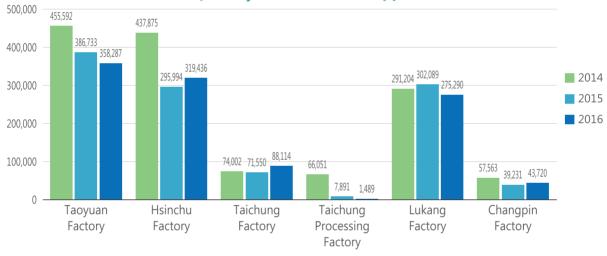
When it comes to water pollution prevention, TGI's top priority is to reduce the production waste going into wastewater. All factories have wastewater treatment equipment to reduce the pollutants in the wastewater so that the wastewater can meet the local discharge quality standards. Graywater, after being treated by the treatment system, is in compliance with the legal standard to be discharged to the surface water body. The Taoyuan Factory, to reduce wastewater, has recycled part of the wastewater from production to the wastewater system. In 2016, TGI factories discharged a total of 1,086,336 tons of wastewater, 1.55% less than 2015.

Wastewater Discharge Destination							
Factory	Discharge Destination						
Taoyuan Factory	Guanyin Industrial Park Service Center						
Hsinchu Factory	In compliance with legal quality standard to be discharged to surface water body						
Taichung Factory (including the processing plant)	Taichung Harbor Special District Water Recycle Center (The Taichung processing plant has an UF wastewater recycle system, which is estimated to recycle 21,000 tons of wastewater for production every month).						

Factory	Discharge Destination
Lukang Factory (including Lukang Flat Glass Factory)	Changhua Coastal Park Service Center Wastewater Treatment Plant
Changpin Factory	Changhua Coastal Park Service Center Wastewater Treatment Plant

	Wastewater Quantity of TGI Factories (by year)  Unit: : Tons								
Year/Factory	Taoyuan Factory	Hsinchu Factory	Taichung Factory	Taichung Processing Factory	Lukang Factory	Changpin Factory			
2014	455,592	437,875	74,002	66,051	291,204	57,563			
2015	386,733	295,994	71,550	7,891	302,089	39,231			
2016	358,287	319,436	88,114	1,489	275,290	43,720			





2016 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	237.9	32.25	25.4	15.1	50	24.15
COD (mg/l)	Discharge Standards	<560	<100	<800	<800	<640	<640
CC (mg/l)	Detected Values	25.4	8.5	2.6	2.2	12	28.1
SS (mg/l)	Discharge Standards	<480	<50	<600	<600	<400	<400

#### **Taoyuan Factory**

Waste Management and Recycle

When it comes to waste management, the Taoyuan Factory first aims to reduce waste by improving the production yield rate. The waste from this factory mainly consists waste glass fiber, sludge, garbage, waste pallets and unrolled glass filaments. The waste processing companies use physical treatment, thermal treatment, incineration and recycling when dealing with waste. The factory' s 2016 waste recycle rate was 67% and will continue to strive to manage waste effectively, with the ultimate goal of recycling and reducing waste.

Unit: Ton

Year Item	Treatment	2014	2015	2016
Waste	Incineration	202	195	162
Waste Silk	Physical treatment	7,347	5,925	2,229
Waste Pallet	Desiraled	80	47	60
Unwound Yarns	Recycled	2,156	5,782	9,783
Sludge	Thermal treatment	848	1,438	2,367
Total	10,633	13,387	14,601	

#### **Hsinchu Factory**

Waste from the Hsinchu Factory includes non-recyclables such as domestic waste and mixtures such as waste plastic, waste rubber and waste glass. Certified cleaning companies are commissioned to collect and transport these waste to the incinerators and landfills of Environmental Protection Bureau of Hsinchu City. Sludge from wastewater treatment is recycled by qualified cleaning companies.

Recyclable waste including waste paper, scrap iron and waste plastic is recycled by certified recycling companies. Hsinchu Factory will continue to ask all departments to sort and recycle the waste in order to reduce the total waste.

Unit : Ton

Year	Treatment	2014	2015	2016
Waste Plastic		173	168	114
Waste Rubber Mixture	Recycled or incinerated	1	1	1
Domestic Waste	memeratea	279	308	309
Waste Glass Mixture	Buried	200	324	360
Sludge	Docuslad	818	615	798
Waste Paper	Recycled	762	734	677

Year	Treatment	2014	2015	2016
Scrap Iron		292	880	646
Waste Wood		124	167	136
Waste Aluminum Caps	Recycled	575	536	420
Waste bricks		0	10.19	51
Waste lubricants			8.18	3.85
Waste insulation materials	Buried after physical treatment	0	0	4
Other corrosive mixtures	Buried after incineration	0	2.18	4
Selenium and selenium compounded	Buried after solidification treatment	0	0	13
Total	3,228.56	3,753.55	3,536.85	

#### **Taichung Factory**

Taichung Factory commissions qualified cleaning companies to collect and recycle its waste. The waste is categorized based on its nature:

- (1)The Factory Affairs Section will sell waste including waste paper, waste metal, waste PVB films and waste oil with marked prices.
- (2)Domestic waste reduction and recycling measures: Promote waste reduction and recycling with clear labels (waste plastic, waste lamp and cans).

Waste from Taichung Factory includes flammable and non-flammable waste (waste glass and sludge), recyclable waste (waste wood; recycled glass from flat glass factory), copper sludge and human waste. All production lines produce aforementioned waste and report the waste complying with related regulations. External recycle companies are commissioned by the factory to collect and handle the waste. Most of the waste is waste glass.

Unit: Ton

Year	Treatment	2014	2015	2016
Waste Plastic		18	14	12
Waste Paper	Incinoration	21	16	13
Waste Fiber	Incineration	29	23	18
Domestic Waste		113	86	68

Year	Treatment	2014	2015	2016
Waste Glass	Buried (non- recyclable)	447	729	572
Waste Wood	As fuel	30	4	7
Inorganic Sludge	Heat Treatment	71	67	58
Human Waste	Biological treatment	84	88	87
Water Fire Bricks		80	19	0
Waste lubricants	Recycled	(Exempt)	(Exempt)	0.4
Civil Engineering Waste		5	0	0
Total		898	1,046	835.4

#### Lukang Factory & Lukang Flat Glass Factory

To protect the environment and conserve energy, Lukang Factory recycles its business waste and has a dedicated department response for recycling valuable resources in the waste.

Unit: : Ton

					Unit: : Ton
Item	Year Item		2014	2015	2016
	Domestic Waste	Incineration	186	70	46
	Sludge	Buried	1,296	906	983
Lukang	Waste Fiber Glass	Reuse	2,175	2,484	1,880
Factory	Waste Oil Mixture	Reuse	2	13	7
	Waste Glass	Physical treatment	479	279	586
	To	otal	4,138	3,752	3,502
	Domestic Waste	Incineration	16	8	3
Lukang Flat Glass	Waste Oil Mixture	Reuse	2	0	-
Factory	Waste Glass	Physical treatment	-	297	-
	To	otal	18	305	3

#### **Changpin Factory**

Changpin Factory checks waste sorting from all departments. Departments that do not meet the standards will receive a warning and be asked to improve the waste sorting immediately. This will help the factory reduce waste. Changpin Factory tries to find recycle companies that can recycle the waste (after solidification or heat treatment if necessary) so that the waste can become resources for the company. The quantity of sludge and waste glass in 2016 was lower than 2015 due to slightly decreased number of orders and higher production yield rate. The Changhua County Incineration Plant could not handle all the waste from the county and therefore business units were not allowed to dispose their domestic waste to the plant. Starting in June 2015, the domestic waste from the Changpin Factory had to be stored in the factory after applying to the Environmental Protection Bureau, Changhua County, Therefore the 13 tons of domestic waste was the total of all the domestic waste stored in the plant during 2016.

Unit: Ton

Year Item	Treatment	2014	2015	2016
Domestic Waste	Incineration	114	102	13
Sludge	Heat Treatment Solidification treatment	30	21	7
Waste Glass	Physical treatment	1,985	1,218	735
Total	2,129	1,341	755	

# 5 · Friendly TGI



- 5.1 Talent Structure
- 5.2 Employee Care & Development
- 5.3 Safe Workplace



## Achievements of Friendly Workplace in 2016



99.9%

99.9% of TG's supervisors are Taiwanese, creating many job opportunities for the local community and taking care of the locals.



