



TAIWAN SUGAR CORP.,

2021 Sustainability Report



EDITING PRINCIPLES.....	2
MESSAGE FROM THE TOP MANAGEMENT	6
2020 SUSTAINABILITY RESULTS AND RECOGNITIONS	8
IMPLEMENTATION OF SDGS AND OBJECTIVES.....	10

DEVELOPMENT OF RENEWABLE ENERGY	20
TURNING OYSTER SHELLS INTO CALCIUM CARBONATE- THE REALIZATION OF CIRCULAR ECONOMY.....	24
OVERALL RENOVATION PROJECT OF MODERN LIVESTOCK HOUSING	26
TSC'S CORPORATE SOCIAL RESPONSIBILITY IN RESPONSE TO COVID-19	28

1 MISSIONS AND STRATEGIES 32

1.1 PROFILE OF TSC	33
1.2 SUSTAINABLE DEVELOPMENT POLICY	41
1.3 IDENTIFICATION OF AND COMMUNICATION WITH STAKEHOLDERS.....	43
1.4 MATERIAL TOPICS OF SUSTAINABLE DEVELOPMENT	48

2 GOVERNANCE AND RISK MANAGEMENT 52

2.1 CORPORATE GOVERNANCE.....	54
2.2 IMPLEMENTATION OF INTEGRITY MANAGEMENT	62
2.3 IMPLEMENTATION OF SUSTAINABLE GOVERNANCE	66

3 CORE VALUES 72

3.1 SUSTAINABLE FOOD.....	75
3.2 INNOVATION DYNAMICS.....	80
3.3 LAND ACTIVATION AND UTILIZATION.....	86
3.4 MAINTENANCE OF NATURAL RESOURCES	90

4 GREEN PRODUCTION 96

4.1 ENERGY RESOURCE MANAGEMENT	98
4.2 POLLUTION CONTROL	105
4.3 WASTE MANAGEMENT AND REUSE.....	110

5 HUMAN RESOURCES 116

5.1 OPTIMIZATION OF TALENT AND ORGANIZATION	119
5.2 LABOR RELATIONS	127
5.3 REINFORCED OCCUPATIONAL SAFETY	132

6 SOCIAL INCLUSION 140

6.1 SUSTAINABLE MANAGEMENT OF THE VALUE CHAIN.....	142
6.2 CULTURAL PRESERVATION AND ADDED VALUE.....	150
6.3 COLLABORATION WITH ALLIES.....	153
6.4 COMMUNITY CARE AND SERVICES.....	156

7 APPENDIX

APPENDIX I : GLOBAL REPORTING INITIATIVE (GRI) INDEX	162
APPENDIX II : REFERENCE TABLE OF TAIWAN STOCK EXCHANGE CORPORATION RULES GOVERNING THE PREPARATION AND FILING OF CORPORATE SOCIAL RESPONSIBILITY REPORTS BY TWSE LISTED COMPANIES (ARTICLE 4, ITEM 1)	172
APPENDIX III : SUSTAINABLE DEVELOPMENT GOALS (SDGS) INDEX	173
APPENDIX IV : BRITISH STANDARDS INSTITUTION(BSI) VERIFICATION STATEMENT	174

Editing Principles

Taiwan Sugar Corporation (hereinafter referred to as “Taiwan Sugar”, “TSC”, “the Company”, and “We”) started to publish its Corporate Sustainability Report (CSR) annually from 2010, and this is the twelfth publication of our CSR report. This 2021 CSR Report is based on the main theme of “becoming a benchmark enterprise in the health and green industry”. We identified our stakeholders and their issues of concern, summarized 21 major sustainability topics, and strengthened disclosures on “Management Approach” to respond to the importance of each major topic to Taiwan Sugar. Meanwhile, our endeavors to implement the SDGs also enable the public to know Taiwan Sugar’s efforts to promote sustainable development.

This Report is compiled based on the meaning of the combination of Taiwan Sugar’s corporate culture and the vision of sustainable management in the future. The Report is divided into six major themes, including “Missions and Strategies”, “Governance and Risk Management”, “Core Values”, “Green Production”, “Human Resources”, and “Social Inclusion”, disclosing our efforts and results in aspects of economy, product liability, environment, social engagement, labor care, concern for human rights and with related data and detailed description. It is hoped that with the release of this Report, the general public can have a better understanding of and trust in Taiwan Sugar’s performance and efforts in every aspect of the corporate sustainability in 2020.

Taiwan Sugar has established a Corporate Sustainability Area on our official website to constantly update the results of the promotion of sustainable development. In addition, CSR issues of the public’s concern and major events related to Taiwan Sugar will be immediately reported and responded to on the official website to demonstrate our determination to fulfill the corporate social responsibility.

► Scope of the Report and Statistics Basis

This Report covers Taiwan Sugar’s corporate sustainability efforts and results from Jan. 1 to Dec. 31, 2020 (for complete disclosure, data disclosed included those in 2019 and some in 2018 in terms of some material topics). Except that corporate governance and financial performance include data of reinvested companies and overseas branches, other performance disclosure focuses on the Company’s operation and activities in Taiwan. The statistical data disclosed in the Report come from the results of Taiwan Sugar’s internal data collection, research and inquisition. The financial data are public information disclosed after being audited and verified by Deloitte & Touche. Some of the statistical data are cited from public information on government websites and all the numbers are presented in the most common way of description. The financial statements have been based on the International Financial Reporting Standards (IFRSs), and the financial data were calculated in NT dollars. For the Environmental performance figures, the data of environmental costs came from TSC AS400 Financial Accounting Management System. Each unit operator enters the “accounting code” when the expenses are reimbursed, and the monthly statistical data cover data from all units. Data of environmental benefits come from the material flow analysis system, and the data are limited to the environmental accounting units, which include input of raw materials, output of products and other items not set up by Environmental Protection Administration (EPA). Taiwan Sugar established management indicators based on the needs of operational management, and the data are all

presented in International Generic Indicators. Compared with the 2020 CSR Report, there is some merge or withdrawal in this 2021 CSR Report, and the reorganized data are detailed in this Report. The chapters are slightly different for the complete presentation of the sustainable development framework, but it does not prevent readers from comparing the contents with those in the 2020 CSR Report.

► Referred Guidelines and Principles

2021 CSR Report was compiled in accordance with the GRI (Global Reporting Initiative) Standards and Article 4 of the Taiwan Stock Exchange Corporation Rules Governing the Preparation and Filing of Corporate Social Responsibility Reports by TWSE Listed Companies stipulating that listed companies within the food industry shall reinforce disclosure items, and the stakeholders' issues of concern were identified through the model of materiality analysis for the determination of the priorities of these topics. The major sustainability issues, relevant strategies, goals and management policies to be disclosed in this Report were analyzed and compiled in accordance with the reporting principles and requirements while referring to the principles of ISO 26000 Guidance on Social Responsibility, the Earth Charter, the OECD Guidelines for Multinational Enterprises, United Nations Global Compact, Sustainable Development Goals (SDGs), and Integrated Reporting (IR) as the focus and direction for long-term development in the future.

► The Editing, Review and Authorizing Procedure and Verification of this Report

CSR Editing Group :

The CSR Editing Group for this 2021 CSR Report is under the Corporate Sustainable Development Committee, in charge of the overall planning, communication and integration, data consolidation and editing and revision, with the Vice President supervising the Department of Planning serving as the convener of the editorial team, the Director of the Planning Department as the executive secretary. The members include representatives from all Staff Room of the General Management Office, all business divisions, all district offices, the research institute and Taiwan Sugar Labor Union.

Internal Audit of the Sustainability Report :

The Editorial Team of this Sustainability Report is composed of members assigned from all units. After collecting data for the Department of Planning to compile the first draft, the members of the Editorial Team were then in charge of the review and revision of relevant content and data before submitting the report to the executives of all units (members of the Corporate Sustainability Committee), the president (the Committee Chair), and the Chairman (the Steering Committee) for further review and finalization of this report. The finalized content was verified by an impartial third party before submitted to the 14th Board Meeting (June, 2021) of the 34th Session of Board of Directors for approval in accordance with the administrative procedure, and will be disclosed on TSC's Sustainability Website.

External Verification of this Report :

All the information in this Report was verified by the world renowned British Standards Institution (BSI), and both the editing framework and procedure fitted the core items of GRI Standards and AA1000 Accountability Principles Standard v3 Type II. In addition, to reinforce the reliability of relevant information disclosed, the part stipulated in Article 4 of the Taiwan Stock Exchange Corporation Rules Governing the Preparation and Filing of Corporate Social Responsibility Reports by TWSE Listed Companies that listed companies within the food industry shall reinforce disclosure items was under the verification of AA1000 AS v3 Type II, high level of assurance. BSI verification report can be found in Appendix VI.

► Publishing Schedule of the Report

Taiwan Sugar Corp annually publishes its CSR Report, and this Report is also disclosed to the public in the Corporate Sustainable Development Area on our official website.

Previous edition: June, 2020

Current edition: June, 2021

Next edition: June, 2022



► Contact Information

You can download the complete CSR Report in the Corporate Sustainability Area on TSC's official website. Please contact us for any question or suggestion for this 2021 Corporate Sustainability Report (CSR). Your opinions are the driving force for our progress. We look forward to your valuable suggestions to enable our next CSR Report one that is in line with the needs of our stakeholders, providing the information all the stakeholders want to know. Here is our contact information:

Taiwan Sugar Corporation
Dept. of Planning/Project Planning Team/Ms. Song, Huei-Ching
Address: No. 68, Shengchan Rd., East Dist., Tainan City 70136, Taiwan
Tel: 06-3378925
Fax: 06-3378512
Email: a64277@taisugar.com.tw
Official website of Taiwan Sugar Corporation:
<http://www.taisugar.com.tw/CSR/index.aspx>



TSC official website



TSC official channel



TSC Fanpage



TSC CSR Fanpage



TSC Line@



Message from the Top Management

2021 marks the 75th anniversary for Taiwan Sugar Corporation. Looking back on the year 2020, the unexpected COVID-19 pandemic has made a global impact, affecting catering, tourism, transport and other industries, leading to shrinkage of trading volume, supply chain disruption, and increasing unemployed population. However, the new daily routine of social distancing and reduced frequency of gathering has yet accelerated the popularity of remote work and the growth of Stay-at-Home Economy.

Although vaccines against COVID-19 have been successively developed by major international pharmaceutical companies and the vaccine shots have been taken in some countries, the threats of virus variants and the uncertainty of the vaccine efficacy as well as the side effects have made it impossible to predict the day for the end of the pandemic. Yet the loose monetary policies implemented by various countries in response to the pandemic have caused the decoupling between the financial performance and the real economy, and the doubts of asset bubbles have also emerged.

In the face of the post-COVID-19 era, TSC may have more resources and flexibility to deal with unknown changes based on the existing strategy of diversification, but no companies can survive independently in the society. Therefore, with the vision of “becoming a benchmark enterprise in the health and green industries in the Asian Pacific Region”, Taiwan Sugar Corporation will actively work on the collaborations with our partners from different sectors while at the same time taking into account the development trend of global economy, policy needs, and public expectations when making efforts in the following directions.

► New Agriculture and Health Industries

Fresh and safe food is the foundation of good health. Therefore, TSC continues the rebuilding of modern piggeries, expansion of organic planting area and contractual farming, and expansion of the scale of environmentally friendly farming in collaboration with young farmers and small-scale farmers for the production of high-quality agricultural and livestock products. In addition, we also construct the Circular Agricultural Park, Ecological Education Park and the Circular Education Park. We also choose suitable sites for ecological habitat restoration or make use of the existing natural resources such as the afforestation in the plain area and Aogu Wetland for the development of ecotourism. The brand characteristics of sugar mills and the sugar industry culture can be combined at the same time to reach the goals of environmental conservation, lifelong learning and creation of local industries.

► Green Energy and Circular Economy

In terms of the development of green energy, TSC applies the self-construction, cooperative operation and land leasing models to coordinate with the government policy for the promotion of solar photovoltaic energy (solar PV energy). In addition, we also make use of the fermentation of pig manure and urine for biogas energy and set up a joint venture with companies in the private sector to plan for the conversion of food and agricultural waste into biogas energy and fertilizers through anaerobic digestion technology.

In the practice of waste recycling, it is planned to develop pork cuts, remaining parts of processed pork and non-edible parts into high-value raw materials for food, animal farming, and biotechnology. In addition, the construction of the Biotechnological Material Plant has been completed, which can turn

waste oyster shells into agricultural fertilizers, calcium carbonate for feed and high value-added biomass raw materials. We are also building intelligence circular housing for rent only and not for sale, combining the concepts of renewable energy, ecological agriculture, sharing economy and material bank to expand the application scope of circular economy to set a benchmark for the industry.

► Assets Activation for Prosperous Economy

Taiwan Sugar Corporation has abundant land and assets. In addition to fulfilling its responsibilities as a state-owned business, TSC not only cooperates with local governments for the development of industrial parks and commercial areas and the construction of social housing and residential houses for senior citizens, it also provides the sugar factory areas for rent externally to facilitate industrial development and investment so as to promote the overall industrial upgrading and development.

► Strengthening the Corporate Physique and Promoting Performance

Looking at the advantages and resources of the company, TSC focuses on the core businesses and makes organizational adjustment based on the needs for future development. We promote the manpower quality and innovation momentum with the hiring of diverse talents and on-the-job interdisciplinary learning. The company also strengthen external cooperation to improve operating flexibility and investment efficiency by means of cooperative management and reinvestment. Moreover, the responsibility center system, control over responsible targets and the assessment and reward system are implemented for the improvement of the operating performance.

TSC is stepping toward its vision while at the same time continuing to give back to the society. We have been providing places, manpower and materials to take care of the disadvantaged groups through the joint efforts from public welfare organizations. In the year 2020 when we all suffered from the pandemic of COVID-19, TSC not only produced anti-epidemic products such as alcohol, alcohol wipes and alcoholic spray cleaner, but also provided food delivery, anti-epidemic alcohol and rent reduction measures to go through the pandemic with our fellow countrymen together.

This 2021 TSC Sustainability Report provides detailed information of our achievements in economic, environmental and social aspects in the past year. We are making efforts to move toward the UN's Sustainable Development Goals (SDGs), expecting to win affirmation and recognition from the public. We also look forward to your criticism, advice and support that can enable Taiwan Sugar Corporation to make continuous progress and contribute to the sustainability in Taiwan.

Chairman
Chao-Yih Chen

陈昭义



President
Kuo-Hsi Wang

王國禧



2020

Sustainability Results and Recognitions



Jianshanpi Jiangnan Resort was awarded the 7th National Environmental Education Award – Agency (Institution) Group by EPA, Executive Yuan



TSC developed a new business model to provide semi-mature composted bagasse to mushroom farmers in the rent to own model, which was awarded the Innovation Award of the 2020 Taiwan Circular Economy Awards



Awarded BSI (British Standards Institution) Sustainable and Resilient Award



Awarded the 31st Biggest Conglomerate in the Commonwealth Corporate Citizenship Award, this is the 5th year for TSC to be ranked among CommonWelth's Top 50 Corporate Citizens.



Awarded the 31st Biggest Conglomerate in the Commonwealth Corporate Citizenship Award, this is the 5th year for TSC to be ranked among CommonWelth's Top 50 Corporate Citizens.



Shalun Smart Green Energy Recycling Residential Park Project won the Golden Safety Award of the 2020 National Occupational Safety and Health Award – Excellence Award in Public Projects of the Ministry of Labor



Taisugar's Clam Essence was awarded the Merit Award in the Supplements Category in 2020 Health Brand Award

1

2

3

4

5

6

7

2020 Sustainable Management Performance of ESG

E

E-Environmental Aspect



The total power generation from green energy and renewable energy amounted to **28.6 million kWh**, reducing **14,569 metric tons of CO₂e**.



Produced **169 certificates** of biomass renewable energy, that is 1,69,000 kWh of green electricity.



The power generation from the solar PV system was **15,514,100 kWh**, a **137.59% increase** compared with 2019.



The GHG emission intensity **decreased by 21.74%** compared with that in 2019.



The environmental protection expenses **increase by 169.55%** compared with that in 2019.



The total green procurement rate in 2020 was **99.88%**.

S

S-Social Aspect



A total of **149 cases** of various activities related to good-neighborliness and public welfare were handled, and the donation amount was about **NTD 6.56 million**.



100% of TSC's food products are included in our own Food Safety Traceability Management System (FT).



The score of customer satisfaction survey in 2020 was **93.2 points**.

S

S-Social
Aspect

The average training hours were **47 hours**, and the staff training expenses totaled **NTD 38,550,000**.



We cooperated and held **147 sessions** in total and **3,030 participants** attended the training and drills with the National Disaster Prevention Day.



During 2017 through 2020, a total of **2,676 people** participated in **53 beach cleaning activities**, clearing **11.85 tons** of waste.



Total of **13 board** meetings were convened, and the average attendance rate of directors was **98.5%**.



The Board of Directors reviewed a total of **225 cases** that included policies, economic, environmental and social issues.



A total of **17 sessions** of anti-corruption briefings, **12 sessions** of anticorruption training and advocacy exercises were organized in 2020, with **561 employees** participating.



In the handling of various types of procurement tenders, **100%** of the business partners have been notified of anti-corruption policies.

G

G-Corporate
Governance

1

2

3

4

5

6

7

Implementation of SDGs and Objectives

To keep the operations of TSC in line with international trends, we refer to the Sustainable Development Goals (SDGs) as corresponding to the company's major theme goals and policies to have a comprehensive and sustainable business advantages in a rapidly changing environment.

Material Topics		Goals for 2020 and achievement	
	Indirect Economic Impacts (SDGs 1.4)	Cooperate with the government's price stabilizing policy	✓Achieved
	Local Communities (SDGs 1.4)	Budgeting for subsidies of NTD 10 million to support local groups to organize various activities	✓Achieved
		To organize 110 social welfare activities or other community related activities	✓Achieved
	Sustainable Food (SDGs 2.4)	Zero occurrence of food-related incident of our own brand products	✓Achieved
		To increase the area of planting on the organic farms	✓Achieved
	Healthy and Reasonably priced food (SDGs 2.c.)	To organize health food promotion activities	✓Achieved
R&D of health food		✓Achieved	
Adjustment of retail prices to cooperate in line with the government's price stabilizing policy		✓Achieved	
	Customer Health and Safety (SDGs 3.9)	The investment in food safety inspection related equipment in the laboratory	✓Achieved
		Implementation of greenfeed feeding	✓Achieved
		Implementation of no sulfa drugs, no clenbuterol, hormones and growth hormones	✓Achieved

Performance in 2020	Goals for 2021	Medium and Long-term Objectives
* Worked in line with the policy and allocate 65,000 pigs in total for supply and demands. * Organized 149 public welfare activities and donated NTD 6.56 million.	◆ To continue to cooperate with the government's price stabilizing policy ◆ Budgeting for subsidies of NTD 12 million to support local groups to organize various activities ◆ To organize 120 social welfare activities or other community related activities	• To continue to cooperate with the government's price stabilizing policy • To make contributions to the economic development and improve the quality of life in local communities and the society.
* Established our own Food Safety Traceability Management System (FT).	◆ Zero occurrence of food-related incident of our own brand products ◆ To increase the area of planting on the organic farms ◆ To complete the construction of the 197-hectare organic farming zone in Maguang Farm in Huwei Township, Yulin County	• Zero occurrence of food-related incident of our own brand products • To increase the ratio of contract farming zone, aiming at 1:1 for contract farming zone to self-operated organic farming area • To expand our cooperation with farmers to increase the yields of organic crop production
* Organized 4 sessions of health food promotion activities * The revenue of health care products in 2020 was approximately NTD 170 million. * Expanded production and produced more than 4.77 million bottles of alcohol products to cope with the needs during the epidemic period	◆ To continue to organize health food promotion activities ◆ Continuous R&D of health food ◆ Adjustment of retail prices to cooperate in line with the government's price stabilizing policy	• To continue to organize health food promotion activities • To develop health care products and continue to increase number of items • Adjustment of retail prices to cooperate in line with the government's price stabilizing policy
* The food products produced by TSC are all included in TFC's Food Safety Traceability Management System (FT), and the food inspection reports are also disclosed on TSC's official website.	◆ To continue the investment in food safety inspection related equipment in the laboratory ◆ Implementation of greenfeed feeding ◆ Implementation of no sulfa drugs, no clenbuterol, hormones and growth hormones	• To carry out the commitment of "Food safety guaranteed at TSC"

Material Topics		Goals for 2020 and achievement	
	Emissions (SDGs 3.9)	To conduct annual GHG inventory and verification in the Xiaogang Plant and the Waste Incineration Plant	✓ Achieved
		To organize a total of 320 sessions of green meetings	✓ Achieved
	Environmental Compliance (SDGs 3.9)	No major violation against laws and regulations	✓ Achieved
	Water and Effluents (SDGs 6.3)	Water resource management	✓ Achieved
		To reach the goal of the water recovery rate (R2) at 80%	✓ Achieved
	Energy (SDGs 7.2)	To add solar PV equipment	✓ Achieved
		The promotion of energy conservation movement and the development of renewable energy	✓ Achieved
	Innovative Research (SDGs 8.2)	Invested NTD 40,000,000 in R&D	✓ Achieved
		Patent management	✓ Achieved
	Labor/ Management Relations (SDGs 8.8)	Labor-management meetings on time	✓ Achieved
		Implementation of welfare measures to take care of employees	✓ Achieved
		To sign the collective agreement and set work rules	✓ Achieved

Performance in 2020	Goals for 2021	Medium and Long-term Objectives
* The concentration of air pollutants was in line with the emission standards stipulated by EPA. * The GHG emission intensity decreased by 21.74% compared with that in 2019. * A total of 465 sessions of green meetings were held.	◆ To conduct annual GHG inventory and verification in the Xiaogang Plant ◆ To organize a total of 350 sessions of green meetings	• To replace the more polluting heavy oil with natural gas (NG) to reduce GHG emissions.
* The environmental expenditures amounted to NTD 3,702,763 thousand.	◆ No major violation against laws and regulations	• To comply with relevant environmental regulations.
* Installed sewage treatment facilities in Dong-Hai-Feng Circular Park. * Wastewater recovery rate (R2) reached 89.21 %	◆ To continue water resource management ◆ To reach the goal of the water recovery rate (R2) at 80%	• The ratio of transforming livestock excrement into resources exceeds 10% stipulated by the law.
* The solar PV power generated reached 15.514 million kWh * A total of 169 certificates of biomass renewable energy have been produced	◆ Approximately 287 MW of solar PV equipment for rooftops, ground type, and unfavorable farming land and detention ponds is expected to be reached. ◆ To continue the promotion of energy conservation movement and the development of renewable energy	• To complete the rooftop solar PV energy generation and biogas power generation in TSC's livestock farms by 2023 • Approximately 443 MW of solar PV equipment for rooftops, ground type, and unfavorable farming land and detention ponds is expected to be reached cumulatively by 2023
* The amount of R&D expenses invested reached NTD 41,214 thousand	◆ Invested NTD 40,000,000 in R&D ◆ Management of patent (patent application and maintenance)	• To combine new agriculture and make use of biotechnology for the R&D of non-toxic, non-polluting, high value-added, and healthy products
* A total of 72 labor-management meetings were held in 2020, and all proposals were immediately responded for smooth and good labor-management communication * TSC has signed the collective agreement with TSC Federation of Labor Unions	◆ To continue to implementation of welfare measures to take care of employees ◆ To facilitate effective communication between labor and management and establish a good mechanism for interaction	• To facilitate effective communication between labor and management and establish a good mechanism for interaction

Material Topics		Goals for 2020 and achievement	
	Occupational Health and Safety (SDGs 8.8)	No cases of occupational diseases or death from major occupational accidents	✓ Achieved
		To promote the industrial safety month and disaster preparedness & emergency response training and exercise with the participation of all staff	✓ Achieved
		To introduce the health check service plan	✓ Achieved
	Customer Privacy (SDGs 10.3)	No cases of privacy invasion or data leakage	✓ Achieved
	Socioeconomic Compliance (SDGs 10.3)	No major violation of laws and regulations	✓ Achieved
	Providing land for urban planning (SDGs 11.a)	The target of land activation is set at 106.09 hectares	✓ Achieved
	Cultural Assets (SDGs 11.4)	To organize the Sugar Culture Festival activities in 2019 and strengthen cultural propaganda	✓ Achieved
	Circular Economy (SDGs 11.6)	Promotion of circular economy in agriculture	✓ Achieved
		Promotion of circular economy in industries	✓ Achieved

Performance in 2020	Goals for 2021	Medium and Long-term Objectives
* 9 units have been verified by ISO 45001 and TOSHMS * Established the TSC Occupational Safety and Health Management Information System to accelerate data transmission and simplification of the procedures	◆ No cases of occupational diseases or death from major occupational accidents ◆ To promote the industrial safety month and disaster preparedness & emergency response training and exercise with the participation of all staff ◆ To introduce the health check service plan	• To have all the business units at TSC be verified by ISO 45001 and TOSHMS • To achieve the highest occupational safety and health goals of “zero disaster”, “zero accident” and “zero injury”
* There was no cases of data leakage.	◆ No cases of privacy invasion or data leakage	• To respect the rights and interests of the stakeholders and ensure corporate sustainable development with integrity management.
* There was no major violation against laws and regulations	◆ No major violation of laws and regulations	• To reach zero fines
* The area of land activation reached 162.05 hectares in total * Shalun Smart Green Energy Recycling Residential Park Project won the Golden Safety Award of the 2020 National Occupational Safety and Health Award	◆ The target of land activation is set at 102.5 hectares ◆ Completion of the construction of Shalun Smart Green Energy Recycling Residential Park.	• To meet the government’s needs for public policy to maximize the value of land
* Organized 2020 Cultural Festival of Sugar Industry. * Promoted the repair and maintenance of Wufen Station with historical value * Completed the inventory and major repair of steam and diesel locomotives.	◆ To continue the preservation and repair of cultural assets and promote cultural activities of sugar industry.	• To integrate cultural assets and turn the sugar refineries into cultural and creative bases, providing employment opportunities and develop cultural and creative business opportunities in the local areas for co-prosperity.
* Developed materials of composted bagasse to mushroom farmers and was awarded Innovation Award of the 2020 Taiwan Circular Economy Awards. * Complete the construction of the oyster shell biotechnology material plant	◆ To continue the promotion of industry-related circular economy.	• Enhancing the high-value utilization of oyster shells.

Material Topics		Goals for 2020 and achievement	
	Waste (SDGs 12.5)	To actively promote circular economy to reduce waste	✓Achieved
	Marketing and Labelling (SDGs 12.6)	For our products to continue to pass international certifications	✓Achieved
		To continue the implementation of customer satisfaction policy	✓Achieved
		To strengthen product marketing, including advertising, promotions and so on	✓Achieved
		To promote coffee from the Republic of Honduras to assist small-scale coffee farmers with the marketing of their agricultural products	✓Achieved
	Climate Action (SDGs 13.2)	Development of renewable energy and promotion of energy conservation and carbon reduction campaign	✓Achieved
	Corporate Governance (SDGs 16.5) (SDGs 16.6) (SDGs 16.7)	The board members have legal background to ensure the Company's relevant compliance	✓Achieved
		Implementation of the board self-evaluation system and the performance evaluation system	✓Achieved
		Directors continue to participate in corporate governance related training courses, with more than 8 hours of training averagely	✓Achieved
		The participation in corporate governance evaluations conducted by the State-owned Enterprise Commission, MOEA	✓Achieved

Note: The basis of calculation for carbon dioxide absorption was 14.9 tonnes/hectare/year (referred to the data on Low-carbon Sustainable Agriculture, 2019, Taiwan Sugar Corporation, <https://reurl.cc/Dvknk6>).

Performance in 2020	Goals for 2021	Medium and Long-term Objectives
* The percentage of waste recycling reached 89.14%, a 3.15% increase compared with 2019.	◆ Continue to study the recycling of agricultural waste and develop recycling businesses in different fields.	• To reach 90% of waste recycling in 2023. • To reach 91% of waste recycling in 2027.
* All TSC products are in compliance with government regulations and customer requirements	◆ For our products to continue to pass international certifications ◆ To continue the implementation of customer satisfaction policy	• To carry out the commitment of "Food safety guaranteed at TSC"
* Promoted energy saving and carbon reduction measures, and the total energy saved was 630 kilograms of oil equivalent, reducing approximately 1,735 tonnes of CO₂e. * As of 2020, the cumulative afforestation tending area reached 11,957.84 hectares, absorbing approximately 178,000 tonnes of carbon dioxide.	◆ Continuous development of renewable energy and promotion of energy conservation and carbon reduction campaign ◆ Green afforestation	• To complete the implementation of the 2022-2025 Future Business Strategies.
* The result of performance evaluation of directors was "Excellent" * The directors participated in courses with corporate governance related topics, with an average of 10 learning hours per person. * TSC was affirmed long-term "twAA-" and short-term "twA-1+" credit ratings by Taiwan Ratings.	◆ Implementation of the board self-evaluation system and the performance evaluation system ◆ Directors continue to participate in corporate governance related training courses ◆ The participation in corporate governance evaluations conducted by the State-owned Enterprise Commission, MOEA	• To protect shareholders' rights, strengthen the functions of the board of directors, bring out the functions of a functional committee, respect the interests of stakeholders, and govern the company with integrity management to ensure sustainable development of the company.

tainable Information System: the fixed carbon dioxide on Forestry Bureau's forest land per unit area was 7.45~14.9 tonnes/

Development of Renewable Energy

TSC uses bagasse and animal waste from animal husbandry and agricultural waste materials with biomass potential for biogas power generation and adds solar power generation equipment to support the green energy policy of the government. In 2020, the total power generation from green energy and renewable energy amounted to 28.62 million kWh, reducing 14,569 metric tons of CO₂e.

Long-term Goal

Independent supply of green energy

Project Content

Installation of solar PV and biogas power generation equipment

Schedule

- In the forms of providing land, cooperative construction or lease for the royalties, the company is expected to complete the installation of equipment with the capacity of 443 MW by 2023 and will increase the installation year by year.
- It is expected to complete roof-type solar PV and biogas power generation in TSC's livestock farms.

◆ Solar Power Generation Plan

TSC makes use of the roofs and land of its business bases for self-installation and cooperative installation of solar power generation equipment. In addition to making good use of the value of space, we also reduce fossil fuel consumption and environmental pollution. As of 2020, rooftop solar power generation equipment has been installed in 83 locations in central, southern and eastern Taiwan, with the total capacity of 12.3MW, and installation of solar power generation equipment at unfavorable farming land and detention ponds have met the total capacity of 8.49MW. The annual power generation capacities are as follows.

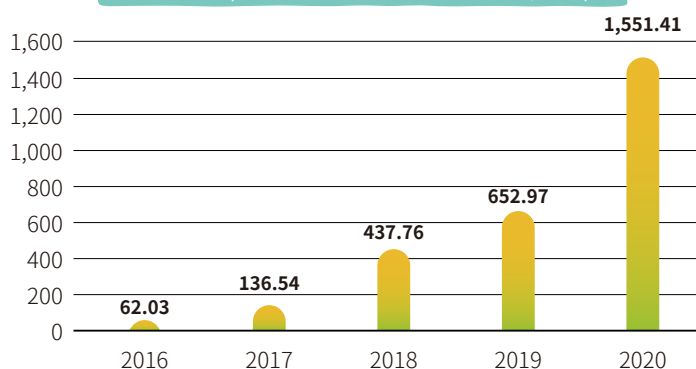
Effectiveness of solar power generation

	Total equipment capacity (KW)	Total power generation (kWh)	Increase or decrease rate
2018	4.89	437.76	220.61%
2019	5.86	652.97	49.16%
2020	21.79	1,551.41	137.59%

Note : The effectiveness of solar power generation is the total of roof type, Dalin ground type, and unfavorable farming land and detention ponds for private construction. It is estimated that the cumulative total installation capacity can reach about 443MW by 2023.



Total power generation (kWh)



1

2

3

4

5

6

7

♦ Agricultural Waste Resources for Power Generation

To develop renewable energy and implement circular economy, TSC applies agricultural waste resources in power generation. In 2020, a total capacity of the green electricity from agricultural waste resources amounted to 12.94 million kWh.

Utilization of remaining sugarcane bagasse for cogeneration

Huwei and Shanhua Refineries of the Sugar Business Division make use of the remaining bagasse for power generation for their own use, generating 12.67 million kWh of electricity in 2020.

Use of pig manure and urine for biogas power generation

In the four livestock farms of the Livestock Business Division, pig manure and urine are used for biogas power generation through the anaerobic digestion process. In 2020, 270 thousand kWh of electricity was produced, and among all, 72.7 thousand kWh was for self-use, while the remaining 197.3 thousand kWh was sold to Taiwan Power Company.

Development of Renewable Energy

◆ Supply Chain of the REC Market of Green Electricity, Biogas Power Generation from Pig Farming

In 2018, our First Livestock Farm in Da Xiang Yin in Pingtung became the first domestic REC certificate provider in the biomass power generation category. As of 2020, our Da Xiang Yin and Silin Livestock Farms have produced 169 certificates of biomass renewable energy, generating 169,000 kWh of green electricity, and completed transaction of 151 certificates. Currently, TSC remains the one and only domestic supplier of renewable energy certificates in the category of biomass energy.

**169 certificates
of biomass
renewable
energy**



**generating
169,000 kWh of
green electricity**

**transaction of
151 certificates**



Turning Oyster Shells into Calcium Carbonate- the Realization of Circular Economy

To implement the national industrial policy of circular economy, TSC has invested NTD 170 million and built an oyster shell biological material plant. Through the collaboration with the Industrial Technology Research Institute (ITRI), the discarded oyster shells are recovered and calcined into raw materials of calcium carbonate or ground powder, turning the shells into valuable biomass materials with recycling and regeneration technology. That supply the calcium carbonate for self-use in our livestock farms and farms and to serve as the calcium carbonate sources for domestic feed and fertilizer manufacturing to replace the use of imported raw materials.



Eco-industrial chain of oyster farming

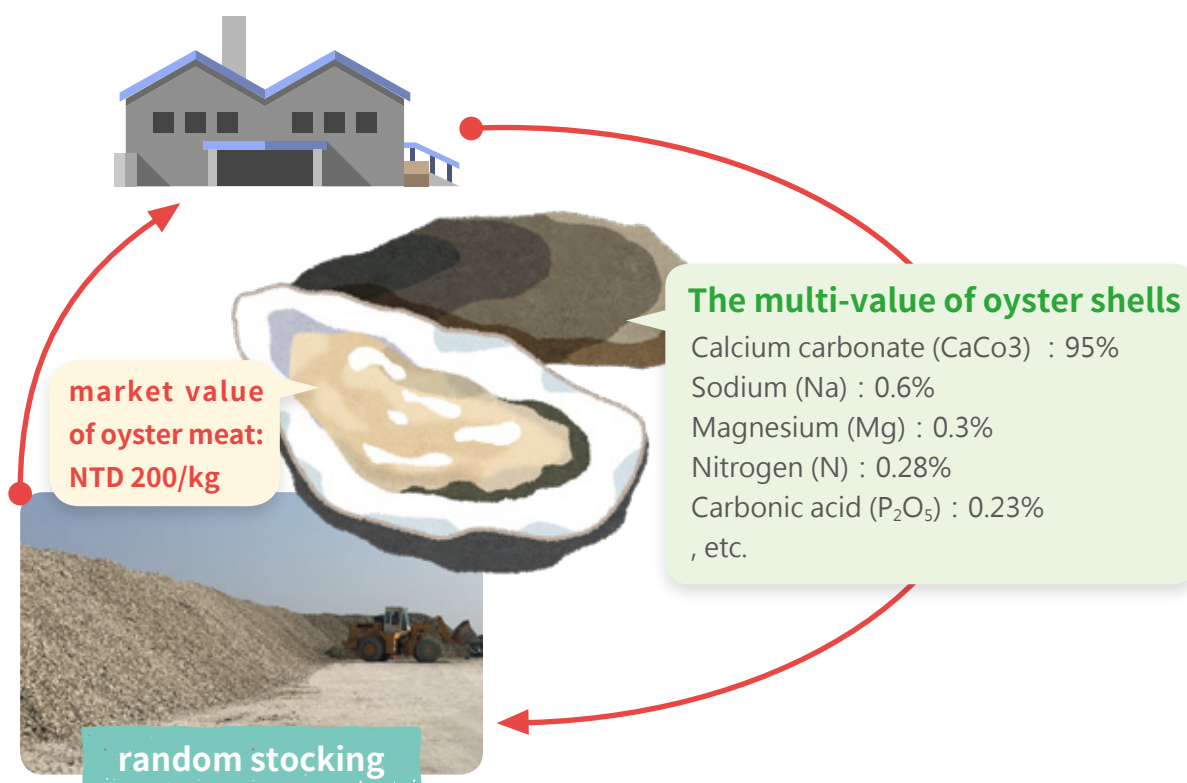
TSC has invested in the recycling of oyster shells and assisted with the construction of a complete circular economy industrial chain of oyster shells.

TSC's oyster shell biomaterial plant is located in Yongkang Industrial Park, and this plant was completed in June, 2020. The processing capacity of discarded oyster shells is estimated to be 50,000 tonnes annually, producing 40,000 tonnes of calcium carbonate, turning oyster shells into resources and increasing the utilization rate of oyster shells throughout Taiwan. There will be no more random discards of oyster shells, and pollution caused to the environment will also be reduced.

To promote the concept of circular economy, TSC will work with local community workers for the development of guided tours of the biotechnology material plant to draw the public's attention to environmental protection and resources regeneration. In addition, TSC continues to work with ITRI in the research on the high-value reutilization of oyster shells, such as research projects of the heating packs, temperature insulation powders for special textile, antibacterial materials, filter materials and so on. In the future, the feasibility of building food-grade (food additives) and pharmaceutical-grade (pharmaceutical excipients, artificial aggregates) calcium carbonate and calcium citrate plants to enhance the industrial technology and value of resources.

The multiple values of oyster shells (resource efficiency, waste recycling)

The annual output of waste oyster shells in Taiwan ~168,000 tons



The multiple values of oyster shells



Overall Renovation Project of Modern Livestock Housing

TSC plans to invest NTD 10.74 billion on the overall renovation of 13 modern livestock houses from 2019 to 2023. The pig houses will adopt equipment of negative pressure ventilation and water curtain, biogas power generation (10 vertical manure recycling facilities, biogas energy center and compost depots), and solar PV power generation equipment, transforming traditional pig farms into new green livestock housing that takes into account resource recycling and reuse as well as environmental protection, changing the negative impression of polluting animal husbandry industry into an “eco-friendly space, green pig farming and green energy industry”. The features of the modern livestock housing include the followings.

Item	Description
Comfortable pig housing with negative pressure ventilation and water curtain	It can effectively reduce the consumption of water resources, improve ventilation and reduce odor, keeping the environmental clean.
Separating rainwater from sewer and recycling	The new livestock farms adopt the system to separate rainwater from sewer to fully recycle and reuse water resources.
Smart management system	RFID ear tag positioning and transferring management system, image monitor system.
Automatic feeding system	All the pigs bred by TSC are fed with “green feed” (with no antibiotics). The feed formulation is improved and adjusted or new feed formula is developed. In addition, breeding selection is conducted for production of hogs with low-use drugs, no pollution and no drug residues. The traceability system is also introduced to implement food safety compliance.
Animal welfare	Good animal welfare is closely related to food safety and epidemic risks. Feeding management is carried out based on "Guidelines for Production Management in Pig Farms" of the internal control system and the "Animal Industry Act" promulgated by the Council of Agriculture, Executive Yuan is also complied with. In 2020, the slaughterhouses complied with transportation, handling and slaughter regulations for animals and aquatic animals. There were no violations of laws and regulations and the voluntary standards were followed.
Manure and urine collection system + renewable energy	Biogas is produced through the eco-digestion of the mixture of pig manure and urine as well as other agricultural waste. Fermented biogas residues and slurry can be used as fertilizer of the farmland, and the corn, soybeans and other farm produces on the farmland can be made into pig feed, enabling the circular utilization of resources available in the livestock farm. It is expected to set up vertical pig manure and urine resource recovery facilities (the biogas energy center and compost huts) to reduce GHG emissions and generate biogas power.



Comfortable pig housing with negative pressure ventilation and water curtain



Separating rainwater from sewer and recycling



Manure collection system



**Invested
NTD 10.74 Billion**



Animal Welfare



Smart management system



Automatic feeding system



Renewable energy (biogas power generation)

1

2

3

4

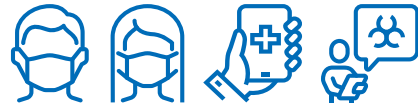
5

6

7

The 2-stage renovation project started in January, 2019, and is scheduled to be completed in December, 2023. The operation is scheduled to start from 2024 and the full production is scheduled to start in 2025. It is expected to sell approximately 500,000 hogs annually and the target of biogas power generation is 13.57 million kWh/year. During the renovation period, the renovation and the demolition are carried out at the same time, and the scale of sow breeding is maintained at a certain level so that the renovation will not affect the domestic supply of pigs.

TSC's Corporate Social Responsibility in Response to COVID-19



The global pandemic of COVID-19 not only posed threat to the health of the public, but also caused social panic. What is worse, it even had far-reaching impact on domestic industries and global economy. TSC has taken a series of anti-epidemic measures. In addition, to bring the spirit of helping the hunger and drowning, we not only expanded our alcohol production line within the shortest time possible but also started the implementation of relief schemes such as rent deferral and rent reduction to work together with our fellow countrymen to go through the pandemic together.

Production and distribution of anti-pandemic alcohol

TSC staff has started working overtime to increase the capacity of 95% alcohol in 500 c.c. glass bottles with the daily production since February 3, 2020, and also contracted the manufacturing of 75% ethanol solution and Alcoholic Tissue for anti-epidemic purposes and market these products to major distribution channels domestically for the timely provision of materials needed for pandemic prevention. As of the end of 2020, we have cumulatively produced 2.34 million packs of Alcoholic Tissue, more than 4.77 million bottles of 75% ethanol solution (50c.c: 150,000 bottles; 350c.c: 3.21 million bottles, 60ml spray bottle: 10,018 bottles; 500cc 95% ethanol solution: 1.40 million bottles).

Relief schemes of premises rent deferral and rent reduction

In response to the possible impact on the lessees' income because of COVID-19 during the pandemic period, relief schemes are provided in accordance with the "Rent relief measures to tenants of state-owned enterprises under MOEA affected by severe pneumonia with novel pathogens" to provide bail-out programs to reduce the burden of enterprises and to fight against this pandemic together with our tenants. As of the end of 2020, the cumulative reduction amount reached NTD 426 million. (See the table below for the bail-out plans).