Below 15%

Employee turnover rate has been steadily under 15% in the last 3 years.



100%

100% in compliance with the percentage of employees with disabilities stipulated in People with Disabilities Rights Protection Act.



+72%

TGI employed an average of 74 employees with disabilities in 2016, 72% higher than the legal minimum.



31.97%

A total of 1,395 (31.97% of the entire staff) TGI employees are union members.



60.87%

60.87% of employees returned after paternity/maternity leave without pay.



**61** employees

In 2016, 61 employees retired with an average of 26 years of service with the company. Senior supervisors were presented with medals from the chairman/president as a token of appreciation for their service over the years.



3,952 people A total of 3,952 people received a health check-up in 2016.



3 sessions

TGI worked with Hsinchu General Union to provide 3 sessions of external training.



In 2016, full-time employees received an average of 14.2 Average 14 hours hours of training while contract employees received an average of 14.4 hours.

# **Policy**

Management

#### **Employee Relationship**

#### **United Nationals** Sustainable **Development Goals**

**5 Gender Equality** 

#### 3 Good Health and Well-Being



TGI considers its staff the most valuable assets in the entire company and believes that harmonious labor relations are the key to improving the competitiveness company's success.

A company cannot function properly without a good work environment since it can reduce risk of accidents and injuries, which will delay production. A good work environment is also beneficial to the company's image, which can help recruit more talents.

Occupational Health& Safety



- 1.Evaluate the overall economic trends and adjust employee salaries accordingly. TGI aims to build a win-win culture for both the employees and the company.
- 2.An open channel for employee involvement contributes to a friendly labor relation and the objective of "enjoy work and enjoy life".

Improve workplace health, health management and establish a quality, environmental friendly, safe and healthy work environment.



- 1. Continue to recruit new talents.
- 2.A harmonious labor relation.
- 3. Build a team that is united, bonding and competitive.
- 1.Reduce occupational hazards by
- 2. Conduct risk assessments and hazard prevention to reach the goal of 0 hazards.



Introduced the e-HR human resources system to provide a more timely and efficient service.

- 1.Establish occupational safety units and implement occupational safety and health management plan.
- 2.Employee medical personnel to conduct health management, occupational disease prevention, health promotion and other labor health protecting measures.



- 1.Comply with Labor Standards Act, Act of Gender Equality in Employment and other related regulations.
- 2. Convene labor-management meetings annually to open a communication channels between both parties.
- 3.Internal complaint system allows employees to submit suggestions and report any illegal activities, sexual harassments and workplace violence.
- 1.Comply with Occupational Safety and Health Act and implement an occupational safety and management plan.
- 2. Convene sessions of the Occupational Safety & Health Committee to promote occupational safety and health as well as control risks.

#### 5.1 Talent Structure

Taiwan Glass treats employees as the company's most valuable assets therefore we want to build the best working environment that helps our employees grow. We also believe in taking good care of our employees and have established various communication channels within the company. Multiple employee relation projects help build a workplace that allows our staff to enjoy working and enjoy living. Labor rights are also the company's top priority. In addition to compliance with various laborrelated regulations, TG implements humanized management. Taiwan Glass has a comprehensive system in talent development and employee benefits, providing our staff a fair and reasonable salary based on their position and personal experience. When determining an employee's salary, TG reviews that employee's education level, experience, expertise, skills, number of years of service in the industry and the average salary in the industry. Taiwan Glass provides a starting salary that is higher than the legal minimum wage in the areas where TG operates. Our compensations and benefits are also better than our competitors. Gender, race, religion, political affiliation, marital status or union/ social club membership will not affect an employee's basic salary. All management systems and rules were formulated with compliance with Labor Standards Act and other regulations. Various levels of managers provide assistance to employees inside and outside the company. At Taiwan Glass, we are just like one big family.

#### **Human Resources Structure**

By the end of 2016, TGI has a total of 4,364 employees, among which 1,266 supervisors were Taiwanese and only 1 was a foreign national. 99.9% of supervisors at TGI are local Taiwanese. This shows that TGI has created many job opportunities for the local people. All the employees are salaried workers, no contracted employees, making a stable and healthy workforce. Our employees are located in various locations in northern, central and southern Taiwan. They are all either fixed-term or non fixed-term contracted workers. The employee structure is listed below:

Employee Gender Structure								
	Year	2014		2015		2016		
item	Category	Male	Female	Male	Female	Male	Female	
	Taiwanese Employees	3,391	524	3,309	535	3,242	536	
Nationality	Foreign Blue Collar Employees	408	20	464	31	536	50	
	Sub-total 3,7		544	3,773	566	3,778	586	
Total		4,3	343	4,3	39	4,3	4,364	

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Employee Seniority Structure									
		M	ale	Female		Total			
Item	Category	Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)		
	Under 5 years	1,656	37.95%	251	5.75%	1,907	43.70%		
	6~15 years	1,096	25.11%	146	3.35%	1,242	28.46%		
Seniority	16~25 years	746	17.09%	169	3.87%	915	20.97%		
	26 years or above	280	6.42%	20	0.46%	300	6.87%		
	Sub-total	3,778	86.57%	586	13.43%	4,364	100.00%		

Salaried/Contract Employees								
	Male		Female		Total			
Туре	Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)		
Salaried Employees	3,721	85.27%	573	13.13%	4,294	98.40%		
Contract Employees	57	1.30%	13	0.30%	70	1.60%		
Total	3,778	86.57%	586	13.43%	4,364	100.00%		

Employee Age Structure								
		N	/lale	Female		Total		
Item	Category	Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)	
	Under 30	997	22.85%	168	3.85%	1,165	26.70%	
	31~40	1,647	37.74%	264	6.05%	1,911	43.79%	
Age	41~50	768	17.60%	132	3.02%	900	20.62%	
	51 or older	366	8.39%	22	0.50%	388	8.89%	
	Sub-total	3,778	86.58%	586	13.42%	4,364	100.00%	

Employee Education Level Structure								
		N	/lale	Fe	male	Total		
Item	Category	Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)	
	Master or higher	138	3.65%	6	0.16%	144	3.81%	
Education	College	1,977	52.33%	336	8.89%	2,313	61.22%	
Education	High school or below	1,127	29.83%	194	5.14%	1,321	34.97%	
	Total	3,242	85.81%	536	14.19%	3,778	100.00%	

Note: Foreign blue collar workers were not included.

#### Recruitment

Taiwan Glass complies with laws and regulations of Labor Standards Act to safeguard our employees' human rights and privacy and keeps them from being discriminated against. Our recruitment process is fair, just and honest. All recruitment, employee selection and employment comply with the government's rules and regulations. No employee is discriminated against (including compensation discrimination) based on 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. TG 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. A new recruit's outfit, demeanor, mental situation, reaction and logic during the interview will also be factored in.

The flat glass produced by the Taichung Factory went to Taiwan Mirror Glass Enterprise, a company who took orders from IKEA and therefore must comply with IKEA's requirements for human rights. Taiwan Glass, as a supplier for the processed glass products of Glass Mirror Glass Enterprise, was a part of the supply chain and therefore was required to release a statement stating that TG does not hire any child labors and is in compliance with related regulations.

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Suppliers' guidelines for protecting labors under 18 and assisting them with employment (IWAY clause)

TGI in compliance with IWAY

There are no risks of forced or compulsory labor in any operations of the company. The relevant labor conditions are in compliance with the Labor Standards Act. Please refer to the following table. In 2016, there were no complaints concerning the use of child labor or major labor-related issues.

Factory	Date of inspection	Number of Times	Violation Details	Follow-up action plans
	2016/01/28	1	NT\$20,000 fine for not including duty pay and shift bonus in overtime pay.	Starting in January 2017, TGI has ensured compliance with Labor Standards Act and included duty pay and shift bonus in the average hourly wage. The company has updated the human resource system to ensure smooth operations.
Taoyuan Factory	2016/06/13	1	of 28,000 liters of heavy oil daily, which is above the legal limit. The factory received a NT\$20,000 fine for violating Article 79 of Public Hazardous Substances & Flammable Pressurized Gases Establishment Standards & Safety Control Regulations (failed to submit an improvement program in time) and Article 15 and 42 of Fire Services Act.	In addition to voluntary improvements and applying for the improvement program for storage places of public hazardous substances, the factory followed the Fire Bureau's advice and submitted its own improvement program to the Fire Bureau for approval. The items to be improved were improved before the approval day.

Factory	Date of inspection	Number of Times	Violation Details	Follow-up action plans
		016/07/12&20 016/10/7	2016/03/17&18  NT\$20,000 fine for changing employee's shifts to national holidays without prior negotiations and failing to pay double of the overtime pay on national holiday.	Added agree/disagree option on the shift arrangement table in September 2016.
2016/05/10 Lukang 2016/07/12 Factory 2016/10/7	2016/05/10 2016/07/12&20		2016/07/12&20 NT\$30,000 fine for changing employee's shifts to national holidays without prior negotiations and failing to pay double of the overtime pay on national holidays; NT\$80,000 fine for over extending work hours.	<ul><li>1.Added agree/disagree option on the shift arrangement table in September 2016.</li><li>2.Improved the arrangement of shift on national holidays.</li></ul>
			NT\$60,000 fine for violating Article 6.1 of Occupational Safety and Health Act on October 7, 2016.	1.Established related SOP.  2.Assigned suitable platform.

#### Note:

- The headquarters and Changpin Factory do not have any records of inspections or violations.
- The Lukang Factory was inspected and did not violate any human rights regulations.
- Hsinchu and Taichung Factory were in mediation with employees regarding retirement benefits and occupational injuries but in vain. The company and these employees are currently in litigation and will review the relevant system once the verdict is announced.

#### **Staff Turnover Rate and Resignation Rate**

In 2016, 508 employees resigned from Taiwan Glass with a resignation rate of 13.44%. In the last three years, Taiwan Glass has had a resignation rate below 15% annually. The company pursues the most optimal rather than the lowest resignation rate to ensure that new employees have a chance to work at TG and the company has a healthy turnover rate. Taiwan Glass hired 506 new employees with a new recruitment rate of 13.39%. This practice will also boost local employment opportunities.

New recruits in 2016									
Gender & age					Female				
Region	Under 30	31~40	41~50	51 or older	Under 30	31~40	41~50	51 or older	Total
Northern Region	143	91	5	4	23	13	2	0	281
Central Region	122	65	3	3	18	13	1	0	225
Total	265	156	8	7	41	26	3	0	506

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

2.Northern region includes the headquarters, Taoyuan and Hsinchu Factory; Central region includes Taichung, Lukang, Lukang Flat Glass and Changpin Factory.

Recruit Rate (by year)							
	Recruitment						
Item	Number of Recruits	Recruit rate					
2014	512	13.08%					
2015	436	11.34%					
2016	506	13.39%					

Note: Recruit rate (%)= New recruits of the category/Total number of Taiwanese employees of the category by the end of the year (3,778)

	Re	crui	it Red	cord			
600 —							15%
500 —							
400 —						_	10%
300 —						_	
200 —							5%%
100 —						_	
0 —	0011		001-		0010	L	0%
	2014		2015		2016		
	Numbe	r of Red	cruits		Recruit ra	ate	

Resignation in 2016									
Gender & age					female				
Region	Under 30	31~40	41~50	51 or older	Under 30	31~40	41~50	51 or older	Total
Northern Region	103	97	13	15	11	13	4	0	256
Central Region	84	110	10	16	16	15	1	0	252
Total	187	207	23	31	27	28	5	0	508

Note: 1.Does not include employees on leave without pay, transferred from other TGI factories or retired employees.

2.Northern region includes the headquarters, Taoyuan and Hsinchu Factory; Central region includes Taichung, Lukang, Lukang Flat Glass and Changpin Factory.

Resignation Rate (by year)							
Resignation							
Number	Resignation Rate						
499	12.75%						
496	12.90%						
508	13.44%						
	Resign Number 499 496						

Note: 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 (3,778).



#### A Diverse and Friendly Working Environment

Taiwan Glass complies with the law regarding Employment Quota Policy with disabilities. Being in the traditional manufacturing industry, TG is still dedicated to creating a stable, friendly and positive work environment for the employees with disabilities. As the end of 2016, Taiwan Glass on average has 74 employees with disabilities monthly, 72% higher than the legal minimum. In the future, we will continue to create quality job opportunities and work environment for employees with disabilities. In addition, TG had 30 aboriginal employees in 2016, a testament of our diversified workforce. There was no event against aboriginal employees' human right in 2016.

#### **Employee Benefits**

#### Fair Performance Management System

The company believes that our staff is the most valuable asset and therefore provides compensations better than legal minimum wages. 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 clubs will not affect our employee assessments. With the exception of foreign blue collar workers and local workers still on probation, all Taiwan Glass employees receive regular performance assessment mainly based on their job performances. Their work efficiency and sense of responsibility are also evaluated. Each employee receives a different bonus based on the company's overall performance and his/her performance and contribution to the company. Taiwan Glass pays great attention to employee compensation and benefits.

#### Union

Taiwan Glass' labor management measures are all in compliance with governmental regulations, including Labor Standards Act, Act of Gender Equality in Employment, Occupational Safety and Health Act and Labor Insurance Act. To maintain an open communication channel between the company and the employees, Taiwan Glass established labor union, which holds meetings with directors, supervisors and members regularly. Taiwan Glass' related personnel also attend such meetings to respond all the suggestions for improvement proposed during the meetings. Issues such as employee health and safety are also discussed during the meetings. The labor union holds meeting every 3 months and

member representative meetings every year. Representatives are selected with 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 feasts. There is also an online suggestion box, bulletin board and phone number, which the employees can take advantage of to express their opinions. This allows the company to respond and deal with issues in a timely manner. Since some factories do not have unions in them, a total of 1,395 employees are union members, accounting for about 31.97% of the entire company staff.

2016 Union Participation						
Taichung						
450						
33						
483						
79.9%						
_						

#### **\*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.
- 2. The Lukang Factory union could not provide related information.
- 3.No union was established in Taoyuan Factory, Lukang Flat Glass Factory and Changpin Factory.





Representative Meeting





Employees' Suggestion Box and **Bulletin Boards** 

#### Benefit committee

To provide adequate support to employees and ensure their living conditions, Taiwan Glass 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						
Benefit Measures	Company annual trip, cash incentives for birthday, wedding, funeral, mid-autumn festival, dragon boat festival and Chinese New Year and social club activity subsidies.					
Company Measures	Factories have dormitories and cafeterias, providing affordable, safe and convenient room and board for our employees.					
Meal allowances	Encourage employees to participate in company meal plans with 50% subsidy.					
Excellent Insurance	TG provides our employees the best care and protection. In addition to labor insurance and health insurance, TG has taken out a group insurance policy for our staff to give them even better protection and coverage.					
Staff Health Management	<ul> <li>Regularly carry out employee health checks, covering general health checks, special health checks and other items.</li> <li>Follow up for employees with abnormal health check results.</li> </ul>					
Comprehensive Employee Care	<ul> <li>Shall any family member of our employees requires personal care by our employee due to mishaps, our employee can apply and take a 2 year leave without salary after the company approves.</li> <li>Employee's family members can pay and take out the same company group casualty insurance as TG employees.</li> <li>Employee family care consultation service (employee care program).</li> </ul>					
Retirement & Pension	Taiwan Glass has its own employee retirement program. We also provide comprehensive pension to families of our employees who suffer from injuries or even loss of life on duty.					
Further Education and Training	To help our employees learn new skills or when company business requires, Taiwan Glass selects and sends our hard-working employees to other countries to observe and study, on internship or receive training. The company also holds lectures, on-job trainings or commission professional training institutions to help our staff grown and enhance their professional skills.					
Scholarship for Employee's Children	Taiwan Glass awards scholarships to all employees' children every year, to encourage their academic excellence and stimulate their motivation to study.					