TSC Supports its Tenants- Rent Reduction Measures During Pandemic!

Rent relief schemes are provided in accordance with the "Rent relief measures to tenants of state-owned enterprises under MOEA affected by severe pneumonia with novel pathogens" promulgated on April 24, 2020. The tenants of TSC's land and premises (including government agencies but not limited to government agency tenants providing land or premises to private sectors in accordance with the contract, and the reduction amount should be returned to the actual user).

Beneficiary: Non-manufacturers	Beneficiary: Manufacturers
Rent deferral (Extension of payment deadline and deferred payment) (Application required) Extension of payment deadline: ● Until the end of December, 2020 Payment in installments: ● If lump-sum payment is not possible, monthly installments (over 3 years) can be made	1 Rent deferral (Extension of payment deadline and deferred payment) Implementation duration: ● Apply before June 30, 2021 Measures: ● Defer payment of 1-year rent and amortize evenly over 3 years
Rent reduction ● Reduction of 20% of the rent for the whole year in 2020 is the tenant meets the criteria of enterprises in difficult conditions as prescribed in the Standard and Classification Scheme for industries and business premises by MOEA, 85% of the rent shall be reduced. (The rent after the reduction shall not be lower than the land price tax or other costs TSC has to bear)	2 Rent reduction ● Reduction of 20% of the rent for 6 months (The rent after the reduction shall not be lower than the land price tax or other costs TSC has to bear)

TSC Consultation Hotline: 0800-000000 (TSC) / 0800-000000 (TSC) / 0800-000000 (TSC) / 0800-000000 (TSC) / 0800-000000 (TSC) / 0800-000000 (TSC) / 0800-000000 (TSC) / 0800-000000 (TSC) / 0800-000000 (TSC) / 0800-000000 (TSC)



All Units within TSC Relevant Policies in Response to COVID-19

A. All units within TSC set up emergency response teams and cooperate with relevant anti-epidemic measures of the government authorities to complete the following work items.

1. We send out information concerning epidemic prevention through emails to all our employees. As of March 12, 2021, a total of 80 epidemic prevention messages have been sent out.
2. "Taiwan Sugar Corporation's COVID-19 Pandemic Prevention Measures" has been drafted.
3. Two meetings concerning the manpower utilization and office emergency measures in response to the severe pneumonia with novel pathogens (COVID-19) were convened.
4. Set up the business continuity planning in response to COVID-19, standard operating procedures to launch offsite work/ division of different working areas, epidemic prevention plan and operation regulations for the use of meeting rooms.

B. Leave measures in response

1. Those who have been diagnosed, notified by medical institutions, and contacted confirmed cases and need to be quarantined will be paid as usual during the quarantine period.
2. Those who go abroad for non-business purposes will be subject to 14-day quarantine upon returning to Taiwan and will be registered as "disease prevention isolation leave".
3. Those who have to take care of their children due to the school suspension or policy to postpone the beginning of a new school semester may apply for the Unpaid Family Care Leave, and it will not affect their perfect attendance bonus, performance appraisal or other unfavorable treatment.
4. With the consent of the supervisor of the unit, the employees can complete the application within one year after the epidemic ends.

C. Other measures

Cancellation of travel abroad approved before the notification from the CECC on March 20, 2020, and the losses of prepaid travel expenses and flight tickets shall be compensated after evaluation and confirmation.

TSC's Corporate Social Responsibility in Response to COVID-19



All Units within TSC Relevant Policies in Response to COVID-19

D. Measures Taking Care of Employees Stationed Abroad

1. For overseas personnel who return to Taiwan to report their work during the epidemic prevention period, they will still be paid the living expenses overseas during their stay in Taiwan, and the salary will be paid during home isolation and home-based quarantine period.
2. The overseas personnel are required to implement home-based quarantine when they return back to where they are stationed, and the company will cover the expenses including flight tickets and accommodations for epidemic prevention. The accommodation (hotel) can be referred to the employees by CECC or reserved by the employees on their own.
3. When the personnel stationed abroad return to Taiwan to report their work, their expenses on accommodation for quarantine will be adjusted to NTD 2,400/day (from the original maximum of NTD 2,000/day) in accordance with the standard for the Selected Appointment Rank personnel in the administrative agencies.
4. The number of masks needed (45 masks per week) for a total of 15 employees in 6 overseas units with the coordination of MOEA and MOFA to provide. (Ban on masks exports was lifted from June 1, 2020)
5. We strive to give priority of vaccination to those stationed abroad to ensure their safety and health when they return to where they are stationed.

1

2

3

4

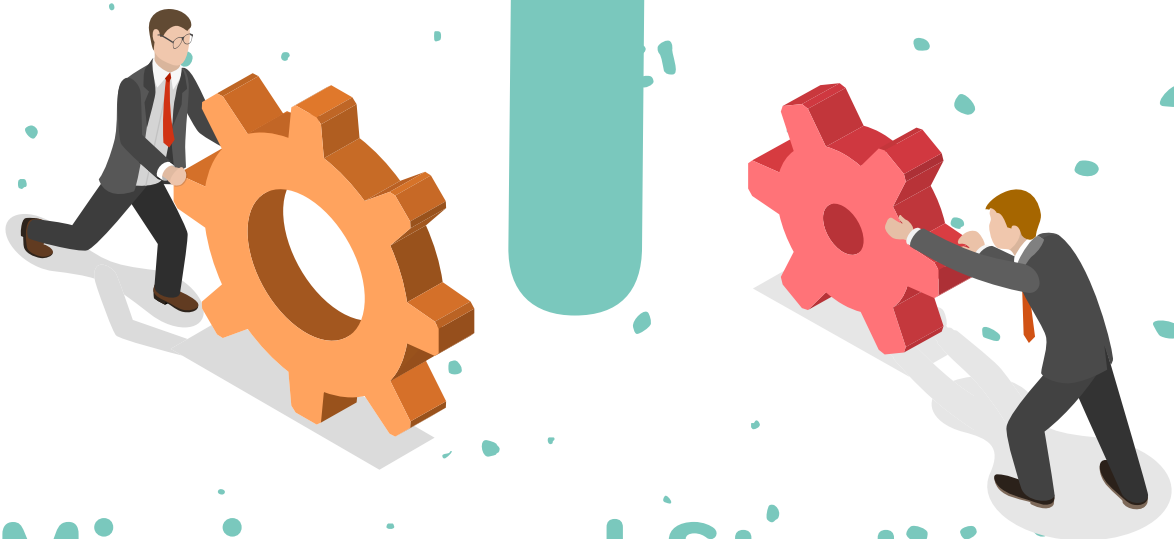
5

6

7



1



Missions and Strategies

1.1 PROFILE OF TSC

1.2 Sustainable Development Policy

1.3 Identification of and Communication with Stakeholders

1.4 Material Topics of Sustainable Development

1.1 PROFILE OF TSC

1.1.1 Company Overview

Taiwan Sugar Corporation has actively promoted diversification and transformation, and has established seven divisions including Sugar Business Division, Biotechnology Business Division, Agriculture Business Division, Petroleum Business Division, Livestock Business Division, Leisure Business Division and Marketing Business Division. We have gradually transformed from the traditional agriculture of pure sugar production and marketing into a diversified integrated business including agriculture, industry, commerce, and service industries, aiming at becoming” a benchmark enterprise in the health and green industries in the Asia-Pacific region”.

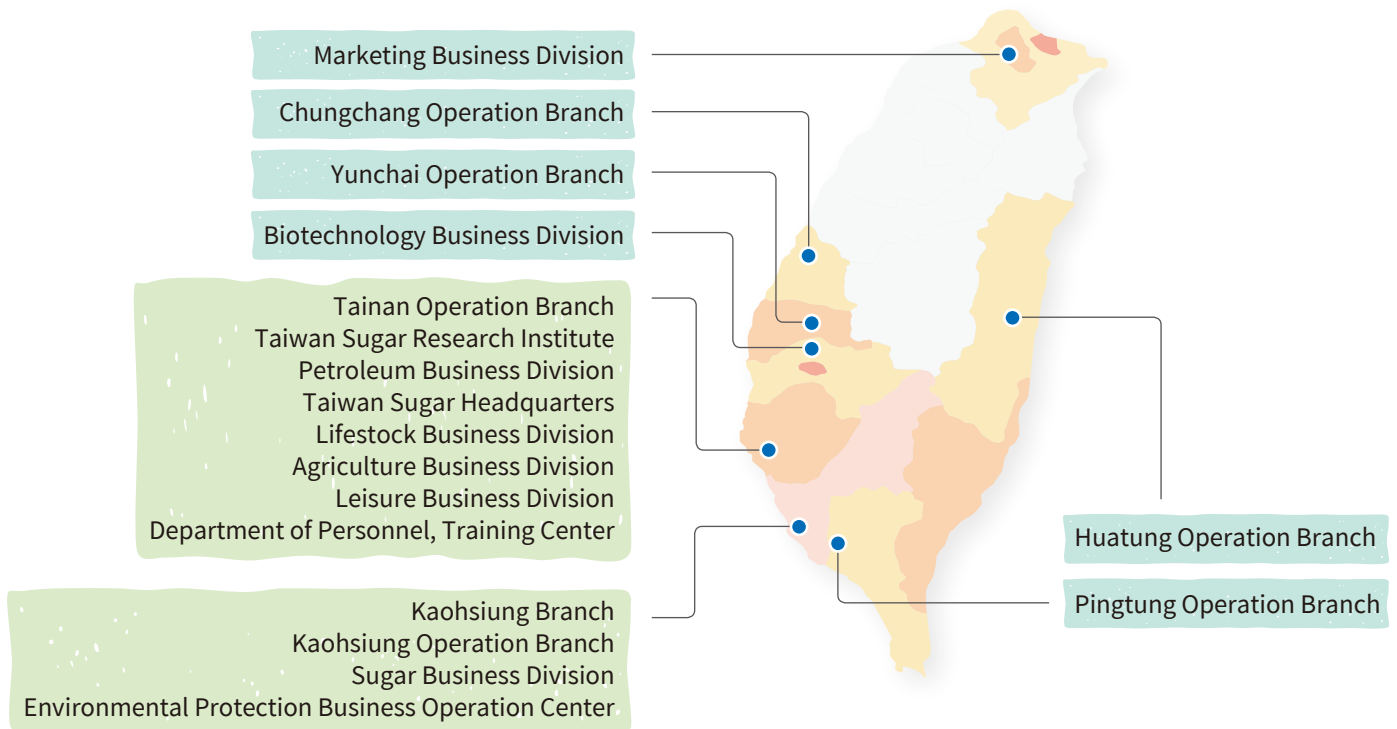
TSC has land resources and abundant experience in agricultural farming and processing. We have core technology and niches in sugar industry, pig farming and Phalaenopsis industry, and have expanded our business territory to the United States, Canada and Southeast Asia. Product sales and services are mainly in Taiwan, and only part of our pig farming and flower business are in the areas outside Taiwan.

Profile of TSC

Company name	Taiwan Sugar Corporation
Equity status / market type	State-owned enterprise under the Ministry of Economic Affairs (The government holds 96.51% of shares, private 3.49%; for related shareholding structure, please refer to TSC's 2020 Annual Report)
Establishment date	May 1, 1946
Capital	NTD 56,367 million
Total assets	NTD 657,964 million (as of December 31, 2020)
Chairman	Chao-Yih Chen
President	Kuo-Hsi Wang
Number of employees	3,288 (as of December 31, 2020)
TSC Headquarters	No. 68, Shengchan Road, East District, Tainan City



Domestic Operation Bases



► Major business scope

Business	Main business (products, services) items
Sugar Business	Refined white sugar, golden brown sugar, fine granulated sugar, refined liquid sugar, secondary processed sugar, and edible oil
Livestock Business	Hogs, feed, pork and pork products
Biotechnology	Alcohol, health care products, clam essence, beauty and skin care products and OEM products
Agriculture Business	Phalaenopsi
Leisure Business	Hotels, resorts, tourism sugar factory, leisure plaza, golf course, commercial real estate and so on
Product Marketing	Sale of TSC products, import/OEM products, bulk grains and channel operation
Petroleum Business	Gas stations and related services
Land Development	Construction, student dormitories, development of plant areas, and project development
Property Management	Land lease, establishment of superficies

Business	Main business (products, services) items
Agricultural Management	Organic crops, landscape seedlings, forage crops and miscellaneous crops, farmland lease, afforestation and tending
Environmental Protection Business	Operation of waste incineration plants, environmental testing and landfill lease
Storage and Transport Business	Logistics Center, terminal business, parking lots, transport
Green Energy	Solar PV power, biogas power generation

► Organizational Adjustment

The major organization adjustments of the company are as follows. In the future, TSC will continue to review the rationality of units, departmental organization and manpower allocation in accordance with the company's business strategies and the growth and decline of business.



Organizational Downsizing

The Circular Economy Team was merged into the Department of Planning and renamed "Circular Economy Section".

Department of Investment Business was revoked, and the Financial Management Section was merged into the Department of Accounting. The Investment Evaluation Section and Investment Management Section were merged into "Investment Business Section" and was merged into the Department of Planning.

The Beauty and Skin Care Business Center of the Biotechnology Business Division was revoked, and the Cosmetics Production Division was merged back to Dalin Biotechnology Factory and the original name of this department, "Cosmetics Division" was reverted.



Business Adjustment

To meet the needs for the operation upon the completion of the biological material plant that makes oyster shells into calcium carbonate raw materials, "Biotechnology Material Plant" was added in the Biotechnology Business Division, under which the "Production Section" and "Sales Section" have been set up.

To meet the needs for the expansion and operation of organic business, the Marketing Office and Production Management Office of the Department of Agribusiness Management were adjusted into "Production and Marketing Operations Center" and "Crops and Fertilizers Office".

► Investment

According to the transformation strategy planning, under the analysis of the investment evaluation team, we seek partners to establish cooperative relationships with the Company's advantages of land, funds, technologies and other resources and accumulate the experience of professional evaluation and investment management to foster more solid and professional capabilities.

Currently, the major fields of business TSC has invested include western medicine, livestock feed, high-speed rail, power generation, sugar, stocks of biotech companies, and biotech medical supplies. As of the end of 2020, the total investment in 17 domestic and foreign private-owned enterprises amounted to approximately NTD 5.992 billion. In the domestic market, we have invested 14 companies, including Pfizer Biotech and others, with an investment of approximately NTD 5.214 billion, accounting for 87.02%. Investment is made in 3 foreign companies, such as Vietnam-Taiwan Sugar Co., Ltd., with an investment of approximately NTD 778 million, accounting for 12.98%. We completed the investment project in Tung Sugar Energy Service Co., Ltd in 2020.

The company cooperates with the government's "Five Plus Two Industry Innovation Plan" and has been promoting the development of circular economy and renewable energy. We invested in Tung Sugar Energy Service Co., Ltd. in July, 2020, which will build a biogas center with daily processing capacity of 200 tonnes of biogas sources in Neipu, Pingtung County. Electricity is produced through biogas power generation and will be sold to Taiwan Power Company while biogas residues can be sold as raw materials for organic fertilizers. This investment not only helps the government promote the development of the supply chain of the biogas industry but also enables TSC to introduce new anaerobic digestion technology through Tung Sugar Energy Service Co., Ltd. so that we can obtain experience, technology and business model while cultivating talents, which will facilitate our future integration of businesses related to the reutilization of waste and various biogas sources.

► Key participation in organizations and associations

Name of association or professional organization	Title	The purpose of participating in the organization
Chinese National Federation of Industries-Employers' Committee	Committee member	To promote exchanges among employers' organizations, establish cooperative relationships, and increase operating efficiency.
Kaohsiung Chamber of Industry	Director	
Taichung Special Municipality Congress Union	Director	
Kaohsiung Federation of Labor Unions	Convener of the Board of Supervisors	
Taiwan-New Zealand Business Council, Chinese International Economic Cooperation Association	Committee chairman	To grasp international business conditions and to expand overseas investment opportunities
Taiwan Sugar Industry Resources and Circular Economy Technology Society	Managing director, executive director, executive supervisor, director, supervisor, convener of the finance committee	To improve sugar refinery techniques
Taiwan Sugar Association	Director, supervisor	To promote the upgrading and development of sugar industry and other related industries

Name of association or professional organization	Title	The purpose of participating in the organization
TOSHMS Southern District Promotion Society	Planning and External Relations Committee Member	To promote exchanges between excellent occupational safety units and improve international occupational safety skills
Taiwan Bio Industry Organization	Supervisor	That is related to the company's businesses and can enable the company to improve the overall interests.
Taiwan Biomass Energy Industry Association	Director, executive director, supervisor	To develop renewable energy
Taiwan Feed Industry Association	Director	For the needs of business promotion.
Chinese Society for Management of Technology	Director	To obtain new knowledge of technology management and learn from practical experience.
Tainan City Food Safety and Autonomous Management Union Association	Director	To establish a communication channel with local food companies
The Chinese Society for Training and Development	Director	Latest education and training trends, methods, technologies and experience
Taiwan Vegetable Oil Manufacturers Association	Director	To obtain information of production and sale of soybeans and vegetable oil and improve the company's vegetable oil refining technology.
The Global Logistics Council of Taiwan	Director	To enhance the Company's global logistics and logistics management knowledge and promote industrial cooperation.
Kaohsiung Commerce & Trade Development Association	Supervisor	To establish a channel for opinion exchanges in the Multi-functional Commerce & Trade Park.
Kaohsiung City Industrial Relations Association	Executive Supervisor	To improve the harmony of labor-management relations and enhance the employees' rights and interests.
Taiwan Amusement Park Association	Director	To promote tourism and leisure industry in the region and enhance services
Hualien Leisure Travel Association	Executive Supervisor	
Taichung City Gasoline Stations Operators Association	Consultant	To participate in the business meeting of association of gasoline stations to master the trend of the industry
Tainan City Gasoline Stations Operators Association	Executive Supervisor	

1.1.2 Financial Performance

For information about TSC's final report, annual report for shareholders' regular meetings and information on corporate governance, please refer to the public information section on TSC home page.



TSC has actively invested in the R&D and application of sugar as its core technology and developed the concept of diversification operations. We use existing resources and advantages to develop new businesses, research and develop new products and provide new services. In addition, internal performance evaluation indicators are set in accordance with Regulations for Performance Evaluation of State-Run Enterprises and Guidelines for Performance Evaluation of State-Run Enterprises for corporate management and performance. In 2020, with the joint efforts of all units and all employees, the total revenue reached NTD 29.913 billion, which was a 1.85% decrease compared with 2019; the total expenditure was NTD 25.346 billion, a 8.61% decrease compared with 2019; the net profit was NTD 4.567 billion, a 66.53% increase compared with 2019, this is mainly due to the increase in profits from disposal of investment property, miscellaneous income and increase in income tax benefits.

TSC's Condensed Income Statement in the Past Five Years

Unit: NT 1,000 dollars

Item/year	2018	2019	2020	The percentage of increase or decrease compared with the previous year (%)
Income				
Operating income	27,558,207	26,409,607	25,435,173	-3.69%
Other income	-	-	-	-
Non-operating income	7,184,838	4,068,084	4,478,293	10.08%
Total revenue	34,743,045	30,477,691	29,913,466	-1.85%
Expenses				
Operating cost	21,378,386	20,954,605	19,825,005	-5.39%
Operating expenses	4,146,396	4,181,489	4,130,895	-1.21%
Other expenses	16,244	28,478	109,758	285.41%
Non-operating expenses	1,965,369	2,038,405	2,224,913	9.15%
Income tax expense (benefits)	-274,243	-141,495	-944,254	567.34%
Loss (income) from discontinued operation	342,614	673,680	-	-

Unit: NT 1,000 dollars

Item/year	2018	2019	2020	The percentage of increase or decrease compared with the previous year (%)
Expenses				
Total expenses	27,574,766	27,735,162	25,346,317	-8.61%
Net income	7,168,279	2,742,529	4,567,149	66.53%
Dividend	10,146,150	3,382,050	6,200,425	83.33%
Net profit margin (%)	26.01%	10.38%	17.96%	7.57%
Earnings per share (dollar)	1.27	0.49	0.81	65.31%

Note:

1. The numbers in this table was certified by CPAs.
2. The 2020 annual income tax benefit was NT 944,254 thousand dollars mainly because the profit-seeking enterprise income tax was NT 98 thousand dollars and the benefit of land value increment tax was NT 944,352 thousand dollars.
3. The Hypermarket Business Division discontinued operations on June 17, 2019. In accordance with the International Financial Reporting Standards 5 (IFRS 5) Non-current Assets Held for Sale and Discontinued Operations, the revenue of NTD 1,125,823 thousand and the expenditure of NT 1,799,503 thousand dollars would be reclassified to NT 673,680 thousand dollars in "Loss (income) from discontinued operation"
4. The final consolidated statement of profit and loss of the current period for 2020 is NT 148,377 thousand dollars, mainly because the re-measurements of the defined benefit plans was NT -217,798 thousand dollars. The re-measurements of the defined benefit plans of associates and joint ventures accounted for using equity method was NT -10,165 thousand dollars, the unrealized valuation gains and loss from equity investment instruments measured at fair value through other comprehensive income was NT 416,768 thousand dollars, and the exchange difference converted from financial statements of foreign operation was NT -26,339 thousand dollars. The conversion difference of the financial statements of the foreign operating organizations of the associated and joint ventures accounted for using equity method was NTD -14,089 thousand.
5. The total salary and benefits for employees in 2020 was NT 4,460,660 thousand dollars.