#### 2016 Social Group Activities in TGI



**Badminton Club Exhibition** 



Cycling Club



Road running on Min-Chuang Road



Taoyuan City Council Speaker Cup



Monga Hiking



New Taipei City Labor Run





Company trip for foreign workers

#### **Parental Leave**

46 TG employees took a parental leave in 2016, 60.87% of them were reinstated. Among those, female workers accounted for 47.83% and male workers accounted for 52.17%. TG believes in a balance between family and work and there will not be differential treatment based on gender when it come s to applying for a parental leave. In 2016, on average 72.73% of female workers and 50% of male workers are reinstated after a parental leave

male workers are reinstated after a parental leave.							
Reinstatement after	Ma	ale	Fen	nale	Total		
Parental Leave (2016)	Number	Percentage	Number	Percentage	Number	Percentage	
A. Number of Workers Scheduled for Reinstatement (=B+C)	24	52.17%	22	47.83%	46	100.00%	
B. Number of Reinstated Workers	12	26.09%	16	34.78%	28	60.87%	
C. Number of Workers that Resigned after Parental Leave	12	26.09%	6	13.04%	18	39.13%	
Reinstatement Rate (B/A)%	50.00%		72.7	73%	60.8	37%	

Between 2015 and 2016, 34 employees were reinstated after a parental leave in 2015. For the 23 among them, 2016 marked 1 year since their reinstatement at TG with an average retention rate of 67.65%. The retention rate for female workers is 66.67% and 68.42% for male workers.

Reinstatement after	Ma	ale	Fen	nale	Total	
Parental Leave (2015- 2016)	Number	Percentage	Number	Percentage	Number	Percentage
E. Number of Reinstated Workers after a Parental Leave in 2015	19	55.88%	15	44.12%	34	100.00%
F. Number of Reinstated Workers after a Parental Leave in 2015 with 2016 Marking One Year after their Reinstatement	13	38.24%	10	29.41%	23	67.65%
Retention Rate (F/E %)	68.4	12%	66.6	67%	67.6	55%

### **Mother-Friendly Workplace**

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

The breastfeeding room looks warm and welcoming. The soft colors can create the most relaxing and comfortable atmosphere. TG has formulated and put in place a guideline on breastfeeding rooms. The rooms come with locking doors, comfortable couches and breastfeeding pillows, breast milk refrigerator, pure water baby wipes, bottle sterilizer, spare breast milk bags and glass bottles. All the items are free of charge and all the breastfeeding rooms are cleaned everyday and the temperatures of the refrigerators are also monitored. TG also provides breastfeeding related information, activities and consultations. As a mother experiences physical changes during the pregnancy, TG provides necessary support and arranges other experienced colleagues to help these new mothers. All in all, TG strives to provide the friendliest workplace for mothers.



Breastfeeding/breast milk collection room locations are on the bulletin board.



Breastfeeding/breast milk collection room guidelines and pantry room sign.



Breast milk refrigerator with its guideline and suggested storage time



Breastfeeding consultation and experience sharing.



Breastmilk information and magazines.



Milk bottle sterilizers, breast milk bag and glass bottles allow mothers to collect milk without their own containers.

### Retirement system

Taiwan Glass, based on Labor Standards Act and Labor Pension Act, has formulated a retirement policy. Employees that joined the company before June 30, 2005, will enjoy pensions calculated based on the old labor pension system. If an employee chooses the new pension system, he/she can enjoy the new system's seniority. Taiwan Glass appropriates the legal amount of pension to the labor pension reserve fund for employees with the old pension system. For those with the new pension system, the company appropriates their pension to their personal pension accounts. In addition to appropriating pension to the respective accounts regularly, Taiwan Glass 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 pension after retirement.

According to Labor Standards Act, a worker may apply for voluntary retirement when he/she attains the age of fifty-five and has worked for fifteen years, has worked for 25 years or above, or attains the age of sixty and has worked for ten years. In Taiwan Glass, our work rules state that any employee who attains the age of forty-nine and has worked for fifteen years or has worked for nineteen years may apply for early retirement with the company's approval. This rule is more favorable to employees than Labor Standards Act.

Taiwan Glass's retirement policy not only guarantees the employees their pensions in the future, but the clear rules regarding employee retirement can be implemented precisely and help our employees plan their retirement. In 2015, 61 employees retired, with an average of 26 years of service. Senior supervisors were presented with medals from the chairman/president as a token of appreciation for their service over the years.

#### Minimum Period of Advance Notice of Labor Contract Termination

Where Taiwan Glass 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 three months but less than one year, the notice shall be given ten days in advance.
- 2. Where a worker has worked continuously for more than one year but less than three years, the notice shall be given twenty days in advance.
- 3. Where a worker has worked continuously for more than three years, the notice shall be given thirty days in advance.

# 5.2Employee Care & Development

To develop professional talents, provide diverse learning opportunities and pass down the company's mission, vision and core values, Taiwan Glass has established a well-rounded staff training policy and procedure for the company's sustainability. The company provides staff orientations, common courses, professional courses, management courses, self-development courses and an array of diverse options. Each year Taiwan Glass plans training courses based on the company's strategy, needs of various departments and a survey on staff for their training needs. The orientation for new employees includes courses on human rights and related regulations. Taiwan Glass provides training courses to develop talents, improve factory productivity, product quality and manufacturing efficiency. These courses, combined with continuous process improvements, will help this company reach sustainability. TGI worked with Hsinchu General Union in the Multi-beneficiary Vocational Training Program in 2016 and co-hosted 3 external training sessions (speech training, low-level supervisor management and universal core competences), which yielded great results.

### Trainings at various TGI facilities in 2016







Companywide training on patents

Headquarters HR system training



On job training



Headquarters business English lesson



Information security training at Taoyuan Factory

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Multi-beneficiary Vocational Training Program by Hsinchu General Union



Low-level supervisor management training at Hsinchu Factory



Information security training at Taichung Factory



Fixed crane operator re-training at Changpin Factory



Fork lift operator re-training at Changpin Factory

In response to the needs of the future high-tech market, developing photovoltaic, energy-saving, touch-responsive glass professionals to enhance competitiveness and avoid lack of skilled labors in Taiwan Glass. The company's good training and education can improve the competitiveness, such as: standardization of primary level employees' duties and enhancement of supervisors' management. Taiwan Glass also continues to promote the education of work safety and health, helping our staff develop great work habits. As our staff continues to improve, our working environment can be conducive to their continuous growth. Taiwan Glass believes in improving the professional skills of the staff to enhance the quality of our manpower. Therefore the company provides employees with a variety of learning channels as below:

anety of learning charmers as below.						
Educatio	on and Training System for Taiwan Glass Employees					
New employee orientation and education	<ul><li>1.Common courses (including corporate culture, history, system regulations, etc.)</li><li>2. Professional courses (including professional document reading, factory internship, etc.)</li></ul>					
On-the-job education and training	<ol> <li>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.</li> <li>Application for external training: Depending on the needs of each department, employees will be selected to participate in the external training to strengthen professional knowledge.</li> </ol>					
Skill training	To cultivate talents with professional skills, staff with excellent performance will be selected to go abroad for observation, practice and training.					

To implement the education and training, TG set up a dedicated manpower and teaching unit for the planning of education and training and the development of annual training plan. The professional curriculum planning, training and exercise programs all aim at developing the necessary glass-related technical and management talents. If a type of job requires competency in other skills (such as education, skills or license, experience, etc.), then the Factory Affairs Section will select and evaluate new recruits. If a new recruit does possess this type of skills, his/her company record will reflect it. For example, the operation of overhead cranes and forklifts requires a professional license from a government registered external training institution. Education and training can also familiarize the employees with safety and health regulations and manufacturing techniques. This can boost the skill levels of the employees, product quality, environmental safety management and company's performance. As the result, the product quality can be consistent and stable and therefore meet our clients' needs. In 2016, salaried and contract workers at TG received an average of 14.2 and 14.4 hours of staff education & training respectively.

	2016 TG Staff Education & Training Statistics								
Employee	Factow.	Ma	ale	Fen	nale	То	tal		
Employee	Factory	Number	Hours	Number	Hours	Number	Hours		
	Headquarter	93	791.0	103	850.5	196	1,641.5		
	Taoyuan	562	11,314.0	101	2,033.0	663	13,347.0		
	Hsinchu	1,023	14,807.0	65	941.0	1,088	15,748.0		
	Taichung	569	6,379.5	36	348.0	605	6,727.5		
Salaried	Lukang	876	12,274.0	226	3,194.0	1,102	15,468.0		
Employees	Lukang Flat Glass	171	2,403.0	11	161.0	182	2,564.0		
	Changpin	442	5,456.5	36	408.0	478	5,864.5		
	Total	3,736	53,425.0	578	7,935.5	4,314	61,360.5		
	Average Hours	14.3		13.7		14.2			
	Headquarter	0	0.0	0	0.0	0	0.0		
	Taoyuan	0	0.0	0	0.0	0	0.0		
	Hsinchu	48	695.0	10	144.5	58	839.5		
	Taichung	0	0.0	0	0.0	0	0.0		
Contract	Lukang	0	0.0	0	0.0	0	0.0		
Employees	Lukang Flat Glass	0	0.0	0	0.0	0	0.0		
	Changpin	1	10.0	0	0.0	1	10.0		
	Total	49	705.0	10	144.5	59	849.5		
	Average Hours	14.	4	14.5	5	14.4			
Note : Educa	tion and training it	ems : Orientati	on, on job train	ing and off-the	-job training.				