TSC adheres to the principle of paying taxes honestly according to law, which contributes to the country's construction and development. In 2020, TSC paid a total of NT 4,161,490 thousand dollars in taxes and fees to local and central governments in Taiwan, a 1.74% decrease compared with the NT 4,235,097 thousand dollars in 2019. We will continue to focus on the steady development of the Company and create the maximum value for our shareholders.

Details of taxes and fees

Unit: NT 1,000 dollars

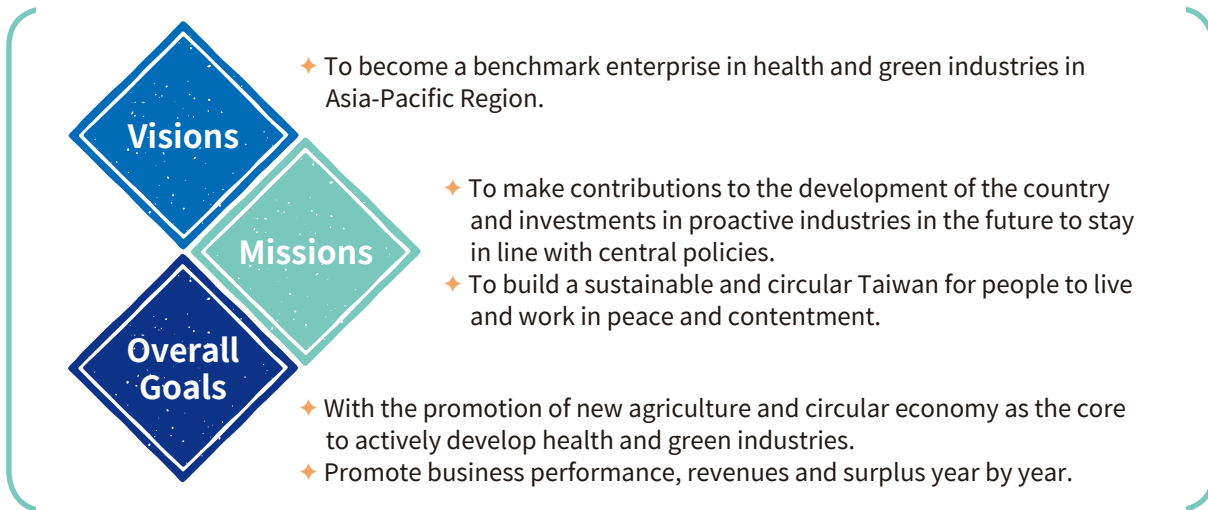
Year	Central government	Local governments	Contribution to domestic governments	Foreign governments
2018	1,643,210	2,759,801	4,403,011	6,897
2019	1,468,874	2,766,223	4,235,097	6,451
2020	1,357,418	2,804,072	4,161,490	4,307

Government financial subsidies accepted in 2020

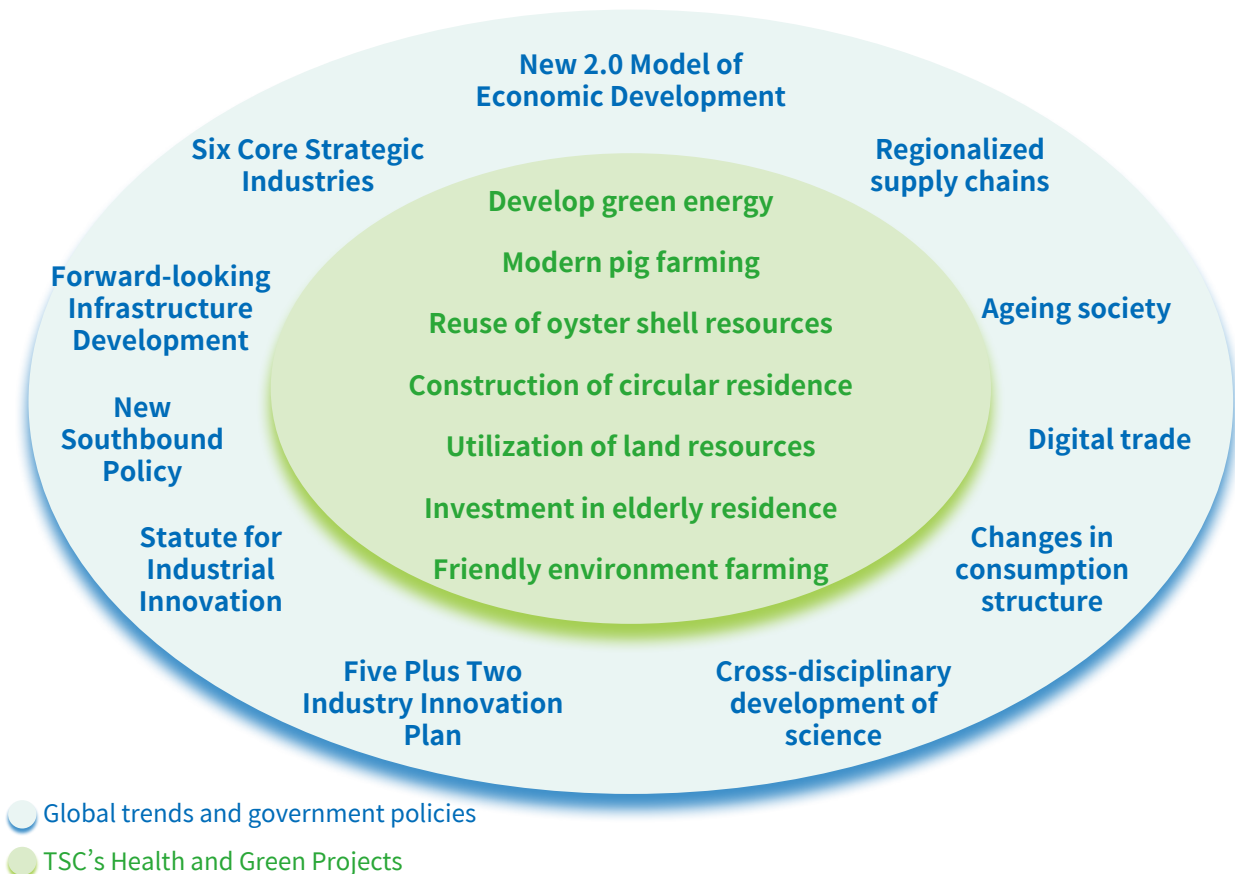
Unit: NT 1,000 dollars

Government agency	Amount	Description
Council of Agriculture, Executive Yuan	4,099	Subsidies for the "Renewal Plan for the Reduction in the Quantities of Flowers with Export Obstruction"
	10	We cooperated with the project subsidies of "Statistics of Husbandry Survey" of the Council of Agriculture, Executive Yuan
Tourism Bureau, Ministry of Traffic and Communication	4,716	Subsidies to the Tourist Hotel Industry and Hospitality Industry for necessary operating expenses
	13,247	Employees salary subsidies for Tourist Hotel Industry and Hospitality Industry
	1,289	Bailout for group tours cancellation in the Tourist Amusement Enterprise
	560	Subsidies for operations and salaries in the Tourist Amusement Enterprise
Taipei City Government	36	For unused floors of tourist hotels or hotels, the house tax will be levied at a non-residential/non-business tax rate of 2% so as to reduce the burden of house tax.
Ministry of Economic Affairs	117	Electricity bill payment relief (fund relief and revitalization measures in response to severe pneumonia with novel pathogens)

1.2 Sustainable Development Policy

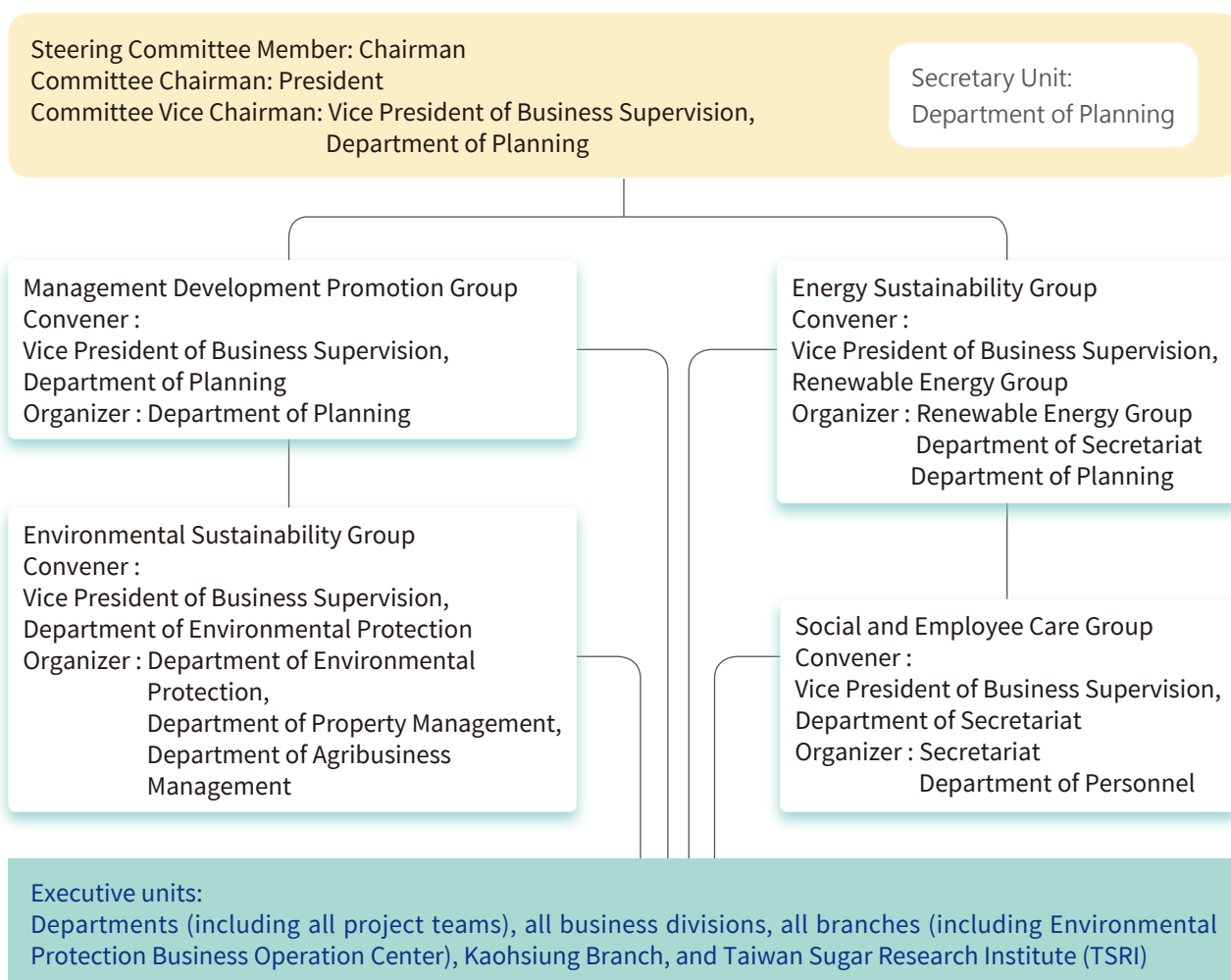


TSC has set an overall business strategy for the following 5 years and will adjust related strategies based on the review of the situation of target achievement with PDCA. In terms of the development of our businesses, TSC continues to actively cultivate talents to strengthen the physique of the corporation and improve business performance. At the same time, we also refer to government policies and the trends of industrial environment changes and base on our land resources, agricultural production and processing technology to propose directions for business transformation, upgrading and utilization of land resources with the core of being healthy and green as the main focus of the strategy for project promotion.



The “TSC Corporate Sustainable Development Committee” has been set up to establish relevant procedural documents, with the general manager serving as the chairperson and the chairman as the steering member attending committee meetings on behalf of the board of directors. In addition, it is also in charge of incorporating the corporate sustainable development into the corporate operations and development directions, setting sustainable development policies, systems or related management guidelines, and preparing annual work plans and reports of implementation results every year. In addition, future business strategies related to sustainable development are submitted to the board of directors for deliberation in November each year. Economic, environmental and social issues arising from the operation activities are handled by four working groups. The organizers of each working group will set the group’s work plan for the following year based on the execution status of the annual business and track the implementation of the plans of the current year. Department of Planning will then organize the submitted results and report them to the committee.

Organizational Structure and Task Assignments of TSC’s Corporate Sustainable Development Committee



Please visit the Corporate Sustainable Development Page to download TSC Corporate Governance Regulations.

1.3 Identification of and Communication with Stakeholders

The identification of and communication with the stakeholders are the foundation for the implementation of corporate sustainable development. TSC maintains multiple communication channels with our stakeholders and carefully listens to the stakeholders' voice. The stakeholders' needs and expectations of TSC are taken as the reference for decision making. TSC hopes to create and share the maximum possible benefits with its stakeholders in the diversification of business activities.

► Identification of Stakeholders

Corporate Sustainable Development Committee and executives in all departments held internal discussions and with the reference to stakeholder groups identified by the same trade. Based on the criteria of AA1000 Stakeholder Engagement Standards (AA1000SES) for the scoring and prioritization of the stakeholders, seven categories of stakeholders were finally identified, including shareholders, employees, consumers/clients, raw material suppliers/contractors/agents, government agencies/elected representatives, media, and community residents.



► Communications with Stakeholders

TSC takes the initiatives to communicate with our stakeholders through our official website, trade union, related meetings, Annual Report, TSC Communication, internal publications, CSR questionnaire, customer services and other channels to understand the stakeholders' issues of concern. In addition, through the coordination and communication among internal departments and

TSC's Communication Channels with its Stakeholders

Stakeholders	Significance of Stakeholders	Issues of Concern
 Shareholders	In the stakeholder structure, government agencies hold 96.51% of shares. They focus on TSC's operating performance, corporate governance and sustainable development.	- Integrity Management - Marketing and Labeling - Providing land for urban planning - Indirect Economic Impacts - Anti-corruption - Effluents and Waste
 Employees	We regard our employees as the Company's most important assets and the cornerstone of our growth. Therefore, we value our employees' opinions and hope to create a workplace for them to enjoy work and life.	- Labor/ Management Relations - Socioeconomic Compliance - Education and Training - Occupational Health and Safety - Customer Health and Safety
 Consumers/clients	As a state-owned enterprise, the products and services TSC provides should be the model and example for the domestic food industry, and we also play a leading role in food safety in particular. Therefore, the recognition and advice given by our consumers/clients are the driving force for our continuous efforts and growth.	- Customer Privacy - Customer Health and Safety - Marketing and Labeling - Socioeconomic Compliance - Effluents and Waste

units and based on our previous experience cooperating with our stakeholders, we set a SOP of PDCA (Plan-Do-Check-Act) to make prompt responses based on the sensitivity and level of impact of the nature of issues.



Communication Channels	Frequency	Communication Effectiveness in 2020
CSR questionnaire survey	Annually	One shareholders' meeting was held. The shareholders expressed their opinions fully in the meeting and these opinions were included in the meeting minutes. The remarks made by the shareholders regarding the provisional motion at the general shareholders' meeting were replied to the individual shareholders in letters.
Shareholders' meeting	Annually	
Annual report/financial report	Regularly	
Official document exchanges	Occasionally	
TSC official website	Instantly	
External communication mailbox	Instantly	
CSR questionnaire survey	Annually	In order for smooth labor-management communication, all the units held a total of 72 labor-management meetings during 2020, and the labor-management relationship is harmonious. The meeting of the Federation of Trade Union Confederation is held annually. The Employee Welfare Association provides various welfare measures for the employees and their family dependents. The satisfaction survey score was 71.6 points in 2020 employee satisfaction survey.
Taiwan Sugar Communication	Monthly	
Official document exchanges	Occasionally	
TSC official website	Instantly	
Opinion exchange platform	Instantly	
Trade Union Confederation Congress	Annually	
Labor-Management Meeting	Quarterly	
Employee Welfare Association	Occasionally	
Employee satisfaction survey	Annually	
CSR questionnaire survey	Annually	The Customer Complaint Mailbox is set up to handle customers' inquiries, suggestions and complaints. In 2020, a total of 504 inquiries and 8,012 phone calls were received. All the consumers' opinions were responded appropriately to solve the consumers' problems.
Customer complaint mailbox	Instantly	
Customer Service — Hotline	Instantly	
TSC official website	Instantly	
FB TSC Fanpage	Instantly	
Customer satisfaction survey	Annually	
Service desk at operation branches	Instantly	
External communication mailbox	Instantly	

Stakeholders	Significance of Stakeholders	Issues of Concern
 Raw material suppliers/contractors/agents	We attach great importance to the quality of raw materials and labor services our distribution partners provide. We cooperate with our partners in an impartial, open and fair manner to achieve the goals of benefits sharing and sustainable development.	Marketing and Labeling Customer Health and Safety Socioeconomic Compliance Supplier Environmental Assessment Environmental Compliance
 Government agencies/elected representatives	As a state-run business, opinions or inquiries expressed by the government agencies/elected representatives are the driving force for our continuous growth, and they are also the keys to our operating performance and sustainable development.	Socioeconomic Compliance Environmental Compliance Effluents and Waste Customer Privacy Circular Economy
 Media	As a state-run business, we attach great importance to the interaction with the media. If there are important events related to the Company, we respond promptly to the media to maintain and enhance the Company's image.	Labor/Management Relations Emissions Local Communities Employee Diversity and Equal Opportunity Economic Performance
 Community residents	We are committed to maintaining community relations. Through communication and interaction with community residents, we can understand the residents' issues of concern and establish a harmonious relationship.	Effluents and Waste Customer Privacy Sustainable Food Socioeconomic Compliance Environmental Compliance

Communication Channels	Frequency	Communication Effectiveness in 2020
CSR questionnaire survey	Annually	All the purchases were made in accordance with the Government Procurement Act, and there were no incidents of corruption. We conducted 21 irregular supplier audits.
CSR questionnaire survey	Occasionally	
Supplier Evaluation Questionnaire	Annually	
TSC official website	Instantly	
External communication mailbox	Instantly	
Agents meeting	Quarterly	
Face to face communication	Occasionally	
Purchase/ Distribution contract	Contract period	
Corporate governance evaluation	Annually	The government agencies or elected representatives care about the major issues of TSC, and in 2020, there were 322 times of official document exchanges, 240 discussion meetings with relevant government agencies, and we responded to the elected representatives' opinions promptly.
Field inspection of work performance	Annually	
CSR questionnaire survey	Annually	
TSC official website	Instantly	
Official document exchanges	Occasionally	
Discussion meetings	Occasionally	
External communication mailbox	Instantly	All sectors of the society are concerned about major issues of TSC. We respond immediately to the media and hold press conferences for major issues. In 2020, we held press conferences and released press releases 47 times, with a total of 7,050 SMS notifications.
CSR questionnaire survey	Annually	
TSC official website	Instantly	
Press conferences	Occasionally	
External communication mailbox	Instantly	
SMS notifications	Occasionally	
New product presentation	Occasionally	TSC maintains a harmonious relationship with its neighboring communities and maintains the community environment with its neighbors. In 2020, TSC held a total of 149 neighborly activities.
CSR questionnaire survey	Annually	
TSC official website	Instantly	
External communication mailbox	Instantly	
Visiting the neighborhood	Occasionally	
Reaction through elected representatives	Occasionally	
On-site communication of person in charge	Occasionally	

1.4 Material Topics of Sustainable Development

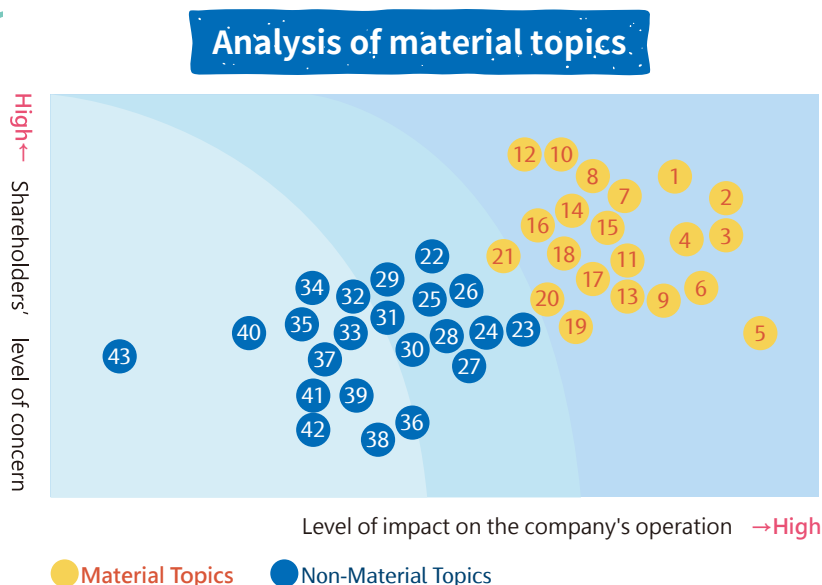
1.4.1 Identification of Material Topics

To enable the information disclosed in the CSR Report to meet the needs of the stakeholders, the major topics of sustainability were decided through “identification of stakeholders”, “collection of sustainability topics”, “topic analysis”, “identification of materiality” and “review and discussion”.

- (1) Through internal discussions and with the reference to stakeholder groups identified by the same trade, a total of 7 major categories of stakeholders were identified based on the AA1000 SES (Stakeholder Engagement Standards).
- (2) Collection of topics was conducted with the considerations of the context of sustainability and based on GRI Standards, Food Process Sector Supplement and SDGs, and a total of 43 topics were summarized and were used for the questionnaire design. The content of topics includes data in corporate governance, economic, environmental and social aspects.
- (3) TSC used questionnaire survey for stakeholders’ level of concern (which affects stakeholders’ evaluation and decision making) and the impact on the company’s sustainable management (significant impacts on economy, environment and society) as the reference for topic prioritization. A total of 611 copies of questionnaire were recovered.
- (4) Through questionnaire analysis and discussions, 21 material topics were identified and the DMAs were also disclosed.
- (5) For the material topics, the value chain was used as the element for boundary analysis, and relevant information will be disclosed in this Report.

► Identification of Material Topics

This year through the stakeholder questionnaire analysis and internal identification and discussions, a total of 21 material topics were identified. Compared with the CSR Report issued in the previous year, Integrity Management has been integrated into Corporate Governance.



Prioritization of Material Topics

1 Customer Health and Safety	11 Healthy and Reasonably Priced Food	21 Emissions	31 Biodiversity	41 Indigenous Rights
2 Sustainable Food	12 Socioeconomic Compliance	22 Economic Performance	32 Forced and Compulsory Labor	42 Security Practices
3 Innovative Research	13 Waste (2020)	23 Anti-corruption	33 Market Presence	43 Public Policy
4 Environmental Compliance	14 Labor/ Management Relations	24 Education and Training	34 Supplier Social Assessment	
5 Corporate Governance	15 Local Communities	25 Employment and Labor Relations	35 Freedom of Association and Collective Bargaining	
6 Providing land for urban planning	16 Cultural Assets	26 Animal Welfare	36 Tax	
7 Occupational Health and Safety (2018)	17 Indirect Economic Impacts	27 Raw Materials	37 Human Rights Assessment	
8 Marketing and Labeling	18 Energy	28 Supplier Environmental Assessment	38 Anti-competitive Behavior	
9 Customer Privacy	19 Climate Action	29 Employee Diversity and Equal Opportunity	39 Procurement Practices	
10 Circular Economy	20 Water and Effluents (2018)	30 Non-discrimination	40 Child Labor	



1.4.2 The Value Chain Boundary of Material Topics

After analysis, the material topics in the 2021 include five aspects, “Governance and Risk Management”, “Core Values”, “Green Production”, “Human Resources”, and “Social Inclusion”, and the value chain was used as the element for the boundary analysis. In the future, TSC will continue to strengthen management, and relevant information will be disclosed in the CSR Report.

Sustainability Aspects (Corresponding Chapter and Section)	Corresponding GRI Standards/ TSC’s Sustainability Topics	TSC Value Chain Impact Boundary	Page
Governance and Risk Management (Chapter 2)	Corporate Governance, Climate Action, Socioeconomic Compliance(307), Customer Privacy(418)	TSC (direct impact), consumers/clients (business behavior impact), raw material suppliers/ contractors/ agents (business behavior impact)	34
Core Values (Chapter 3)	Innovative Research, Indirect Economic Impact (203), Customer Health and Safety (416), Healthy and Reasonably Priced Food, Sustainable Food, Providing land for urban planning, Marketing and Labeling (417)	TSC (direct impact), raw material suppliers/ contractors/ agents (business behavior impact)	46
Green Production (Chapter 4)	Energy(302), Water and Effluents (303) 、 Emissions(305),Waste(306), Environmental Compliance(307), Circular Economy	TSC (direct impact), community residents (direct impact)	64
Human Resources (Chapter 5)	Labor/Management Relations(402), Occupational Health and Safety(403)	TSC (direct impact), Community residents (direct impact)	80
Social Inclusion (Chapter 6)	Cultural Assets, Local Communities(413)	TSC (direct impact), raw material suppliers/ contractors/ agents (contributing to impact) Community residents (direct impact)	96





Governance and Risk Management

2.1 Corporate Governance

2.2 Implementation of Integrity Management

2.3 Implementation of Sustainable Governance

TSC's main operations are in sugar industry. However, in recent years, climate change has caused extreme weather conditions and affected TSC's operations and the supply of raw materials. Therefore, Taiwan Sugar actively engages in transformation, working toward reaching the goal of becoming a benchmark enterprise in the health and green industry in the Asia-Pacific region to maintain the capability of the organization to operate sustainably. In addition, as a state-owned enterprise, TSC upholds the principle of integrity management, complies with relevant rules and regulations and strengthens corporate governance to control potential risks that could have impact on operations.



Corresponding material topics

Corporate Governance, Climate Action, Socioeconomic Compliance, Customer Privacy

Policy

- ◆ Promoting circular economy (Climate Action)
- ◆ Strengthening corporate governance (Corporate Governance, Socioeconomic Compliance)
- ◆ Performing comprehensive risk management (Customer Privacy)

➤ Short-term goals (within 3 years):

1. To develop renewable energy and promote circular economy
2. Continue to improve the corporate governance system and improve the transparency of financial performance information
3. Compliance with various economic and social regulations
4. No incidents of infringement of customer privacy rights and loss of customer data

Commitments and goals

➤ Medium and long-term goals (3 to 7 years):

1. Zero fines
2. To become a benchmark enterprise in the health and green industry
3. To protect shareholders' rights, strengthen the functions of the board of directors, bring out the functions of a functional committee, respect the interests of stakeholders, and ensure sustainable development of the company with integrity management
4. To complete the implementation of TSC's Future Business Strategies 2022~2025

Responsible units

- ◆ Business Development Promotion Group of the Corporate Sustainable Development Committee
- ◆ Board of Directors
- ◆ Department of Planning
- ◆ Department of Secretariat
- ◆ Legal Affairs
- ◆ Department of Information

Input resources

- ◆ Costs for holding training courses related to corporate governance for directors
- ◆ Entrusted external units to conduct corporate governance evaluation
- ◆ Continuous evaluation and expansion of solar PV
- ◆ Overall renovation project of modern livestock housing (including solar PV and biogas power)

Recourse mechanism

Audit Committee Mailbox, the Corruption Report Channel of TSC's Department of Ethics, Customer Service Hotline, Key Points for the Implementation of the Confidentiality of Reported Cases, Customer Service Email Box, TSC Facebook Fan Page

Management System and Action

- ◆ Future Business Strategy, Responsibility Center System, Internal Control System, Practice Principles for Corporate Sustainable Development, Guidelines for Risk Assessment, Guidelines for Reinvestment Projects, Guidelines for Investment, Guidelines for Evaluation of Appointed Concurrent Directors and Supervisors (committee members) of Investment Business and Corporation, Guidelines for Endorsements
- ◆ Code of Ethical Conduct, Guidelines for Risk Assessment, Code of Practice for Corporate Governance, Practice Principles for Corporate Sustainable Development, Audit Committee Charter, Guidelines for the Process of Preparing Financial Statements, Guidelines for Board of Directors Performance Evaluation, Study Plan for Directors, Principles of Risk Management and Crisis Management at TSC, Guidelines for TSC Personal Data Protection Management, and Personal Data Protection Operation Manual

Assessment management mechanism

Internal Control System, TSC Performance Assessment System, Corporate Sustainable Development Committee Work Plan and Implementation Review Meeting, Guidelines for the Evaluation of the TSC's Board of Directors, Evaluation Index of Corporate Governance System of State-owned Enterprises



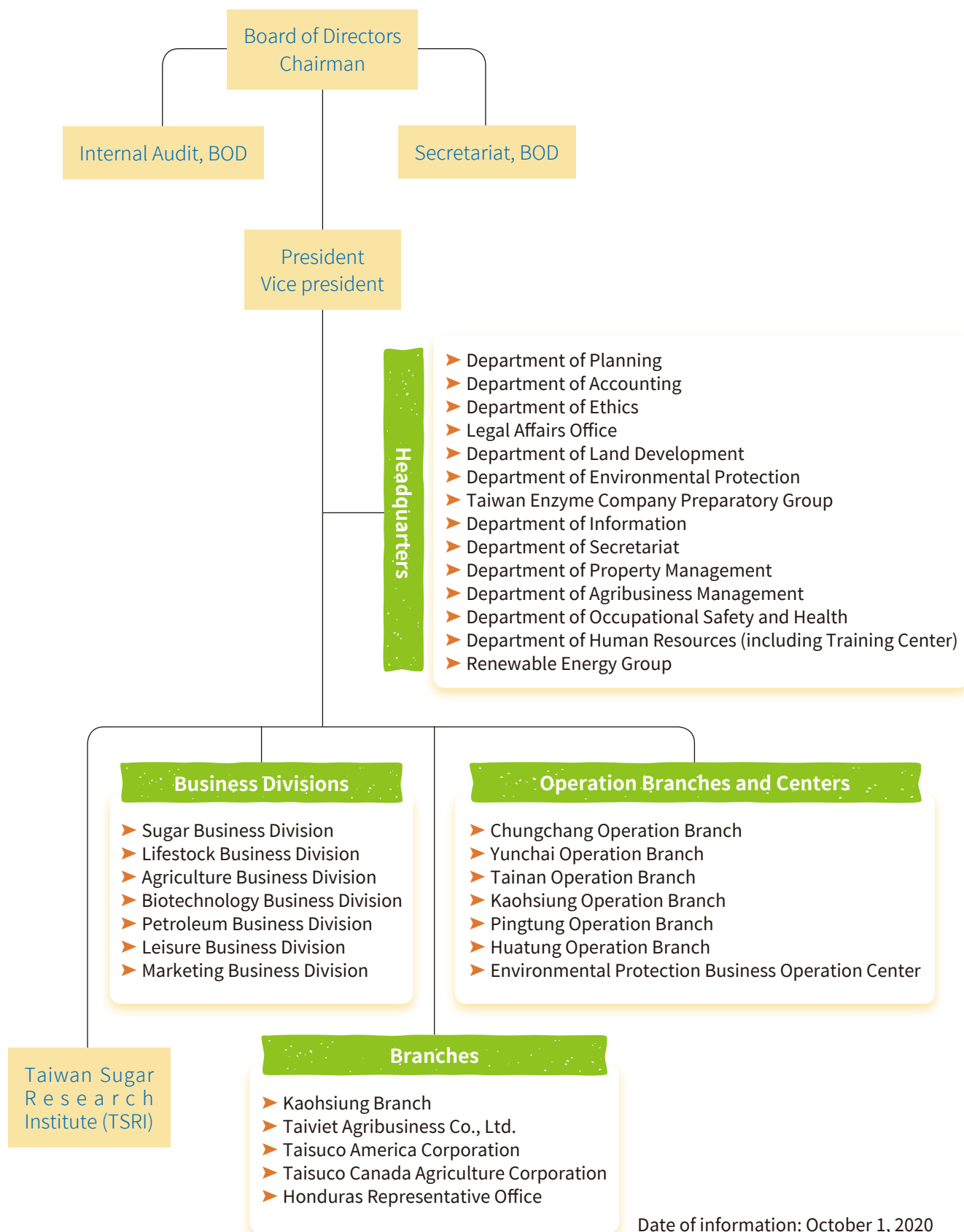
2.1 Corporate Governance

2.1.1 Board of Director Structure

The Board of Directors is the Company's highest governance body. The chairman is also the chairman of the shareholders' meeting and the board of directors and not a member of the management team. The president and the vice presidents assist the chairman. The chairman upholds the resolutions of the board of directors for the overall management of the company's business. The vice presidents assist the president according to the division of business. The concept of corporate governance at TSC is implemented from top to bottom. All the important business decisions are implemented based on the resolutions of the board of directors.

The board of directors has 15 directors elected by the shareholders' meeting according to the law. 3 independent directors are set up among the directors, adopting a nomination system for candidates. The independent directors are elected by the shareholders' meeting from the list of candidates. The term of office of directors is 2 years according to the Articles of Incorporation. A total of 15 members of the 34th session of the board of directors (including independent directors) were elected in the shareholders' meeting convened on June 11, 2020. There are 4 female directors, 2 members more compared with the number of female directors of the 33rd session; there is also 1 female director among the 3 independent directors. All directors are required to sign the "Consent to Act as Director" and abide by the Company Act and shall have the loyalty and shall exercise the due care of a good administrator in conducting the business operation of the company. Under the Board of Directors, there are two functional committees, the Business Investment Committee and the Land Resources Committee.

Organizational Structure of TSC



Basic information of the BOD members (34rd session) in 2020

Title	Name	Current Position	Education
Chairman	Chao- Yih Chen	Chairman of Taiwan Sugar Corporation	Ph.D. in Agricultural Chemistry, National Taiwan University
Director	Kuo-Hsi Wang	President of Taiwan Sugar Corporation	Ph.D. in Agricultural Chemistry, National Taiwan University
Independent Director	Chung-Fern Wu	Professor of Accounting Department, College of Management, National Taiwan University	Ph.D. in UCLA Anderson Graduate School of Management
Independent Director	Suen- Zone Lee	Chair Professor of CNU	PhD in Environmental Engineering, University of Delaware, USA
Independent Director	Yuan-Shyang Lin	Partner attorney of Alliance International Law Offices	LL.B, LL.M, and Ph.D. of Fu Jen Catholic University, School of Law
Director	Junne- Jih Chen	Deputy Minister, Council of Agriculture, Executive Yuan	Ph.D. in Department of Agronomy, National Chung Hsing University
Director	Mao- Xiang Su	Deputy Director of Agriculture and Food Agency, COA, Executive Yuan	Master's degree of Agricultural Economics Research Institute, National Chung Hsing University
Director	Yuh-Show Cheng	Researcher of Dept. of Economic Research, Central Bank	Graduated from Department of Statistics, National Chengchi University
Director	Shu-Tzu Chen	Director of Department of Budget, Accounting and Statistics, Tainan City Government	Graduate from Department of Political Science, Graduate Program of Political Economy

Date of information: December 31, 2020

Experience	Attendance rate in 2020 (13 BOD meetings)
Chairman of Automotive Research & Testing Center Honorary Chair Professor, China University of Science and Technology Chairman of Taiwan Sugar Corporation CEO of Sinotech Engineering Consultants, Inc. Vice Chairperson of State-owned Enterprise Commission Director of Industrial Development Bureau, MOEA Executive Secretary of Energy Commission Director General of Department of Industrial Technology Deputy Director of Council for Economic Planning and Development, Executive Yuan	100%
Vice President of Taiwan Sugar Corporation; Director of Taiwan Sugar Research Institute (TSRI); Deputy CEO and Acting CEO of Biotechnology Business Division	100%
Full-time Commissioner of Financial Supervisory Commission, Executive Yuan; Associate Professor of Accounting Department, National Taiwan University	100%
President of Chia Nan University of Pharmacy & Science Vice president of CNC (Dean of School of Environment) (Chief, Taiwan Hot Spring Research Center) (Professor) (Associate Professor)	100%
Attorney and Partner Attorney of Alliance International Law Offices; Adjunct Assistant Professor of Dept. of Law & Dept of Financial and Economic Law, Fu Jen Catholic University; Attorney of Taiwan International Patent & Law Office	100%
Deputy Director and Director of Taiwan Agricultural Research Institute, Council of Agriculture, Executive Yuan Researcher and Head and Researcher and Deputy Director of Taiwan Seed Improvement and Propagation Station, Council of Agriculture	100%
Technical Specialist and Chief of Dept. of Agriculture and Forestry, Taiwan Provincial Government, Section Chief, Deputy Head, Head, Director of the East Branch and Director Secretary of Agriculture and Food Agency, COA, Executive Yuan	100%
Dept. of Economic Research, Central Bank; Dept. of Banking, Central Bank	92%
Director with selected appointment rank under office level of 11 of the Department of Budget, Accounting and Statistics, Tainan City Government (before the merger); Division Chief with recommended appointment under office level of 9 of the Directorate-General of Budget, Accounting and Statistics, Executive Yuan; Division Chief with recommended appointment under office level of 9 of National Policy Agency, Ministry of Interior; Supervisor with recommended appointment under office level of 9 of Taiwan Provincial Police Administration; Inspector, Sub-division Chief, and Section Assistant of Bureau of Accounting & Statistics, Provincial Government of Taiwan; Tax Personnel with ordinary appointment under office level of 5 of Revenue Service Office, Taipei County; Accounting and Statistics Officer with ordinary appointment under office level of 5 of Er Chong Elementary School, Taipei County	88%

Basic information of the BOD members (34rd session) in 2020

Title	Name	Current Position	Education
Director	Yi-The Lee	Director, Department of Urban and Rural Development of Pingtung County Government	PhD in Architecture, Urban Design and Spatial Planning in University of Leuven
Director	Ming-Fang Chang	Senior Technical Specialist in the Vice Premier Office, Executive Yuan	Graduate School of Urban Planning, National Chung Hsing University
Labor Director	Jin- Zhou Lin	Property Officer of Rende Assets Division of TSC's Tainan Operation Branch	National Yujing Senior Vocational School of Technology and Commerce
Labor Director	Xian- Tang Tian	Property Officer of TSC's Chungchang Operation Branch	Shu-Te Institute of Technology
Labor Director	Yu-Fa Lin	Planning specialist of TSC's Huatung Operation Branch	Department of Accounting, Open College Affiliated with National Taipei University of Business
Director (Civilian Shareholder)	He-Ling Lin	Director of TSC	Dept. of Business Administration, Ritsumeikan University

Please refer to 2021 Annual Report to General Meeting (data of the year 2020) for relevant personnel changes of the board of directors.



Please refer to the special sections of Corporate Governance for the Proceedings of Board of Directors and Corporate Sustainability Development for the responsibilities, functions & powers of the functional committees of BOD.



Corporate Governance for the Proceedings of Board of Directors



TSC CSR official website



Date of information: December 31, 2020

Experience	Attendance rate in 2020 (13 BOD meetings)
Director of Economic Development Bureau, Kaohsiung City Government Director of Urban Development Bureau, Kaohsiung City Government Chief Secretary of Urban Development Bureau, Kaohsiung City Government	100%
Senior Technical Specialist of MOEA; Section Chief of National Development Council; Technical Specialist of the original Council for Economic Planning and Development; Temporary Transferred Specialist of Dept. of Economics, Energy and Agriculture; Technical Specialist & Assistant Technical Specialist of Industrial Development Bureau, MOEA	100%
Executive Director of TSC Trade Union Confederation	100%
Labor Director, Executive Director, Director, Supervisor of TSC Trade Union Confederation	100%
Labor Director and President of TSC Trade Union Confederation	100%
Person in charge of Hong Yu Development Construction Co. Ltd.	100%

► Directors' Training

In addition to having solid and rich experience in related matters, the directors choose to participate in the training related to corporate governance topics such as finance, risk management, business, commerce, accounting, law or corporate social responsibility as for the scope outside the directors' professional capabilities. The number of training hours were arranged in accordance with the "Directions for the Implementation of Continuing Education for Directors and Supervisors of TWSE Listed and TPEX Listed Companies". The "Continuing Education Plan for Directors of TSC" was developed in April 2016. New directors in the year of the appointment should accept the training for 12 hours. It is advisable for those who are reappointed to accept the training for 6 hours in compliance with the regulations. In 2020, 15 directors of the company participated for training. The number of training hours totaled 150 hours and the average number of training hours per person was 10 hours.

In order to enable each director to understand and improve the professional knowledge related to the company's various industrial environments, the managerial department is arranged to report to the board of directors the changes of each industrial environment.

► Avoidance of Conflict of Interest

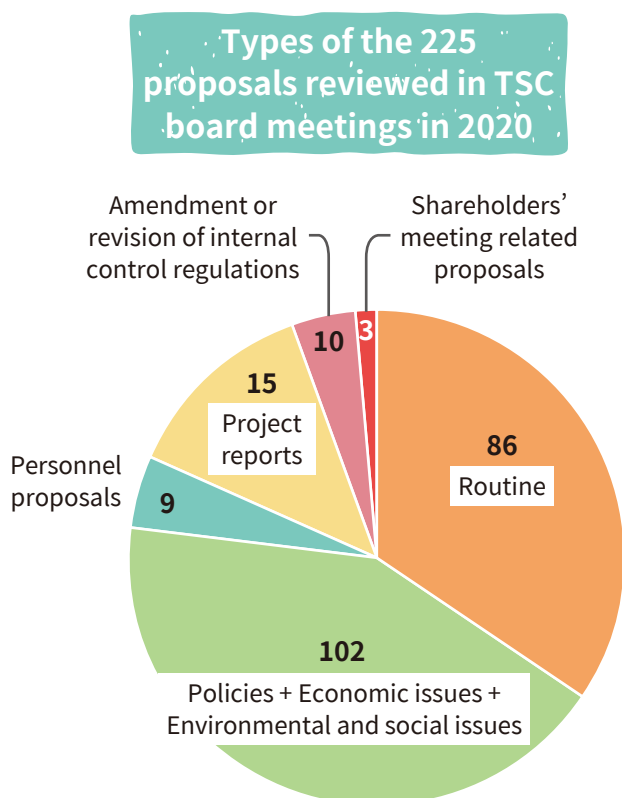
The Article 7.4.15 of “Directions for the Operation and Management of Board Meetings” stipulates that “For any proposal in which a Director or the legal person he or she represents is an interested party, the Director shall explain the important aspects of his/her interest at the Board meeting. When his/her interest is likely to compromise the interest of the Company, the Director shall not participate in the discussion and voting on the proposal and the Director shall abstain himself or herself from discussion and voting on the proposal and cannot exercise the voting right for and on behalf of another Director. Where the spouse, a blood relative within the second degree of kinship of a director, or any company which has a controlling or subordinate relation with a director has interests in the matters under discussion in the meeting of the preceding paragraph, such director shall be deemed to have a personal interest in the matter”. The notices of Board and committee meetings are all added with matters of avoidance of conflict of interest. For 2020 BOD resolutions, directors who have an interest in the matters of the agenda items shall evade themselves in accordance with the company’s regulations governing internal control.