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### **Employee Health Promotion**

Based on the relevant provisions of the Regulations of the Labor Health Protection", Taiwan Glass 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 on the basis of the physical examination results. 1,945 employees received general physical examinations and 2,007 received special physical examinations, a total of 3,952 in 2016.

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 are in compliance with the labor regulations, which can contribute to physical, mental health and balanced family life for our employees. The Lukang Flat Glass Factory produces extreme heat, noise, dust and ionizing radiation. Therefore it measures the temperature and noise level every 6 month in compliance with the law, which has never exceeded the legal limits. To protect the health of our employees, the factory arranges special examinations specifically for dust and ionizing radiation.

In 2016, the "Occupational Safety" department, based on the work hour sheets from Human and other scales, 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 overweight, smoking, unusual blood pressure and diabetes. The department evaluated this group of employees and arranged doctor appointments. Some employees were referred to other treatment 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.

	2016 Physical Examination Statistics										
		Special Physical Examination									
Factory /Item	High Temperature	Dust	Noise	n-Hexane	Chromic acid and chromates	Ionizing radiation	Total	General Physical Examination	Total		
Headquarters	-	-	-	_	-	-	-	-	-		
Taoyuan	-	27	229	-	9	-	265	582	847		
Hsinchu	-	171	584	-	-	-	755	869	1,624		
Taichung	121	131	49	-	-	91	392	494	886		
Lukang	-	16	462	7	-	-	485	-	485		
Lukang Flat Glass	-	28	-	-	-	11	39	-	39		
Changpin	-	71	-	-	-	-	71	0	71		
Total	121	444	1,324	7	9	102	2,007	1,945	3,952		

Note: The headquarters, Lukang Factory and Lukang Flat Glass Factory hold the regular health checkup once every two years and special checkup once a year.

### 2016 Health Checkup Images









### **Staff Health Management**

Health Monitoring-ups (pre-employment physical examinations and regular employee physical examination):

New employees must complete a physical examination before starting working at TG. The company uses the examination report to assign new employees to a suitable position, place them in the correct category for management, provide health education and keep track of the employee's health. Our formal employees receive a health checkup every two years. For those in hazardous positions, they receive sanitation and health education four times a year and a special physical examination. The results are submitted to the company's nurse practitioners stationed at each factory who analyze and preserve the reports to understand the employees' health. Nurse practitioners will provide health education to those at high health risk and arrange them for repeat doctor visits to keep track of their health condition and help them receive treatment if necessary. The nurse practitioners will follow up with employees' health conditions and evaluate whether or not they are fit for their current positions. When needed, they will help employees get reassigned to other positions. Health-promoting activities are planned based on the staff's health conditions.

To enhance our employees' work safety and sanitation knowledge, Taiwan Glass provides occupational safety and health training, emergency response and fire drills and off-site professional training for new employees. In addition, this company holds environmental safety and health training sessions for employees monthly.

Depending on the season and current epidemics, Taiwan Glass provides related health information in the company's regular announcements and company's electronic bulletin board to help our employees prevent themselves from getting the disease. For our high risk employees, we recommend that they receive a vaccine. The company also provides information for family care for our employees.

# **Employee Health Management Images**



weight loss progress.

Health seminar at the headquarters



Hsinchu Factory –
Health seminar by speaker from the Siangshan District Health Center





Taichung Factory – Colon cancer prevention



Taichung Factory – Hazard prevention in high heat and dusty operating environment



Taichung Factory – Safety & Health Training: New CPR Training



Taichung Factory – Safety & Health Training: Hazards from noisy operations and hearing protection



Lukang Factory and Lukang Flat Glass Factory – Health Seminar



Lukang Factory and Lukang Flat Glass Factory – Organ donation seminar



Changpin Factory – Flu vaccination



Changpin Factory – Noise hazard prevention training



Changpin Factory – Ergonomics hazard prevention program and repetitive musculoskeletal disorder prevention



Changpin Factory – Health Workplace Certificate

#### Plan to Prevent Disease Caused by Unusual Workload:

track Taiwan Glass keeps and evaluate 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, Taiwan Glass arranges doctors to provide them with health education or refers them to seek medical assistance. The company also helps such workers adjust their workload and shares with them about health-promoting activities. All the measures aim to prevent brain and cardiovascular diseases among our employees and reduce their mental load to be healthy both physically and mentally.

### Exceptional Workload Improvement Flow Chart

Overwork self-Evaluation survey

Analyze survey result and determine the high risk group

# Promotion and management of the high risk group's health conditions

- 1.Individual consultation with the on-site doctor, who will keep records of these consultations
- 2.Organize health-promoting seminars on overwork, high blood pressure, blood sugar, blood lipids and other health-related issues

#### Evaluate and adjust accordingly

#### Phase 1

Conduct health examinations and health education

#### Phase 2

- 1.Follow up with employees with health conditions
- 2.Evaluate work responsibilities and adjust accordingly
- Discuss in meetings to formulate a policy accordingly

#### **Ergonomic Injury Prevention**

On-site doctors and nurses will, with the section chief of Chopped Strands section, observe the workers in the section as they move finished glass products. As workers move the finished glass products, as long as desktop of their working desks are between their shoulder and waist, they are ergonomically safe. The section is spacious, allowing them to use proper postures as they work. Glass products of more than 10 kilograms will be carried by two or more workers, depending on the weight. However, this task causes repetitive strain and therefore ergonomic injury prevention is still necessary. Our on-site doctors will supervise and make sure the workers use proper postures as they move the glass products and wear proper protective gear to prevent cuts and musculoskeletal diseases.

Taiwan Glass collects data on the employees' nature of work and analyzes it to divide employees into different categories for management. Then this company offers suggestions to help employees improve their work condition, recover from any muscle/bone injuries and prevent them from repeated muscle/bone injuries by creating a better, safer and more ergonomic working environment.

#### Ergonomic injury analysis and improvement flow chart

On-site occupational disease factor survey

Ergonomic factor survey Evaluate the situation, propose and implement improvemen t methods

Follow-up/k eep track of the implementat ion result

Meets the expectati

Evaluate and keep records

Yes

No



On-site doctors and nurses will, with the section chief of Chopped Strands section, observe the workers in the section as they move finished glass products.



Glass products of more than 10 kilograms will be carried by two or more workers, depending on the weight.



On-site doctor show the workers how to stretch properly and the exercise to build muscle endurance.

# 5.3 Safe Workplace

### **Employee Safety Measures**



- 1.Legal compliance to protect the employees' safety and health.
- 2. Risk management, damage control and prevention.
- 3.Promote safety and health knowledge and awareness among all staff members.
- 4.Regular reviews and measures to improve the safety and health environment.

### **Labor Safety and Health Committee**

Taiwan Glass' management takes environmental safety and health very seriously. The company has safety and health guidelines in place and always notifies the relevant authority when needed. Our Labor Safety and Health Committee's mission is to formulate safety and health-promoting strategies, company-wide safety, environmental and health-promoting objectives and to implement and revise relevant plans when necessary. The headquarters and all factories of Taiwan Glass 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 formal platform allowing horizontal communications between all departments and vertical communications between the management and the employees. The headquarters and the factories all have dedicated labor safety management units (Labor Safety Section), which conduct a labor safety inspection every month to detect problem and take precautionary measures as early as possible. The Labor Safety Sections in all facilities are committed to promoting environmental safety & health as well as risk control. They also report to the highest-ranked supervisor, relevant authorities and labor representative during safety and health committee sessions every quarter. The "5s" plan provides education and training to new recruits and current employees to enhance their working safety awareness and ability to handle situations at work and prevent accident to ensure staff safety and health and a safe and healthy working environment.