When members of TSC deal with suppliers, investors, creditors, competitors and accountants, a supervision mechanism for the implementation of integrity and ethical values has been established. The Company has an internal control system of “Management of related party transactions” as the supervision mechanism to control the behavior of related parties. Transactions with related parties are all handled in accordance with the main points of the provisions and matters of major transactions are disclosed in the notes in the financial statements.

2.1.2 Performance Evaluation

► Agenda Review

The Company’s board of directors convenes a monthly meeting to review relevant information prepared by the management of the relevant departments. In 2020, a total of 13 board meetings were held (the average attendance of directors was 98.53%). The personnel of the relevant departments attended the board meetings to make explanatory statements depending on the details of the meeting agenda, enabling sufficient time and opportunities for explanation and communication with the board. The Board of Directors reviewed a total of 225 cases, included 102 cases concerning policies, economic, environmental and social issues.



Economic, environmental and social issues generated from the operating activities are handled by the senior management authorized by the board of directors. When necessary, the handling situation will be reported to the board of directors. For the resolutions of the board meetings, the monthly follow-up report is reported and for those cases that are not closed, quarterly follow-up reports will be made and reported to the board meeting.



► Directors' Remuneration

TSC is a state-owned enterprise. The remuneration of the directors is paid according to Paragraph 2, Article 15 of the Articles of Incorporation, "Standards for Remuneration of Directors and Managers Determined by the Competent Authority." Therefore, the "Remuneration Committee" is not set up.

In addition to the independent director's monthly payment of concurrent serving of NT 30,000 dollars, the remainders are all paid in accordance with the "List of Monthly Payment of the Directors and Supervisors of the Ministry of Economic Affairs". The salary and bonuses of the chairman, president and vice presidents are paid according to the "Guidelines for the Management of Employment Expenses of the Business Units Affiliated with the MOEA", and there are no other additional remuneration or bonuses.

► Board Assessment

As a state-owned enterprise and not a TWSE/TPEX listed company, the evaluation of corporate governance performance of TSC does not apply to the Corporate Governance Evaluation Index announced by Securities & Futures Institute. However, MOEA has selected an external impartial unit for the annual evaluation of the corporate governance effectiveness of business units affiliated with the MOEA in recent years. In 2020, the State-owned Enterprise Commission of MOEA entrusted National Taipei University of Technology to conduct evaluation of the corporate governance system based on the OECD Guidelines on Corporate Governance of State-Owned Enterprises. In addition, corporate governance evaluation items incorporated with 9 major aspects, including the Responsibilities of BOD of State-owned Enterprise were formulated in 2020 by referring to the Executive Yuan's Policy Agenda and Action Plan to Strengthen Corporate Governance. The evaluation includes 60% of written documents review and 40% on-site visits. The suggestions in the report are used as a reference for the company's corporate governance system and operational performance evaluation.

Annual self-assessment and evaluation are carried out for the chairman and president according to the "Regulations for Performance Evaluation of State-Run Enterprises" and "Guidelines for the Evaluation of the TSC's Board of Directors". The assessment of the remaining independent directors and directors is carried out according to the "Guidelines for Appointment of Directors and Supervisors and Other Important Duties by Ministry of Economic Affairs and its Affiliates". The results of self-assessment and evaluation of the board members are submitted to the Board of Directors at the beginning of each year to enhance the effectiveness and efficiency of the Board.

2.2 Implementation of Integrity Management

2.2.1 Internal Control Management

In order to strengthen corporate governance and promote the Company's sound operations, TSC has developed "The Internal Control System of TSC", the document regarding "the Responsibility of the Board of Directors and Managers" as well as complete documents regarding internal control system, which can be followed by all units. In 2020, 38 internal control documents were revised and 36 internal control documents were abolished. The implementation of the internal control system is also included in the annual performance assessment to promote the self-management and implement self-monitoring mechanism by all units.

In addition, to ensure the confidentiality of reported cases to encourage employees or the public to report illegality or misconduct for timely prevention and to urge improvement of the deficiencies of relevant units for the effectiveness of enhancing advantages and preventing abuses, the "Key Points for the Implementation of the Confidentiality of Reported Cases" was set up in 2020 to establish the basis for operation procedure for each unit to handle the confidentiality of the reported cases. The reported cases shall be handled in a confidential, legal, reasonable, fast and accurate manner for prudent handling.

In accordance with the "Regulations Governing Establishment of Internal Control Systems by Public Companies" revised and promulgated by the Financial Supervisory Commission of the Executive Yuan, we formulated the "Guidelines for Internal Audit Practices" to specify the professional ethics, responsibilities and operating procedures for the internal audit staff. The Internal Audit, BOD completed the in-field audit on 25 units. In addition to notifying the audited unit in written form for improvement, the report was delivered to independent directors for further audit in accordance with the laws and regulations. At the same time, the Inspector General attended the board meetings and reported auditing affairs.

► Integrity and Eradication of Fouls

All TSC employees abide by the "Ministry of Economics Employee Integrity and Ethics Rules" to facilitate integrity governance. We have developed "Codes of Ethical Conduct of TSC", which applies to TSC personnel, including directors (including independent directors) and managers (including the president, vice presidents and directors of various units). In addition, "Employees Normal-Time and Project Evaluation Guidelines", "Working Rules for Practitioners", "Service Guidelines for Practitioner" and "Practice Guidelines for Corporate Governance" are stipulated. We allow practitioners to understand the company's code of conduct by the internal network, posting propaganda of laws and announcements and implementing education and training.

The Company regularly reviews anti-corruption risks to promote what is beneficial and abolish what is harmful. The Administration Office and various units under it held a total of 17 integrity reports. In addition, an ethics unit was established in accordance with the "Act of the Establishment and Management of the Government Employee Ethics Units and Officers" while various reporting channels, such as fax, a dedicated mail box for reporting and reporting hotline were also established for the public to report or make grievance, and the above information will be disclosed in the bidding notice and the official website of Taiwan Sugar Corporation.

Reporting email: ethics@taisugar.com.tw
 Reporting mailbox: Mailbox No. 20-210, Datong Rd.
 Post Office, Tainan 70263
 Reporting hotline: 06-3378682
 Reporting fax number: 06-3378519

External donations or sponsorships are handled in accordance with relevant laws and regulations and internal regulations to prevent the incident of offering or accepting a bribe and illegal political contributions. In 2020, TSC did not engage in any public policy lobbying or political donation and was not involved in any legal actions related to anti-competitive behavior, anti-trust and monopolistic conduct.

► Anti-corruption Risk Assessment and Education

In 2020, Department of Ethics conducted a corruption-related risk assessment for 18 units under it, which accounted for 100% of the Company's total number of business locations. According to the risk report, there were no major corruption-risk cases in 2020.

In order to publicize anti-corruption policies and related procedures, the Department of Ethics and Ethics Offices of all units involved enabled the Company's employees to understand relevant anti-corruption regulations and make anti-corruption efforts by multi-advocacy methods such as organizing the relevant anti-corruption education and training, holding a workshop of manufacturers, inviting experts and scholars to give special lectures, issuing and disseminating documents and using electronic information equipment for the internet advocacy and questionnaire surveys.

In 2020, Department of Ethics organized a total of 15 sessions of anti-corruption training and advocacy exercises. The number of employees participated totaled 561 employees. In addition, the anti-corruption policy advocacy and training was carried out for employees of the Company and its subordinate units through text, e-mail, and videos to make sure that 100% of employees participated in training classes.

The Department of Ethics and its Ethics Offices established the "TSC Agricultural Circulation Pig Farms Renovation Project- Implementation Plan of Anti-corruption Platform" for our business partners. In 2020, we organized a policy advocacy & workshop with our vendors concerning the Anti-corruption Platform of the Agricultural Circulation Pig Farms Renovation Project, and we invited a prosecutor from Tainan District Prosecutors Office to deliver a speech on "Win-Win Government Procurement", followed by the workshop with the vendors chaired by the CEO of Livestock Business Division to gather opinions and ideas so as to facilitate the improvement of the pig farm renovation business in the future. Representatives from all cooperating vendors were invited to the lecture of the anti-corruption platform policy. In addition, when handling various types of procurement tenders, the anti-corruption policies and reporting channels are also described in the contractual bidding instructions for the bidders to know. We have fully notified all our business partners of anti-corruption policies.



Policy
Advocacy

2.2.2 Compliance and Information Disclosure

► Product and Service Compliance

TSC products must comply with local regulations and customer requirements, including Act Governing Food Safety and Sanitation, Health Food Control Act, Pharmaceutical Affairs Act, Food Administration Act, Organic Agricultural Product and Organic Agricultural Processed Product Certification Management Regulations. In 2020, there were no violations of product health and safety, service information and labeling, marketing communications and voluntary codes.

► Information Transparency and Stakeholder Participation

Information disclosure is an important responsibility in a company's operations, and enterprises are obligated to faithfully disclose information. To transfer the major information of TSC to the general public and internal organizations of the company in a timely manner, a highly efficient communication system has been established. Information disclosure is also strengthened in accordance with the "Principles of Unified Handling of Proceedings of Board of Directors for Business Units Affiliated with the MOEA" and the company's "Directions for Online Filing" and "Main Points of Press Release and Public Opinion Report". In addition, special sections of Corporate Governance and Corporate Sustainability Development have been set up on TSC web page, and there is also designated personnel in charge of the collection and disclosure of TSC's information to provide relevant information in a timely manner.

In addition, information of the operation status and the remunerations of BOD and the Audit Committee, environmental protection, social services, public welfare and good-neighborliness, safety and health and customer service and the status of social responsibility fulfillment as well as information concerning the interest rate, exchange rate changes, inflation and others are all disclosed in the Annual Report.

TSC has been making efforts to improve information transparency and enhance communication with stakeholders. Therefore, TSC was affirmed long-term "twAA-" and short-term "twA-1+" rankings by Taiwan Ratings, with "outlook stable". Furthermore, the rating among global debtors in financial constitution is rated as "extremely robust" and its rating in management and governance is also "satisfactory".

To strengthen the bilateral communication with our stakeholders, TSC has implemented various measures as follows.

◆ Face-to-face meeting:

For proposals they are interested in, shareholders can come to the headquarters to have a face-to-face opinion exchange with the chairman or relevant supervisors on the first Monday of every month.

◆ Regular shareholders' meeting:

To ensure the right of participation and power of decision of shareholders, a regular shareholders' meeting is held once a year. In addition to reporting on the operating results of the previous year and future strategies, matters for ratification and discussions on major proposals are also reported. Shareholders' questions are also answered in a timely manner. The shareholders' meeting was held on June 11, 2020.

◆ Proceedings of Shareholders' Meetings:

The proceedings of the shareholders' meetings are recorded as required. Relevant information is uploaded to the MOPs and TSC's official website for shareholders' reference.

◆ Labor Director:

Representatives assigned by trade unions appointed by the Ministry of Economic Affairs act as labor directors and participate in corporate governance.

◆ Employee Participation:

Labor-management meetings (a total of 72 meetings were held in 2020), Welfare Committee meetings, Labor Safety and Health Committee meetings, and meetings of the "Employees' Retirement Funds Management Committee" and "Labor Retirement Reserve Supervisory Committee" are regularly convened.

◆ Symposiums:

The chairman of the BOD convenes symposiums and invites employees from all units to listen to their opinions on management.

2.3 Implementation of Sustainable Governance

2.3.1 Risk Management

► Risk Management Policy

The "Guidelines for Risk Assessment" has been developed, followed by the identification, analysis, assessment and handling of every short-, medium- and long-term risks. First, we identify the risk factors and assess potential losses, followed by the selection of management methods and the implementation of regular and irregular monitoring, auditing, and tracking of risk management.



Risk Management

Identification, assessment, control and monitor of possible risks are conducted based on the principles of risk management and crisis management to ensure the effective operation of the risk management system. When a risk event occurs, necessary response measures should be taken to prevent disasters from expanding and recovery work should be performed and the handling of crisis events will be reviewed. Risk control methods and crisis management operations are available under the Corporate Governance Risk Management on TSC's webpage of Corporate Sustainable Development.

Operation Flow Chart of Risk Management and Crisis Handling



Note: When all units initiate the crisis event management mechanism, they shall comply with the relevant internal control systems and work practices.

► Risk Management Organization

The “TSC Risk Management Promotion Committee” was established to be responsible for the assessment of various risks, the development of preventive measures, the internal control system and the implementation of related businesses. The chairman of the Company serves as the steering committee member, the president as the committee chairman and the vice president of Business Supervision, Department of Planning as the committee vice chairman. The vice presidents and the first-level supervisors of all divisions (excluding the Internal Audit, BOD) and all unit are committee members.

Responsible Business Units of Crisis Management

Scope of risk crisis	Units in charge
Natural disasters, occupational safety and health disasters, environmental impact matters, major epidemic (infectious) diseases	Department of Occupational Safety and Health/ Occupational Safety and Health Committee/ Department of Environmental Protection/ Environmental Protection Committee
Product quality	Department of Planning/ Quality Management Committee
Labor disputes	Department of Human Resources
Customer service, media issues	Department of Secretariat
Information security	Department of Information / Information Security Committee
Integrity	Department of Ethics/ Integrity Report
Others	Business units and departments and divisions responsible for the business at TSC Headquarters

► Customer Privacy

The "Personal Data Protection Executive Team" was established and the "Guidelines for TSC Personal Data Protection Management" was formulated. The “Personal Data Protection Operation Manual” was compiled based on the "Personal Information Protection Act", "Enforcement Rules of the Personal Information Protection Act" and "Guidelines for TSC Personal Data Protection Management”. In 2020, there were no incidents of infringement of customer privacy rights and loss of customer data.

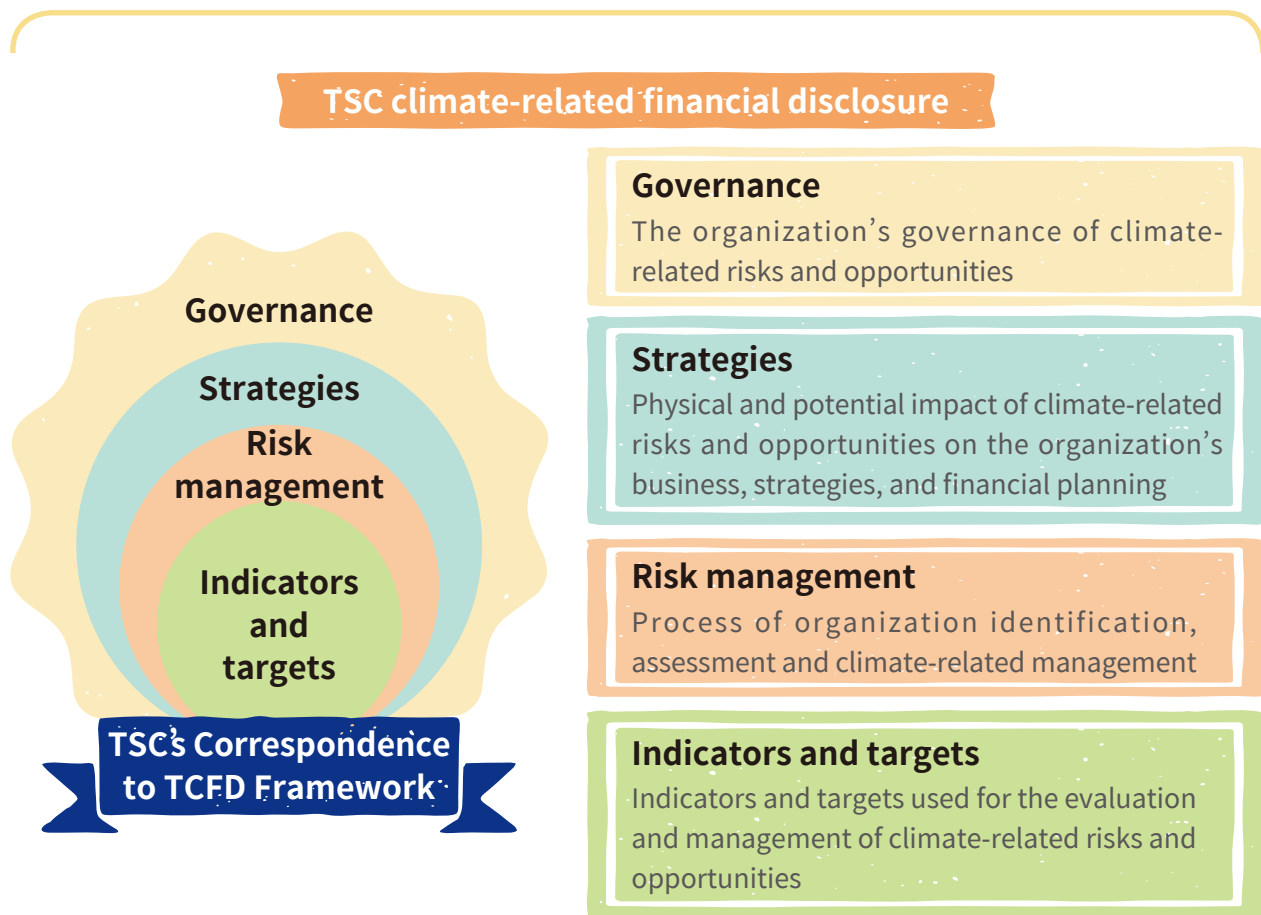


2.3.2 Responses to Climate Change Risks

► Climate Change Risk

Global climate change not only causes extreme weather but also directly or indirectly influences the operations of enterprises and consumption behavior of consumers. At the same time, under the pressure of carbon reduction, disaster prevention and energy shortage, costs of investments in technology improvement, equipment improvement and environmental protection have also increased annually, which will impact the competitiveness of Taiwan Sugar Corporation.

TSC refers to the framework of Task Force on Climate-related Financial Disclosures (TCFD) to take actions in response to climate change, demonstrating TSC's responsibility and vision on climate issues in order to further allocate capitals more efficiently and move toward the sustainable development of a low-carbon economy.



TSC's Correspondence to TCFD Framework

Governance

TSC's Corporate Sustainable Development Committee supports the implementation of effective management of the climate change and applies the governance of climate risks and opportunities to the operations and asset management of the company.

TSC's Correspondence to TCFD Framework

In the future, TSC will implement the following corresponding measures or future planning in the face of Task Force on Climate-related Financial Disclosures (TCFD).

Aspect of Risk	Description	Corresponding Measures/ Future Planning
 Market Risk	The rapid expansion of electric vehicle (EV) market and the policy of reducing fuel vehicles may affect the revenues of TSC's Petroleum Business Division.	1. Set up stations providing services of both gas filling and battery exchange and cooperate with industry players in the evaluation of the installation of e-vehicle charging stations to gradually build potential customer base and participate in the EV market for business opportunities. 2. Actively expand the sales of livelihood products to help increase the volume of dispensed gasoline and revenues with the services from outside ventures.
 Imminent Physical Risk	The frequency of droughts and water shortage has increased, which will affect the agriculture and production departments.	1. Increase the area of ratoon sugarcane planting to reduce the dependence on water sources for irrigation. 2. Set up Goals of Wastewater Recovery Rate (R2) and relevant water conservation measures. 3. Regularly check and repair the irrigation pipeline system, clean the storage pond and sprinklers, and maintain the wells and water supply pipelines. 4. The water wall cooling equipment at the greenhouse in the orchid farm adopts water circulation mode to save water by reusing it. 5. Recycle and reuse pig-raising wastewater. 6. Install rainwater collection equipment on the roofs.
 Long-term Physical Risk	In a 2°C scenario, the rise of sea level will affect TSC's existing assets.	1. Choose high-lying countries when making overseas investments. 2. Evaluate the development of vertical farms to reduce the field planting area.
 Market Opportunities	TSC will launch low-carbon products.	1. Obtain the BS 8001 Circular Economy Certification and product carbon footprint verification to establish a low-carbon brand image. 2. Priority is given to local raw materials for the development of new products and product gift box packaging is simplified to reduce the carbon footprint of products. 3. Design recyclable and reusable containers for our products, such as the reusable porcelain pots for the Phalaenopsis potted flowers. The beautiful gift box of the potted flowers of exquisite Phalaenopsis is specially designed and can be reused for item storage. 4. We have launched special projects of "Green Stay Package", low-carbon tour itinerary, bicycle-friendly accommodation, and discounts for guests traveling with their own tableware and personal amenities. 5. We ask the government to lead the construction of a carbon sink trading platform to obtain trading certificates through TSC's forests, renewable energy and other carbon reduction methods.

Strategies

TSC's Correspondence to TCFD Framework

Risk management

TSC based its assessment on climate-related risks and opportunities provided by TCFD and divided climate-related risks into two major categories: (1) Transition risks related to low-carbon economy and (2) Physical risks related to climate change. Opportunity created by adapting to climate change for organization include improvement of resource use efficiency and costs, adoption of low-carbon energy, development of new products and services, entry to new markets and the increase of the resilience of the supply chain. TSC's Corporate Sustainable Development Committee assesses climate-related risks and opportunities through the impact on the Company's operations and the possible of occurrence.