# Main Issued Discussed During the Labor Safety and Health Committee Sessions:

- 1. To make recommendations on occupational safety and health policies.
- 2. Coordinate and propose occupational safety and health management plan.
- 3. Review the safety, health education and training implementation plans.
- 4. Review the operational environmental monitoring plan, monitoring results and measures.
- 5. Review the health management, occupational disease prevention and health-promoting measures.
- 6. Reviews various safety and health proposals.
- 7. Review the automatic inspections and safety & health audits of all business units.

- 8. Review the disaster prevention measures of machinery, equipment or raw materials and materials.
- 9. Review the occupational injury investigation reports.
- 10. Assess 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.

### 2016 Changpin Factory Occupational Safety & Health Committee Session

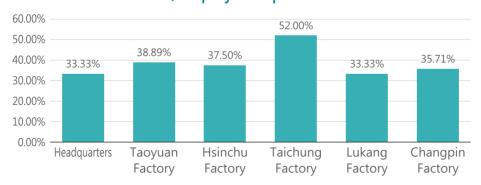




Commit	Committee Member/Employee Representative Ratio in 2016									
Item/Factory	Headquarters	Taoyuan	Hsinchu	Taichung	Lukang	Changpin	Total			
Committee Members	15	18	16	25	15	56	145			
Employee Representatives	5	7	6	13	5	20	56			
Ratio	33.33%	38.89%	37.50%	52.00%	33.33%	35.71%	38.62%			

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

### Committee Member/Employee Representative Ratio in 2016



### **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 accident management system of TG requires the unit/supervisor of the injured person to complete and file "Employee Injury Report" and "Employ to/from Work Injury Report" within 3 days of the accident. The reports must be signed by the unit

safety manager, department supervisor, Labor Safety Section and Safety & Health supervisor (in this order) before being submitted to the highest supervisor. The original of the reports will be archived by the Labor Safety Section and the duplicates will be archived by the Human Resource Department and Injury/Accident Unit. This practice ensures that all accidents are reported and investigated and improvement measures are taken accordingly. Taiwan Glass 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, TG will notify all units and ask them to promote safety further in all operations with the risk of identical accidents. The 2015-2016 safety indicators are as follows:

Item/Year	Gender	2015	2016
Disabling Frequency Rate (FR).	Male	9.10	6.92
Total Disabling Incidents (more than 8 hours of rest) x	Female	6.33	8.01
1,000,000/ Total Manhours	Total	8.74	7.07
	Male	0	0
Occupational Disease Rate (ODR). Total Occupational Diseases x 1,000,000/ Total Manhours	Female	0	0
	Total	0	0
	Male	150	86
Disabling Severity Rate (SR)  Days Charged x 1,000,000/Total Manhours	Female	45	32
	Total	137	79
	Male	0.01	0.01
Absence Rate (AR) Total number of days lost / Total days Worked	Female	0.02	0.02
	Total	0.01	0.01

Note: Total days of absentee include the number of days of leave, sick leave, and work-related injury leave.

# 6. Appendix

### Appendix I: Global Reporting Initiative (GRI) Index

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

Category/ Aspects	G4 / Notes	Indicator	External Verification	Chapter and Section	page
	1. Stra	tegy and Analysis			
Core	G4-1	Provide a statement from the most senior decision-maker of the organization (such as CEO, chair, or equivalent senior position)about the relevance of sustainability to the organization and the organization's strategy for addressing sustainability.	•	Message from the Chairman	5
Comprehensive	G4-2	Provide a description of key impacts, risks, and opportunities.		Message from the Chairman 2.5 Risk Management	5 42
	2. Orga	anizational Profile			
Core	G4-3	Report the name of the organization.	•	2.1 Introduction	25
Core	G4-4	Report the primary brands, products, and services.	•	2.1 Introduction 3.2 Production Introduction	25 58
Core	G4-5	Report the location of the organization's Headquarters.	•	2.1 Introduction	25
Core	G4-6	Report the number of countries where the organization operates, and names of countries where either the organization has significant operations or that are specifically relevant to the sustainability topics covered in the report.	•	2.1 Introduction	25
Core	G4-7	Report the nature of ownership and legal form.	•	2.1 Introduction	25
Core	G4-8	Report the markets served (including geographic breakdown, sectors served, and types of customers and beneficiaries).	•	2.2 Operation Information	32
Core	G4-9	Scale of the reporting organization.  • Total number of employees  • Total number of operations  • Net sales (for private sector organizations)or net revenues (for public sector organizations)  • Total capitalization broken down in terms of debt and equity (for private sector organizations)  • Quantity of products or services provided.	•	2.1 Introduction 2.2 Operation Information	25 32
Core	G4-10	a.Report the total number of employees by employment contract and gender. b.Report the total number of permanent employees by employment type and gender. c.Report the total workforce by employees and supervised workers and by gender. d.Report the total workforce by region and gender. e.Report whether a substantial portion of the organization's work is performed by workers who are legally recognized as self-employed, or by individuals other than employees or supervised workers, including employees and supervised employees of contractors. f. Report any significant variations in employment numbers (such as seasonal variations in employment in the tourism or agricultural industries).	•	5.1 Talent Structure	98

Category/ Aspects	G4 / Notes	Indicator	External Verification	Chapter and Section	page
Core	G4-11	Report the percentage of total employees covered by collective bargaining agreements.	•	5.1 Talent Structure	98
Core	G4-12	Describe the organization's supply chain.	•	3.1 Purchasing Policy	53
Core	G4-13	Report the percentage of total employees covered by collective bargaining agreements. Describe the organization's supply chain.	•	2.1 Introduction	25
Core	G4-14	Report whether and how the precautionary approach or principle is addressed by the organization.	•	2.5 Risk Management 3.3 Management System Certification	42 62
Core	G4-15	List externally developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes or which it endorses.	•	About This Report 3.3 Management System Certification	2 62
Core	G4-16	List memberships of associations (such as industry associations) and national or international advocacy organizations in which the organization:  • Holds a position on the governance body.  • Participates in projects or committees.  • Provides substantive funding beyond routine membership dues.  • Views membership as strategic.	•	2.1 Introduction	25
	3. Iden	tified Material Aspects and Bo	undaries		
Core	G4-17	a.List all entities included in the organization's consolidated financial statements or equivalent documents.      b.Report whether any entity included in the organization's consolidated financial statements or equivalent documents is not covered by the report.	•	About This Report 2.1 Introduction	2 25
Core	G4-18	a.Explain the process for defining the report content and the Aspect Boundaries.     b.Explain how the organization has implemented the Reporting Principles for Defining Report Content.	•	1.3 Management of Major Aspects	18
Core	G4-19	List all the material Aspects identified in the process for defining report content.	•	1.3 Management of Major Aspects	18
Core	G4-20	For each material Aspect, report the Aspect Boundary within the organization, as follows:  • Report whether the Aspect is material within the organization.  • If the Aspect is not material for all entities within the organization (as described in G4-17), select one of the following two approaches and report either:  —The list of entities or groups of entities included in G4-17 for which the Aspect is not material or  —The list of entities or groups of entities included in G4-17 for which the Aspects is material.  • Report any specific limitation regarding the Aspect Boundary within the organization.	•	1.3 Management of Major Aspects	18
Core	G4-21	For each material Aspect, report the Aspect Boundary outside the organization, as follows:  Report whether the Aspect is material outside of the organization  If the Aspect is material outside of the organization, identify the entities, groups of entities or elements for which the Aspect is material. In addition, describe the geographical location where the Aspect is material for the entities identified.  Report any specific limitation regarding the Aspect Boundary outside the organization.	•	1.3 Management of Major Aspects	18

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Category/ Aspects	G4 / Notes	Indicator	External Verification	Chapter and Section	page
Core	G4-22	Report the effect of any restatements of information provided in previous reports, and the reasons for such restatements.	•	About This Report	2
Core	G4-23	Report significant changes from previous reporting periods in the Scope and Aspect Boundaries.	•	About This Report	2
	4. Stak	eholder Engagement			
Core	G4-24	Provide a list of stakeholder groups engaged by the organization.	•	1.2 Stakeholder Participation	15
Core	G4-25	Report the basis for identification and selection of stakeholders with whom to engage.	•	1.2 Stakeholder Participation	15
Core	G4-26	Report the organization's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group, and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process.	•	1.2 Stakeholder Participation	15
Core	G4-27	Report key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting. Report the stakeholder groups that raised each of the key topics and concerns.	•	1.2 Stakeholder Participation	15
	5. Rep	ort Profile			
Core	G4-28	Reporting period (such as fiscal or calendar year) for information provided.	•	About This Report	2
Core	G4-29	Date of most recent previous report (if any).	•	About This Report	2
Core	G4-30	Reporting cycle (such as annual, biennial).	•	About This Report	2
Core	G4-31	Provide the contact point for questions regarding the report or its contents.	•	About This Report	2
Core	G4-32	a.Report the 'in accordance' option the organization has chosen. b.Report the GRI Content Index for the chosen option (see tables below). c.Report the reference to the External Assurance Report, if the report has been externally assured. GRI recommends the use of external assurance but it is not a requirement to be 'in accordance' with the Guidelines.	•	About This Report	2
Core	G4-33	a.Report the organization's policy and current practice with regard to seeking external assurance for the report. b.lf not included in the assurance report accompanying the sustainability report, report the scope and basis of any external assurance provided. c.Report the relationship between the organization and the assurance providers. d.Report whether the highest governance body or senior executives are involved in seeking assurance for the organization's sustainability report.	•	About This Report	2
	6. Gov	ernance			
Core	G4-34	Report the governance structure of the organization, including committees of the highest governance body. Identify any committees responsible for decision-making on economic, environmental and social impacts.	•	2.3 Healthy Board of Directors	36

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Category/ Aspects	G4 / Notes	Indicator	External Verification	Chapter and Section	page
Comprehensive	G4-58	Report the internal and external mechanisms for reporting concerns about unethical or unlawful behavior, and matters related to organizational integrity, such as escalation through line management, whistleblowing mechanisms or hotlines.		2.4 Honest Business	40
	Econo	mic			
	G4-DMA	Economic Performance DMA		2 · About TGI	22
* Economic performance	G4-EC1	Direct economic value generated and distributed.  – Revenues  – Operating costs  – Employee wages and benefits  – Payments to providers of capital  –Payments to government (by country)  – Community investments	•	2.2 Operation Information	32
performance	G4-EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change.		4.1 Sustainable Environment Strategy	71
	G4-EC3	Coverage of the organization's defined benefit plan obligations.		5.1 Talent Structure	98
	G4-EC4	Financial assistance received from government.		2.2 Operation Information	32
Market	G4-EC5	Ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation.		5.1 Talent Structure	98
Presence	G4-EC6	Proportion of senior management hired from the local community at significant locations of operation.		5.1 Talent Structure	98
Indirect Economic Impacts	G4-EC7	Development and impact of infrastructure investments and services supported.		2.6 Contribute to the Society	45
Procurement Practices	G4-EC9	Proportion of spending on local suppliers at significant locations of operation.		3.1 Purchasing Policy	53
	Enviro	nmental			
	G4-DMA	Materials DMA		4 · Green TGI	68
* Materials	G4-EN1	Materials used by weight or volume.		4.2 Sustainable Resource Management	76
	G4-EN2	Percentage of materials used that are recycled input materials.		4.2 Sustainable Resource Management	76
	G4-DMA	Energy DMA		4 · Green TGI	68
	G4-EN3	Energy consumption within the organization.		4.2 Sustainable Resource Management	76
* Energy	G4-EN5	Energy intensity.		4.2 Sustainable Resource Management	76
	G4-EN6	Reduction of energy consumption.		4.2 Sustainable Resource Management	76
	G4-EN7	Reductions in energy requirements of products and services.		3.2 Production Introduction	58
	G4-DMA	Water DMA		4 · Green TGI	68
* Water	G4-EN8	Total water withdrawal by source.		4.2 Sustainable Resource Management	76

External

Verification

Chapter and

Section

4.2 Sustainable Resource

4.2 Sustainable Resource

4.1 Sustainable Environment

4.1 Sustainable Environment

Management

Management

Strategy

Strategy

page

76

76

71

71

actions taken.

G4 /

**Notes** 

G4-FN9

G4-EN10

G4-FN11

G4-EN12

of water.

protected areas

**Indicator** 

Water sources significantly affected by withdrawal

Percentage and total volume of water recycled and

Operational sites owned, leased, managed in, or

adjacent to, protected areas and areas of high

areas and areas of high biodiversity value outside

biodiversity value outside protected areas.

Description of significant impacts of activities, products, and services on biodiversity in protected

Category/

Aspects

\* Water

Biodiversity

Category/ Aspects	G4 / Notes	Indicator	External Verification	Chapter and Section	page
Environmental Grievance Mechanisms	G4-EN34	Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms.		4.1 Sustainable Environment Strategy	71
	Labor	Practices and Decent Work			
	G4-DMA	Employment DMA		5 · Friendly TGI	95
	G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender, and region.	•	5.1 Talent Structure	98
*Employment	G4-LA2	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation.		5.1 Talent Structure	98
	G4-LA3	Return to work and retention rates after parental leave, by gender.	•	5.1 Talent Structure	98
*! abor/	G4-DMA	Labor/Management Relations DMA		5 · Friendly TGI	95
*Labor/ Management Relations	G4-LA4	Minimum notice periods regarding operational changes, including whether these are specified in collective agreements.		5.1 Talent Structure	98
	G4-DMA	Occupational Health and Safety DMA		5 · Friendly TGI	95
	G4-LA5	Percentage of total workforce represented in formal joint management–worker health and safety committees that help monitor and advise on occupational health and safety programs.		5.3 Safe Workplace	118
*Occupational Health and Safety	G4-LA6	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender.	•	5.3 Safe Workplace	118
	G4-LA7	Workers with high incidence or high risk of diseases related to their occupation.		5.2 Employee Care & Development	110
	G4-LA8	Health and safety topics covered in formal agreements with trade unions.		5.3 Safe Workplace	118
	G4-LA9	Average hours of training per year per employee by gender, and by employee category.		5.2 Employee Care & Development	110
Training and Education	G4-LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings.		5.2 Employee Care & Development	110
	G4-LA11	Percentage of employees receiving regular performance and career development reviews, by gender and by employee category.		5.1 Talent Structure	98
Diversity and Equal Opportunity	G4-LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity.		5.1 Talent Structure	98
Equal Remuneration for Women and Men	G4-LA13	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation.		5.1 Talent Structure	98
Supplier	G4-LA14	Percentage of new suppliers that were screened using labor practices criteria.		3.1 Purchasing Policy	53
Assessment for Labor Practices	G4-LA15	Significant actual and potential negative impacts for labor practices in the supply chain and actions taken.		3.1 Purchasing Policy	53
Labor Practices Grievance Mechanisms	G4-LA16	Number of grievances about labor practices filed, addressed, and resolved through formal grievance mechanisms.		5.1 Talent Structure	98

Category/ Aspects	G4 / Notes	Indicator	External Verification	Chapter and Section	page
*Customer	G4-PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement.		3.2 Production Introduction	58
Health and Safety	G4-PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes.		3.2 Production Introduction	58
	G4-DMA	Product and Service Labeling DMA		3 · Quality TGI	50
*Product and Service Labeling and	G4-PR3	Type of product and service information required by the organization's procedures for product and service information and labeling, and percentage of significant product and service categories subject to such information requirements.		3.2 Production Introduction	58
Customer Satisfaction	G4-PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes.		3.2 Production Introduction	58
	G4-PR5	Results of surveys measuring customer satisfaction.		3.4 Customer Service	65
	G4-DMA	Marketing Communications DMA		3 · Quality TGI	50
	G4-PR6	Sale of banned or disputed products.		3.2 Production Introduction	58
Communications <sup>1</sup>	G4-PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship, by type of outcomes.		3.2 Production Introduction	58
Customer Privacy	G4-PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data.		3.4 Customer Service	65
	G4-DMA	Compliance DMA		3 · Quality TGI	50
*Compliance	G4-PR9	Monetary value of significant fines for non- compliance with laws and regulations concerning the provision and use of products and services.	•	3.2 Production Introduction	58