Indicators and targets

Introduce Greenhouse Gas Inventory system (ISO 14064-1), Carbon Footprint and Water Footprint to understand TSC's GHG emission framework and adjust countermeasures for future climate change. In addition, energy intensity, GHG emission intensity, and wastewater and waste management in the GRI guidelines are used as the indicators for evaluation and management for the establishment of environmentally related reduction targets, such as GHG, energy resource use, waste reduction and so on.

Other strategies to cope with climate change:

Policy	Description
Promote circular economy	Through the integration of agricultural integration, reuse of pig manure, biogas residues, and sugarcane bagasse and water recycling, a recycling network is created to reduce waste of resources and the use of fossil energy.
Carefully choose the timing of raw materials procurement	Internally, TSC set up a Bulk Cereal Procurement Team and a Bulk Sugar Reserve Price Setting Team. As required by the internal control system, the team members have to collect information of bulk materials such as soybeans, corn and sugar, the supply and demand situation and climate change situations at any time, and carefully select a procurement timing based on the production and inventory conditions.
Strengthen the advocacy and training of energy conservation	We organize annual training concerning green energy conservation and environmental protection to enhance our employees' awareness of energy conservation. A total of 3 sessions of training were organized, with 112 participants in total.
Promote green energy	To work in line with the government's green energy policy, solar PV power generation equipment is installed on self-owned roofs and unfavorable farming land to reduce pollution and carbon emission. To implement the carbon reduction policy, TSC's affiliated livestock farms continue the collection of biogas for power generation, which is in line with the development of the green energy industry. As of 2020, a total of 83 solar power generation facilities as well as biogas power generation facilities in 4 livestock farms were installed, and the overall power generation totaled 0.27 MWh in 2020.
Promote green afforestation	Afforest on sugarcane land for economic benefits such as the increase of air quality, conservation of water resources and for carbon sequestration. A total of 11,957.84 hectares of afforestation land as of 2020.
Promote green procurement policies	To work in line with the Green Purchasing promotion program approved by the Executive Yuan, TSC makes purchase of eco-friendly and green products. In 2020, the green procurement ratio was 99.88%.

0

1

2

Governance and Risk Management

3

4

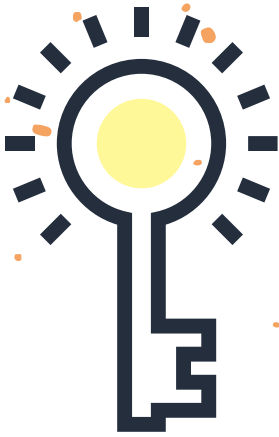
5

6

7



3



Core Values

- 3.1 Sustainable Food**
- 3.2 Innovation Dynamics**
- 3.3 Land Activation and Utilization**
- 3.4 Maintenance of Natural Resources**



As a state-run enterprise, TSC has taken the mission to support the positive cycle of the society. In addition to promoting organic and eco-friendly farming, we also attach importance to food safety and labeling, striving to implement food traceability management to meet social needs for and expectations of food safety. In addition, we also cooperate with the government in stabilizing commodity prices and people's livelihood. Furthermore, to facilitate local prosperity, land development through cooperation has been carried out to nurture important bases for the high-tech industries in Taiwan. Creating a multi-win situation for locals and the public.



Corresponding material topics

Innovative Research, Indirect Economic Impacts, Customer Health and Safety, Healthy and Reasonably Priced Food, Sustainable Food, Providing Land for Urban Planning, Marketing and Labeling

- ◆ Enhance the power of product and the marketing capability (Innovative Research)
- ◆ Implementation of eco-friendly farming and promotion of organic cultivation (Sustainable Food)
- ◆ Implementation of production history and food traceability management (Marketing and Labeling)

Policy

- ◆ Cooperate with industrial policy of the government, stabilize prices and provide land for economic development (Providing Land for Urban Planning, Indirect Economic Impacts)
- ◆ Deepening the core businesses and providing safe and affordable products (Customer Health and Safety, Healthy and Reasonably Priced Food)

► Short-term goals (within 3 years):

1. To focus on health-oriented core technologies and products, increase input of resources, and strengthen brand marketing
2. Completed the construction of a self-operated organic farm
3. To maintain food safety, and build a more complete traceability system
4. To provide land to cooperate with the government in the construction of social housing and complete the construction of the elderly residence by self-investment
5. To maintain afforestation and tending for the greening of idle land
6. To obtain the environmental education field certification
7. To increase the ratio of contract farming zone, aiming at 1:1 for contract farming zone to self-operated organic farming area

Commitments and goals

► Medium and long-term goals (3 to 7 years):

1. To combine new agriculture and make use of biotechnology for the R&D of non-toxic, non-polluting, high value-added, and healthy products
2. To expand our cooperation with farmers to increase the yields of organic crop production
3. To develop health care products and continue to increase number of items
4. To work in line with government policies and make dynamic adjustment to provide land for social housing and elderly residence construction projects
5. Make individual plans for the diversified utilization of afforested land in the future
6. To continue the promotion of environmental education to enhance the overall awareness of environmental protection in Taiwanese society

Responsible units	◆ Environmental Sustainability Group of Corporate Sustainable Development Committee ◆ Department of Planning ◆ Department of Secretariat ◆ Quality Management Committee ◆ Food Factory Inspection Group ◆ Department of Land Development ◆ Department of Property Management ◆ Department of Agribusiness Management ◆ Environmental Protection Division ◆ Land Use and Activation Group
Input resources	◆ Establishment of the Research and Development Committee and Taiwan Sugar Research Institute (TSRI) ◆ In 2020, R&D expenses (including personnel expenses) were NTD 178,205 thousand and those for improvement or expansion of fixed assets were NTD 3,185,613 thousand. ◆ The organic farming zone in Maguang Farm in Huwei Township, Yulin County has an area of 197 hectares. ◆ Participate in the Farm Apprenticeship Program of Council of Agriculture to cultivate new farmers aspiring to engage in organic farming in our organic farms in Yulin, Tainan and Kaohsiung. ◆ Stabilizes prices to work in line with government policies ◆ Establishment of QC laboratories in all business divisions and carry out quality inspection every year ◆ Establishment of Food Safety Traceability Management System (FT) ◆ Construction of social housing and the elderly residence ◆ Continuous maintenance and management of fields such as Aogu Wetland and Forest Park, Danongdafu Forest Park in Hualien, Linhousilin Forest Park in Pingtung and Guantian Pheasant-tailed Jacana Ecological Education Park. ◆ Application for environmental education field certification
Recourse mechanism	Customer Complaints Handling Guidelines, Customer Service Hotline, Customer Service Email box, TSC Facebook Fan Page
Management System and Action	◆ Research and Development Committee Charter, Guidelines for Intellectual Property Rights, Guidelines for Research Project Management, Guidelines for Technology Transfer and Authorization, Guidelines for R&D Records and Document, Guidelines for Laboratory Safety and Use, Guidelines for Greenhouse Management, Taiwan Intellectual Property Management System (TIPS) ◆ Council of Agriculture of the Executive Yuan and Ministry of Economic Affairs coordinate TSC's land lease matters, Organic Agriculture Promotion Act, Food Safety Management System, and the Key Points for the Reforestation Incentives Program, Guidelines for Forest Tending for Green Forest Park Avenue and Guidelines for Flatland and National Afforestation Program
Assessment management mechanism	Internal Control System, TSC Performance Assessment System, Corporate Sustainable Development Committee Work Plan and Implementation Review Meeting



3.1 Sustainable Food

3.1.1 Assistance in Agricultural Development

► Agricultural Land Leases and Value-added Service

To cooperate with the government's agricultural policy to stabilize the balance of the production and sales of domestic agricultural products, TSC handles the affairs concerning the lease of land for the cultivation of regulatory crops in accordance with the "Coordination between Council of Agriculture of Executive Yuan and Ministry of Economic Affairs for the Lease of TSC-owned Land". As of the end of December 2020, the area of farmland leased in cooperation with the policy to balance production and sales was 2,761.04 hectares.



TSC transforms the land tenants into partners, providing tenants with more services such as information of production technology, marketing and channel characteristics and assisting them in solving the problems they face, upgrading farmland leasing business into a full range of services. Through online communities and face-to-face interviews, we increase opportunities with young farmers to understand the difficulties they face and their needs and also exchange information concerning agricultural policies, technologies and experiences so as to help them effectively solve practical problems which will enhance their recognition of and cooperation with our company.

► COVID-19 Relief Measures



In response to the severe impact on the lessees during the COVID-19 epidemic period, TSC provides relief schemes to lessen the financial burden of the lessees in accordance with the "Rent Relief Measures to Tenants of State-owned Enterprises under MOEA Affected by Severe Pneumonia with Novel Pathogens" and actively informs the tenants of the 20% rent reduction and rent deferral in 2020. As of the end of 2020, the rent reduction amounted to NTD 426 million.

► Young Farmers Marketing Counseling and Channel Services



TSC also exerts its influence on agriculture and expands the target of service from TSC's tenants to the entire Hualien Area in Eastern Taiwan. It is hoped that through various development of young farmer business, it can assist in the development of regional agriculture that can further encourage more young people to return to their hometown. Hualien Sugar Factory in Huadong Region is provided for the young farmers to set up Farmers' Market to market the agricultural products produced by local young farmers via the tourism benefit of Hualien Sugar Factory.

► Taking Care of Sugarcane Farmers



To cooperate with the government in taking care of sugarcane farmers, TSC ensures the price of NT24,878 dollars/ton to purchase sugarcane sugar and to fulfill its strategic task of stabilizing the supply and demand of the domestic sugar market, and also subsidizes for the transportation charges of the raw material of sugarcane, the cane garden fire insurance fees, the purchase of bait and the eggs of *corcyra cephalonica* (stainton) as the materials to feed Chrysopidae to function as a pest control. In addition, TSC also provides low interest-rate loans with a monthly interest rate of 0.25% (simple interest method) to assist sugarcane farmers in financing for funds needed in the production process, stabilizing the economy in the rural areas.

► The Opening of the Academy of Agriculture and Animal Husbandry



Considering that education and training is the cornerstone of industrial development, the Company has established the Academy of Agriculture and Animal Husbandry in 2018. The goals are to enhance industrial technology and services, improve the income of employees in relevant industries, and promote the living standards.

Animal Husbandry Courses

To cultivate students with common ideals for the future through standardized and advanced training courses and inspiring teaching contents, assisting in the integration of pig farming and other related industries, enabling the sustainable development of the pig farming industry that suits Taiwan best.



Agricultural Economics Courses

To work with the strategic alliance, National Pingtung University of Science and Technology, and combined with the professional function training of the Council of Agriculture while providing 20 hectares of organic cultivation area in TSC's Kaohsiung Organic Farm as the environment for internship, TSC provides a one-stop local counseling services for the incubation of professional production suppliers to assist young farmers to have steady management.





Since the opening of the courses in 2018, a total of 268 trainees have been trained as of 2020 (149 trainees in animal husbandry courses and 119 in agricultural economics). After the completion of the overall renovation of the pig farms scheduled in 2023, a brand new field is expected to be provided for trainees for hand-on courses. We also expect to cooperate with Council of Agriculture to cultivate experts in the industry and establish a team of consultants. With the diversified courses and training sessions, the learning content will further be enriched.

3.1.2 Organic and Eco-friendly Farming

Organic farming is an environmentally friendly and sustainable model for agricultural production. The government has also actively promoted related certification system. TSC has been devoted to an eco-friendly farming and organic production for many years and has gradually expanded the scale of cooperation with farmers year by year. In 2020, we released some self-operated farms and organic farming zones for lease and cooperation with young farmers.

► Promotion of Organic and Eco-friendly Cultivation

For TSC to assist the government in the promotion of organic cultivation, small-scale farmers engaging in organic cultivation will be integrated with the concept of an agricultural satellite system to form a special zone for cooperation with professional division of labor and complementation of resources to improve production and marketing efficiency, creating a cooperative agricultural value chain.

The Key Points of Farmland Lease has been revised to facilitate the sustainable development of organic agriculture in Taiwan, and organic cultivation will be given priority to in terms of the lease of our farmland. In addition, to stay in line with the Organic Agriculture Promotion Act, we provide our tenants engaging in organic cultivation with a 10-year lease guarantee and a 40% rent discount to promote the cooperation of organic cultivation. Currently, there are 29 organic farms working with TSC in the form of contract farming, and 259 young farmers have been assisted to rent 1,445 hectares of TSC's farmland.

To cooperate with the government's promotion of new agricultural policy for the promotion of organic cultivation, as of the end of December 2020, the Company has provided the government 289.97 hectares of leased land for the establishment of a special zone for organic agriculture; the area of other leased farmland for organic crops amounted to 813.38 hectares.

► Self-operated Organic Agricultural Products

TSC actively develops its own organic crop cultivation area to continue trial planning and mass production of economic crops. In 2020, the self-operated organic rice verification area reached 94.14 hectares, and the organic fruit and vegetable verification area amounted to 49.02 hectares. The reason for the decrease in the verified area was mainly because that we cooperated with the government policy to take care of young farmers and released part of our organic cultivation zone for lease to cooperate with young farmers.

Year	2018	2019	2020
Organic rice verification area	103.08 hectares	116.59 hectares	94.14 hectares
Organic fruit and vegetable verification area	58.34 hectares	58.34 hectares	49.02 hectares

The production of indigenous soybeans in Taiwan is scarce, and most of the soybeans in Taiwan depend on imports, and the proportion of genetically modified soybeans is as high as 90% and above. Taiwan's indigenous non-GMO soybeans plantation area passing SGS 373 item (pesticide residues test 373 item) and Paraquat residues test is as follows.

Year	2018	2019	2020
Plantation area	105.2 hectares	103 hectares	106.8 hectares

► TSC's Maguang Organic Group Cultivation Farm in Huwei

We set up an organic farming zone with an area of 197 hectares in Maguang Farm in Huwei Town, Yunlin County, making it the very first circular agriculture demonstration park in Taiwan. This project is scheduled to be completed in December 2021. The organic farm area is leased to Huwei University of Science and Technology, which will cooperate with the Council of Agriculture to recruit farmers to plant in this organic farm based on their qualifications, conditions and specific direction of implementation for the selection of farmers to station in the organic farm. Planning for future operation is as follows.

- (1) The open field cultivation area is approximately 93 hectares, with the cultivation of rain-fed crops and import substitute crops.
- (2) Protected cultivation area is approximately 43 hectares, with 150 greenhouse facilities, mainly for the cultivation of short-term leafy vegetables, melons and fruits and vegetables.
- (3) The rest 59 hectares belong to public facilities, and 2.3 hectares of it is the management & goods collection center.



3.1.3 Stabilizing Prices

The Company is a state-owned business and serves as the function of assisting the government in stabilizing the prices of pork, sugar, cooking oil and other large-scale staple merchandise.



Stabilizing hog prices

In 2020, TSC worked in line with the policy and increased the supply of 66,866 hogs.



Stabilizing salad oil prices

TSC works in line with the government policy of stabilizing prices. Large-packed salad oil maintained the lowest market price and the retail price of small-packed salad oil (less than 3 liters) has not increased since December 31, 2010.



Stabilizing sugar prices

The price of domestic large-packaged sugar is calculated every day and the price is announced before 08:00AM every day; the retail price of the small-packaged sugar has remained unchanged at NTD 36/kg since September 16, 2010.



National alcohol production team for anti-epidemic

In view of the social panic caused by the spread of COVID-19 epidemic at the beginning of 2020 due to the deficiencies in supply of commercial ethanol solution, TSC started to work overtime to increase the production capacity of 95% ethanol solution in 500 c.c. glass bottles to 8,600 bottles per day and the weekly production capacity of Alcoholic Tissue to 60,000 packs. In addition, we also had contracted manufacturers produce 75% ethanol solution for anti-epidemic purposes and sold it through major domestic distribution channels for the timely provision to meet the needs for disease prevention in Taiwan. As of the end of 2020, TSC has produced more than 4.77 million bottles of alcohol products and 2.34 million packs of alcoholic tissues. TSC was also granted a commemorative medal from the Executive Yuan in August.



3.2 Innovation Dynamics

In order to pursue sustainable innovation with higher quality and service, TSC has set up a research and development business management and control organization of the Research and Development Committee whose chairman is the president with 2 deputy chairmen, 19 to 35 committee members, 1 executive secretary and 2-3 secretaries. Its main tasks include the development of R&D policies, R&D budget management and implementation, research program management, the application and follow-up of R&D results. Through regular R&D business integration meetings, various units involved in R&D can quickly resolve issues and problems they have faced, coordinate R&D resources across units and improve research energy.

► Taiwan Sugar Research Institute

Taiwan Sugar Research Institute is divided into the Biological, Chemical and Engineering Groups responsible for technology development, and the Industry Information Group for scientific and technological management planning according to the task attributes. The three technical groups are set up in accordance with technical expertise and perform cross-disciplinary and product development tasks through close cooperation among the groups. The Industrial Information Group provides research-related services such as industrial information, intellectual property management, market research and technology transfer. It also acts as the Research Institute's window of contact with internal and external units of TSC.

There were no cases of infringement of other patents or intellectual property rights at TSC in 2020. In 2020, intellectual property output included 1 invention patent, 1 invention patent approved, 6 SOPs of the process and 7 technology transfers of the business divisions.

Year	Item	Invention patent		SOPs of the process	Technology transfer of business divisions
		Submitted	Approved		
2018		0	1	10	4
2019		2	0	7	4
2020		1	1	6	7

3.2.1 Product Health and Food Safety

There have been several major food safety hazard incidents in recent years, which has caused people in Taiwan to fear for and lose confidence in food safety. TSC has about 330 items of various products ranging from sugar, pork, organic fruits and vegetables, processed foods to beauty care products. We make annual investment in quality testing to check the food safety for consumers.

Statistics by Laboratories under Business Divisions in 2020

Business Division	Detection instrument	Test item	Inspection pass rate (%)	Related expenses
Taiwan Sugar Research Institute	1. Ultra Performance Liquid Chromatography (UPLC) 2. Spectrophotometer	1. Analysis of unknown components of natural products and fermentation products, determination of pollutants in spoilage and adulterated foods, detection of non-volatile harmful substances 2. Measure and analyze the concentration of nucleic acid and protein samples, the bacterial count of microorganisms, and determine whether the test solution contains specific substances	100% compliance	NT 2,557 thousand dollars (Expense center)
Sugar Business Division	Constant temperature incubators, water bath, colony meters, stirrers, pharmaceutical scales, sterile consoles, electrical driers, autoclaves, distilled water machines, and atomic absorption spectrometers	Microorganisms, E. coli, coliform group, sulfur dioxide, heavy metals (arsenic, lead, copper), and pesticide residues	100% compliance	1.12% of revenue



Business Division	Detection instrument	Test item	Inspection pass rate (%)	Related expenses
Biotechnology Business Division pharmaceutical scales, sterile consoles, electrical driers, autoclaves, distilled water machines, and atomic absorption spectrometers	Sterile consoles, moisture balance, precision electronic balance, oscillators, electric hot plates, autoclaves, electrical driers, constant temperature incubators, constant temperature ovens, colony counting, pH meters, magnetic stirrers & heaters, HPLC, water activity meters, digital Brix spindle, Chemical Hood, and Biological Safety Cabinet	• Microorganisms: 10 items • Can test: 2 items • Environmental monitoring: 1 item • General nature: 7 items • Residual analysis: 13 items • Others: 2 items	100% compliance	4.24% of revenue
Animal Industry Business Division (Fresh meat and processed meat)	Multimode microplate readers, muffle (furnace), autoclaves, concentrated sulphuric acid decomposition systems, water activity meters, pH meters, moisture ovens, bacterial incubators, mold incubators, salinity meters, fat extraction instruments, Kjeldahl nitrogen analyzers, sterile consoles and bacterial testing platforms	• Microorganisms: 7 items • Chemical examination: 8 items • Sulfonamide ELISA: 2 items • Beta receptor ELISA test: 3 items • Bacterial susceptibility test: 8 items	100% compliance	0.13% of revenue

Note:

The ratio of laboratory expenditures to the revenue = the business division's lab spending in 2020/ the revenue for the business division in 2020.

► Quality Control

In 2020, TSC has conducted 3 classes for quality management education and training, with 93 participants in total. TSC regularly holds quality control meetings or product quality meetings from time to time to discuss quality control issues and related improvement measures. Each business division has a "Quality Control Plan" every year. The business plans for quality policy, quality objectives, product realization, production management and customer service are used as the basis for implementation of quality control by each business division. Performance is reviewed on a quarterly basis. At the end of the year, the implementation results of quality control plans are reported. In addition, the Taiwan Sugar Headquarters randomly checks the execution status of quality control activities.

► Product safety certification

To enable consumers to feel confident about the purchase of TSC products and services, TSC has disclosed the necessary information for each product and service it provides, detailed information regarding various raw materials, ingredients, expiry dates, country of origin, storage conditions and instructions for use is listed on each product produced and on the packaging and description label of the product, so that consumers can understand the ingredients, sources and methods of safe use. In addition, consumer service hotlines are provided for questions and answers. All products and services that we provide to consumers comply with the relevant laws and regulations in their labeling and description. In addition, we also actively introduce Food Safety Management System and certification.