# Appendix II: Sustainable Development Goals (SDGs) Index

	<u> </u>		
Number	Goals	Relevant Sections	Page (s)
1	End poverty in all its forms everywhere.		
2	End hunger, achieve food security and improved nutrition and promote sustainable agriculture.		
3	Ensure healthy lives and promote wellbeing for all at all ages.	3 · Quality TGI 5 · Friendly TGI	50 95
4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.	5.2 Employee Care & Development	110
5	Achieve gender equality and empower all women and girls.	2 · About TGI 5 · Friendly TGI	22 95
6	Ensure availability and sustainable management of water and sanitation for all.	4 · Green TGI	68
7	Ensure access to affordable, reliable, sustainable and modern energy for all.	4 · Green TGI	68
8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.	2 · About TGI	22
9	Build resilient infrastructure, promote inclusive and Sustainable industrialization and foster innovation	4 · Green TGI	68

Number	Goals	Relevant Sections	Page (s)
10	Reduce inequality within and among countries.	5.1 Talent Structure	98
11	Make cities and human settlements inclusive, safe, resilient and sustainable.		
12	Ensure sustainable consumption and production patterns.	3 · Quality TGI 4 · Green TGI	50 68
13	Take urgent action to combat climate change and its impacts.	4 · Green TGI	68
14	Conserve and sustainably use the oceans, seas and marine resources for sustainable development.		
15	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.		
16	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.	2 · About TGI	22
17	Strengthen the means of implementation and revitalize the global partnership for sustainable development.		

# Appendix III: United Nation Global Compact Index

Number	Article	Relevant Sections	Page (s)
1. Humai	n Rights		
1	Businesses should support and respect the protection of internationally proclaimed human rights.	3.1 Purchasing Policy 5.1 Talent Structure	53 98
2	Make sure that they are not complicit in human rights abuses.	5.1 Talent Structure	98
2. Labor			
3	Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.	5.1 Talent Structure	98
4	The elimination of all forms of forced and compulsory labor.	5 · Friendly TGI	95
5	The effective abolition of child labor.	5.1 Talent Structure	98
6	The elimination of discrimination in respect of employment and occupation.  5.1 Talent Structure		98
3. Enviro	nment		
7	Businesses should support a precautionary approach to environmental challenges.	2.5 Risk Management 4 · Green TGI	42 68
8	Undertake initiatives to promote greater environmental responsibility.	4 · Green TGI	68
9	Encourage the development and diffusion of environmentally friendly technologies.	3.2 Production Introduction	58
4. Anti-C	orruption		
10	Businesses should work against corruption in all its forms, including extortion and bribery.	2.4 Honest Business	40

# Appendix IV: ISO26000 Guidance on Social Responsibility

Number	Article	Relevant Sections	Page (s
1 · Orgai	nizational Governance		
1.1	The system by which companies are directed and controlled	2.3 Risk Management	36
2 · Huma	an Rights		
2.1	Due diligence	3.1 Purchasing Policy 5.1 Talent Structure	53 98
2.2	Human rights risk situations	3.1 Purchasing Policy 5.1 Talent Structure	53 98
2.3	Avoidance of complicity	2.4 Honest Business	40
2.4	Resolving grievances	1.2 Stakeholder Participation 2.4 Honest Business	15 40
2.5	Discrimination and vulnerable groups	5.1 Talent Structure	98
2.6	Civil and political rights	2.4 Honest Business	40
2.7	Economic, social and cultural rights	5 · Friendly TGI	95
2.8	Fundamental principles and rights at work	5 · Friendly TGI	95
3 · Labor	Practices		
3.1	Employment and employment relationships	5.1 Talent Structure	98
3.2	Conditions of work and social protection	5.1 Talent Structure	98
3.3	Social dialogue	1.2 Stakeholder Participation	15
3.4	Health and safety at work	5.3 Safe Workplace	118
3.5	Human development and training in the workplace	5.2 Employee Care & Development	110
1、The E	nvironment		
4.1	Prevention of pollution	4.3 Green Manufacturing Process	88
4.2	Sustainable resource use	4.2 Sustainable Resource Management 4.3 Green Manufacturing Process	76 88
4.3	Climate change mitigation and adaptation	4.1 Sustainable Environment Strategy	71
4.4	Protection of the environment, biodiversity and restoration of natural habitats	4.1 Sustainable Environment Strategy	71
5 · Fair C	perating Practices		
5.1	Anti-corruption	2.4 Honest Business	40
5.2	Responsible political involvement 2.4 Honest Business		40
5.3	Fair competition	3.2 Production Introduction	58
5.4	Promoting social responsibility in the value chain	3.1 Purchasing Policy	53
5.5	Respect for property rights	3.2 Production Introduction	58

Number	Article	Relevant Sections	Page (s)				
6 · Consi	6 · Consumer Issues						
6.1	Fair marketing, factual and unbiased information and fair contractual practices	3.2 Production Introduction	58				
6.2	Protecting consumers' health and safety	3.3 Management System Certification	62				
6.3	Sustainable consumption	3.2 Production Introduction	58				
6.4	Consumer service, support, and complaint and dispute resolution	3.4 Customer Service	65				
6.5	Consumer data protection and privacy	3.4 Customer Service	65				
6.6	Access to essential services	3.2 Production Introduction	58				
6.7	Education and awareness	3.2 Production Introduction	58				
7 · Comr	munity Involvement and Development						
7.1	Community involvement	2.6 Contribute to the Society	45				
7.2	Education and culture	2.6 Contribute to the Society	45				
7.3	Employment creation and skills development	2.2 Operation Information	32				
7.4	Technology development and access	2.2 Operation Information	32				
7.5	Wealth and income creation	2.2 Operation Information	32				
7.6	Health	5.2 Employee Care & Development 5.3 Safe Workplace	110 118				
7.7	Social investment	2.6 Contribute to the Society	45				

### Appendix V: International Standard on Assurance Engagements



安永聯合會計師事務所

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#### 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 2016 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意見。

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2016年度企業社會責任報告書,包括參考全球永續性報告協會(Global Reporting Initiatives, GRI)所發布之第四代永續性報告指南(G4)及行業補充指南,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;



- 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2016年度企業社會責任報告書有未依據 G4 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:蕭翠慧



现



民國一〇六年六月三十日



#### 附件一:

扁號	頁次	內文標題	標的資訊	適用基準
1		符合性確信	台玻揭露 2016 年度企業社會責任報告 告書係依據全球永續性報告協會所 發布之第四代永續性報告指南之核 心選項編製	第四代永續性 報告指南核心 指標
2	25	2.2 營運資訊	2016 年度財務資訊	2016 年度個體 財務報表
3	44	3.2 產品介紹	台玻產品 2016 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	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、消保法
4	56-57	4.1 永續環境策略- 環保法規遵循	2016 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
5	58	4.2 永續資源管理- 原物料管理	2016 年主要原料使用量統計	公司統計資料
6	59	4.2 永續資源管理- 環保與碎玻璃回 收	2016 年度平板玻璃回收玻璃使用量 佔比 19.10%,玻璃容器回收玻璃使 用量佔比 50.47%	公司統計資料
7	59	4.2 永續資源管理- 能源管理	2016年台玻各項能源的使用量	公司統計資料
8	60	4.2 永續資源管理- 溫室氣體盤查	2016 年台玻各產品碳排放量-直接碳排放量 (噸 CO <sub>2</sub> e)	公司統計資料
9	60	4.2 永續資源管理- 溫室氣體盤查	2016 年台玻各產品碳排放量-間接碳排放量 (噸 CO <sub>2</sub> e)	公司統計資料
10	70-73	4.3 綠色製程-廢棄 物管理及回收再 利用	2016年台玻各廠廢棄物處理量	公司統計資料
11	79-80	5.1 人才組成-人員招募	2016 年職業安全違規罰款金額	公司適用之事業安全法規及公司統計資料



編號	頁次	內文標題	標的資訊	適用基準
12	80-81	5.1 人才組成-員工 新進及離職率統 計	2016年員工新進之情形	公司統計資料
13	81	5.1 人才組成-員工 新進及離職率統 計	2016年員工離職之情形	公司統計資料
14	84	5.1 人才組成-員工 福利	2016年育嬰留停之情形	公司統計資料
15	93	5.3 安心職場-職業安全管理	2016 年失能傷害率、失能傷害嚴重率、缺勤率	公司統計資料