Percentage of food categories that have passed food safety certification or obtained food safety certification

Food category	Certification				
	ISO 9001	ISO 22000	HACCP	FSSC 22000	TQF
Sugar (including processed sugar)	100%	100%	100%	83.77%	88.31%
Edible oil	100%	100%	100%	100%	100%
Organic rice	-	100%	100%	-	-
Edible oil products (imported)	61.94%	38.06%	38.06%	61.94%	-
Brewed & reconstituted food	27.12%	72.88%	100%	10.75%	-
Canned food	10.88%	88.39%	99.34%	-	-
Mineral water and beverages	-	100%	100%	-	37.94%
Prepared frozen food	-	100%	100%	-	-
Snack foods	100%	100%	100%	-	-
Health foods	95.54 %	100%	100%	-	83.41 %
Functional drinks	100%	100%	100%	-	100%
Fresh meat	-	100%	100%	-	-
Processed meat	-	89.34%	89.34%	-	-

Note:

The percentage in the above table indicates the proportion of food categories that have passed food safety certification or obtained food safety certification. For example, the percentage of products in the category of edible oil having obtained TQF (Taiwan Quality Food Association) label is 100%, that is, all edible oil products have obtained the TQF label. The calculation formula is: the purchase amount of the food category that has passed the food safety certification or obtained the food safety certification in 2020 / the total purchase amount of all products of the food category in 2020.

Percentage of food categories that have passed food safety certification or obtained food safety certification

Food category	Certification				
	CAS	IFS	BRC	Health Food Label	CAS Taiwan Organic Produce
Sugar (including processed sugar)	-	-	-	-	-
Edible oil	-	-	-	-	-
Organic rice	-	-	-	-	100%
Edible oil products (imported)	-	61.94%	61.94%	-	-
Brewed & reconstituted food	-	-	-	-	-
Canned food	53.29%	37.05%	27.33%	-	-
Mineral water and beverages	15.18%	-	-	-	-
Prepared frozen food	78.67%	-	-	-	-
Snack foods	-	-	-	-	-
Health foods	-	-	-	64.40%	-
Functional drinks	-	-	-	79.06%	-
Fresh meat	96.11%	-	-	-	-
Processed meat	89.34%	-	-	-	-

Note:

The percentage in the above table indicates the proportion of food categories that have passed food safety certification or obtained food safety certification. For example, the percentage of products in the category of edible oil having obtained TQF (Taiwan Quality Food Association) label is 100%, that is, all edible oil products have obtained the TQF label. The calculation formula is: the purchase amount of the food category that has passed the food safety certification or obtained the food safety certification in 2020 / the total purchase amount of all products of the food category in 2020.

► Traceability Management of Foods

To enable the public to eat healthy and safe food at ease, as a state-owned enterprise, TSC's unshirkable responsibility is to include 100% of TSC's food products in our own Food Safety Traceability Management System (FT). The system not only reveals all the food information for TSC management personnel to check and compare, food inspection reports are also disclosed on TSC's official website, allowing consumers to check complete information of the products online, and this FT system is also combined with the product flow checking mechanism of "sales and inventory system". In the future, the dual functions of product raw material traceability and product flow tracking can be combined for the fulfillment of the goal of "Food safety guaranteed at TSC".

TSC's Food Safety Traceability Management System is disclosed on TSC's official website for consumers to inquire at any time.



In addition to our own Food Safety Traceability Management System (FT), TSC has joined the "TQF-ICT Service Platform" and "Food Traceability Management Information System" to establish a food safety protection network and enhance the safety and quality of TCS products for consumers.

TSC has registered on the Registration Platform of Food Businesses (Fadenbook) in accordance with the schedule stipulated by Food and Drug Administration. The business units at TSC in the announced category completed the reporting operation on Food Traceability Management Information System (Ftracebook) and the OEMs of business units in the announcement category also completed the reporting as prescribed.



Fadenbook



Ftracebook

► Health Care Products

Taiwan has gradually entered an ageing society. The needs of the elders will gradually become one of the mainstreams of the market. We have wished ourselves to become a guardian of our citizens' health and a family partner of the senior citizens. In recent years, TSC has been actively developing health related products for the senior citizens. Taisugar's Clam Essence was awarded the Merit Award in the Supplements Category (clam essence, oyster essence/ oyster extract tablets, and sesamin) in 2020 Health Brand Award through online voting.



Ratio of Low-burden and Nutrition-fortified Products

Product Category	Low-burden products				
	Low (un)saturated fat	Low (no) trans fat	Low (no) sodium	Low (no) sugar	Low (no) sugar products containing artificial sweeteners
Health food	82.14 %	95.23 %	23.12 %	33.77%	0.10%
Functional drinks	100 %	100 %	100 %	88.56%	14.38%

Product Category	Nutrition-fortified products				
	Fiber-fortified	Vitamin-fortified	Mineral-fortified	Plant Extract-fortified	Functionality-fortified
Health food	46.21%	1.27%	17.65%	21.52%	9.79%
Functional drinks	9.80%	11.44%	1.64%	27.12%	11.44%

Note:

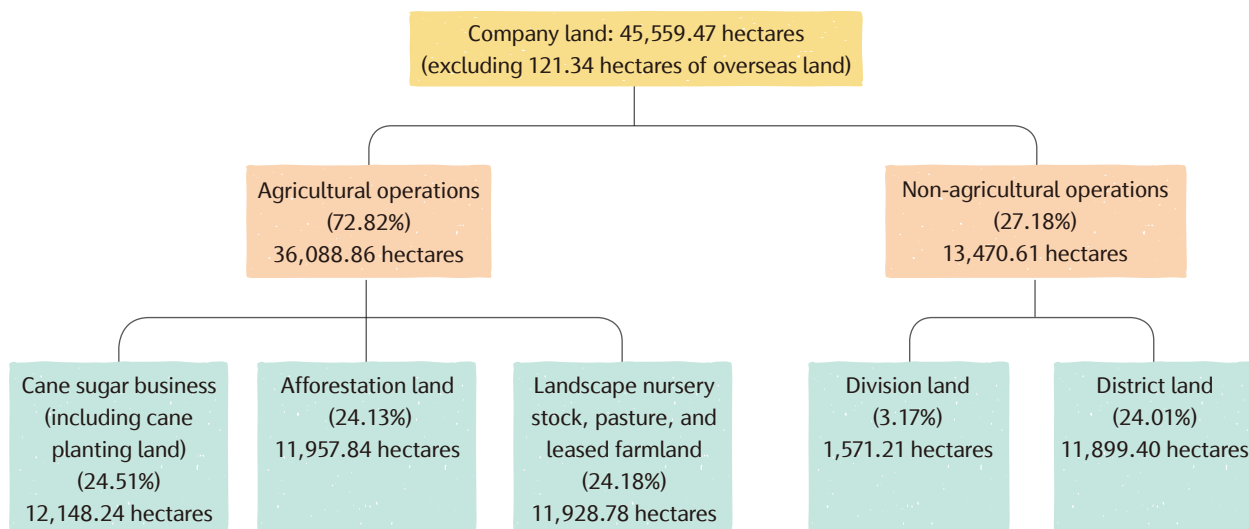
The calculation formula: The sales amount of low-burden and nutrition-fortified products in the food category in 2020/ the total sales amount of all products in the food category in 2020.

3.3 Land Activation and Utilization

As of 2020, the land area of TSC's existing land resources reached 49, 559.47 hectares (excluding 121.34 hectares of land overseas). In accordance with the concept of business development and sustainable development of land resources, TSC continues to meet the governments' needs for public policy based on the concepts of business development and sustainable management of land resources to maximize the value of the land.



Development of land resources



► Meeting the Government's Public Policy Needs in 2020 and Providing Land for Major Economic Development

1. County and City Governments plan to develop 7 industrial parks and plan to use 597.54 hectares of land from TSC. In response to the return of Taiwanese businessmen from abroad, the Industrial Development Bureau of MOEA actively selected 9 locations for the development of industrial parks. A total of 744 hectares of area is scheduled to be developed, which can provide an area of 520.5 hectares of industrial land.
2. For the purpose of flood control needs, 10 detention ponds are planned, and it is planned to use a total of 251 hectares of land from TSC.
3. The Export Processing Zone Administration actively surveyed and selected about 26.86 hectares of land in Liukuaicuo Farm for the expansion of Pingtung Export Processing Zone.
4. Land for the STSP Kaohsiung Second Science Park (244.01 hectares) and land expansion area for STSP Tainan Science Park (90.86 hectares) altogether would use a total of 334.87 hectares of land from TSC.
5. Land expropriated and sold to government agencies for projects amounted to a total area of 135.4 hectares, including "Revetment improvement project of Xizhou Creek Kanting Branch line in Pingtung County", Development project of Tainan Sinji Industrial Park", and "15-meter planned road project next to Sanxing Temple in Houhu, Chiayi.
6. A total of 65.21 hectares of land was leased to government agencies for the use of "Yongkang Sports Park in Tainan", "Regulation pond of Nantou Farm Irrigation Association", "Road expansion in Lucao, Chiayi" and "Green Land Leisure Plaza in Yulin".

► Shalun Smart Green Energy Circular Residence

To cooperate with the Shalun Smart Green Energy Science City Policy of the Executive Yuan to meet the living needs for the stationed staff in the Shalun Green Energy City, the Company has planned the “Shalun Circular Residence Development Project” in a designated area at Tainan High Speed Rail Station, which not only obtained Gold Grade Smart Building and Diamond Grade Green Building certificates but also won the FIABCI-Taiwan Real Estate Excellence Awards in Planning & Design Category in 2019 and Golden Safety Award of the 2020 National Occupational Safety and Health Award. What is more, this is the very first example of introducing circular economy concept into a construction project, with the concept of recycling and reuse as the core concept of the architectural design, including introduction of flexible compartments, open piping configuration, building materials bank, dismantling and reuse of building materials. At the same time, it is also equipped with the environmental management system for safety control, smart water grid and meter, self-cultivated food ingredients, connecting with the overall smart facilities and green energy technology in the whole science city, making this community a livable one with green energy cycling network, low-carbon transportation network and high-performance information network.

The 351 residential houses built based on the Rent-to Own concept in circular economy will be completed in June, 2021, and will be operated and managed by Taiwan Sugar Corporation to promote the policy of Shalun Green Energy Science City and the personnel stationing.



► Lease and Investment Plan of Self-built Housing

To satisfy the needs for residence for the general public and to promote the re-utilization of TSC's land for sustainable development, Taiwan Sugar Corporation targets at students and young people and chooses appropriate bases throughout Taiwan to build residential housing with green building materials and low-carbon building design. In addition, we also entrust professional property management companies to station in and make intelligent management by using the Internet and monitoring equipment system, creating a shared space with excellent quality of life.

Project schedule

Location

The projects will be completed in mid-2022, and operation will start in the 2nd half of 2022

Huajiang Section of Wanhua District
in Taipei City (130 households)

Baowen Section of Nantun District
in Taichung City (136 households)

Xinduxin Section of East District
in Tainan City (161 households)

Guanghua Section of Quanzhen District
in Kaohsiung City (145 households)

The projects will be completed in mid-2023, and operation will start in the 2nd half of 2023

Huajiang Section of Wanhua District
in Taipei City (140 households)

Dongqiao Section
in Hsinchu City (232 households)

Gaosong Section of Xiaogang District
in Kaohsiung City (240 households)

► Plan for Elderly Residence for Rent

Taiwan has officially entered an aged society, and according to estimation, it will become a super-aged society by 2026. To work in line with the government's elderly service policy, TSC started the planning of the elderly residence in 2018 and has visited various elderly housing and long-term care institutions for the Research on the Changes in the Trends of Needs for Elderly Residence in 2019 and Research on the Trends and Development of Long-term Care Industry and System in 2020 conducted by Taiwan Sugar Research Institute (TSRI) as a reference for the construction and operation.



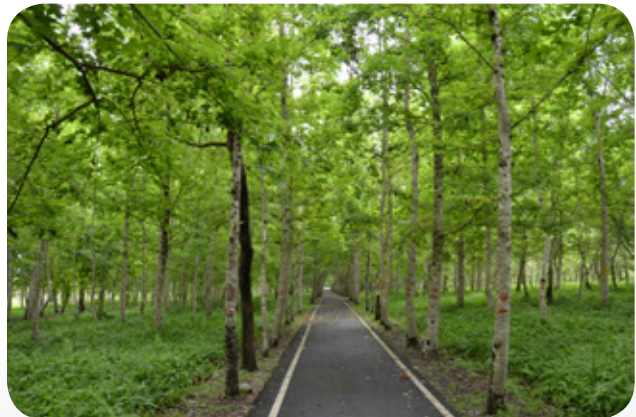
In 2021, TSC will build the first elderly residence in the East District of Tainan City. It is planned to have 103 households in the residential space. On the first floor, it is planned to introduce stores selling elderly products, clinics, convenience stores, restaurants and other stores. Furthermore, we also design open spaces such as classrooms, multifunctional activity space, gym, lounge and sky gardens. In addition to creating a comfortable residential environment, we also hope to enhance personal value by establishing lifelong learning activities and sense of happiness in life to fulfill the goals of “ageing together”, “learning together”, and “staying well together”.

3.4 Maintenance of Natural Resources

TSC has a vast area of land resources and has cooperated with COA's afforestation policy for the greening of idle land. As of December in 2020, the area for afforestation and tending has amounted to 11,957.84 hectares in total, including afforestation for all, environmentally friendly forests, self-funded afforestation and flatland afforestation. The current 20-year subsidy period for afforestation will expire, and afforestation will still continue in the ecology maintenance forests and 3 flatland forests, and diversified utilization of such land for wildlife protection areas, agro-silvo-pastoralism, eco-tourism and others will be individually planned.

Ecological Maintenance Project in MASADIFOREST, Hualien

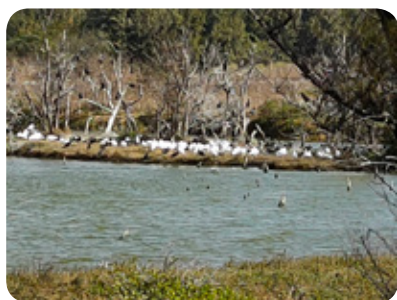
It is planned to set up a flatland forest park across the East Rift Valley in the MASADIFOREST, connecting the coastal mountains and the Central Mountain Range. This is the first flatland forest successfully recovered in Taiwan. The development of the park is divided into two cultures (sugar culture and aboriginal culture) and two ecological systems (low-carbon ecotourism and ecological conservation).



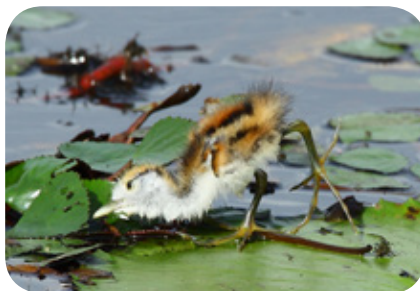
Aogu Wetland in Dongshi Township, Chiayi

There are a large number of migratory birds and aquatic birds in Aogu Wetland. Besides, it is near tourist attractions like Gangko Temple of Bungang Port and Dongshi Fishing Harbor, rich in environmental educational significance. Aogu Wetland is planned to be developed into a wetland park and the affiliated Dongshi Farm was planned to serve as a wildlife reserve. Among it, 1,462 hectares of land was planned as a flatland forest park by the Forestry Bureau (including 664 hectares of land proclaimed by COA as a habitat for wildlife and 512.1 hectares of national important wetland proclaimed by Ministry of Interior).

It is worth mentioning that the Haipu Livestock Farm located in Aogu Wetland Forest Park has an area of 17.815 hectares. It is a legal pig farm approved by Chiayi County Government. The water discharged from this site has long provided bio-nutrients to Aogu Wetland, and it is also an important factor for this region to maintain diversified biological phase and ecological balance.



Jacana Ecological Education Park in Guantien



In 1980, due to the development of Taiwan's highspeed railway, the route planned happened to pass through this important habitat of pheasant-tailed jacana, Hulupi in Guantien Township. After coordination, Tainan City Government rented TSC's property at Fanzitian Section No. 767 and others with a total of eight pieces of land, with the area of approximately 15 hectares to establish the Jacana Ecological Education Park in Guantien for the implementation of the breeding plan, creating a pond-based breeding area for pheasant-tailed jacana. The Jacana Ecological Education Park in Guantien has been established for the implementation of the breeding plan to conduct the habitat restoration by planting water chestnut, lotus, prickly water lily, water lily and other plants. As of 2020, the number of adult birds was 83, the number of nests was 94, that of eggs was 338, that of the hatched was 136, and that of fledglings is 85. So far, the number of pheasant-tailed jacana in the Great Tainan Area has reached 1,723, and among them, 1,408 are in Guantien alone. (Provided from minawata ecological education park)

Ecological restoration in Jianshanpi Jiangnan Resort

Jianshanpi was originally a reservoir providing water for sugar production. In the process of transforming into a resort, conflicts between the tourists and the environment in the low-elevation mountain area were found, coupled with the influence of climate change, we started to reflect on how to maintain the sustainability of the ecological environment of the reservoir to enable coexistence between human and nature. In 2015, the Environmental Education Center was established, conducting investigation on the ecological species in the park, establishing environmental interpretation database, creating ecological habitats and building animal nest boxes. In addition, community residents are recruited as volunteers to promote related education concerning low elevation mountain in the neighboring elementary schools. Environmental seminars, promotion of energy conservation and carbon reduction and eco-hotels were also organized and promoted.

Under our continuous efforts, Jianshanpi Jiangnan Resort was awarded the Excellent Unit for the Promotion of Environmental Education by Tainan City in 2019, and in 2020, it was honored with EPA's Bronze-Level Green Mark Hotel and the Merit Award in the 7th National Environmental Education Award, making it an model to combine environmental education with the eco-hotel in Taiwan.



Haifeng Wetland



Haifeng Wetland is located near the Chonglan Jiuzhen (canal) in Haifeng Area. Pingtung County Government rented the 13.74-hectare land from TSC and planned a primary sedimentation tank, natural purification channels and a 6-hectare ecological pond as the means of purifying the water quality of Chonglan Jiuzhen (canal), injecting water into the old waters. There are 66 species of birds, 2 species of crustaceans, 13 species of fish, 83 species of insects, 8 species of amphibians, 13 species of reptiles, 16 species of mammals, 2 species of snails, and 318 species of plants in this wetland. This wetland is with biodiversity, ecological function and scientific research value, and various aquatic birds and insects live and prosper here.

Chinshang Pastoral Farm Resort in Taitung

Chinshang Pastoral Farm Resort in Taitung has a vast area of rich grassland resources. The pasture adopts rotational grazing for the management of the cattle to make it easier to centralize the cattle manure to be scattered in the small grazing areas to improve the fertility of the grassland, and the growing grass can then be provided to the cattle. The grassland resources and the animal nature can form a complete cycle between the pasture and the animals.



► Promotion of Environmental Education

Taiwan Sugar Corporation attaches great importance to environmental education, and diversified courses are actively planned in its environmental education centers. Among them, Xihu Sugar Refinery, Jianshanpi Jiangnan Resort and Ciatou Sugar Refinery have successively obtained the Environmental Education Field Certification. Currently, Hualien Tourism Sugar Factory has submitted the application for the certification. It is hoped that all the people living on this land can make rediscovery of the environment through the power of education.

To work in line with the Executive Yuan's Air Quality Purification Zone Project, we have planted large trees on the 20-meter roadside in TSC Huatung Operation Branch (Guangfu Township) since 1997, with the planting area of 17.78 hectares. The environmental protection forest road has been established for over 20 years, and all the trees are strong and healthy, absorbing 408.94 tonnes of carbon dioxide (23 tonnes/hectare), 133 tonnes of sulfur dioxide (7.48 tonnes/hectare) and reducing 8.89 tonnes of suspended particulates (0.5tonnes/hectare) every year. This green ecological corridor is always lush and green despite the seasonal changes, and it has been praised as the "Totoro Green Tunnel" in Hualien. This Green Tunnel forms a meaningful chain of sightseeing with Guangfu Sugar Factory for the enjoyment of the renowned iced desserts.

On the morning of August 26, we held the 2020 Environmental Protection Forest Road Achievement Promotion and Environmental Education Activity in the MASADIFOREST in Guangfu Township, Hualien. Local residents and employees in Guangfu Township were invited to jointly maintain the green resources and to share the fruitful results of the 20-year tree planting and greening.



Data source: Quoted from the news release entitled "20-meter Green Corridor, Achievement of 20-year Environmental Protection Forest Road Project" from EPA, Executive Yuan, <https://reurl.cc/kVWmA3>

► Beach Cleanup and Protection

TSC initiated the “Beach Cleanup to Guard Taiwan” activity from 2017. However, the activity was temporarily suspended due to the pandemic of COVID-19 at the beginning of 2020. As the epidemic slowed down, the local government informed TSC that the beach cleanup activity could be resumed, and the vice president led 120 supervisors and employees from the Headquarters and Chungchang Operation Branch to the coastline along Wangung Fishing Port in Changhua that has been adopted by TSC for 2 years for the beach cleanup to maintain the coastal environment and embody as well as promote the concept of environmental sustainability.

As of the end of 2020, TSC has organized 53 beach cleanup activities and mobilized 2,676 people, clearing 11.85 tonnes of waste in total. We will continue the beach cleanup activity to set an example for others to follow, aiming at evoking the corporate social responsibility to invite other enterprises to jointly protect the marine ecology and further to promote the sustainable development of the environment.





4



Green Production

- 4.1 Energy Resource Management
- 4.2 Pollution Control
- 4.3 Waste Management and Reuse

TSC actively promotes green production and has autonomously established an environmental management system. During the production process, we focus on the maintenance of natural resources, resource recycling, pollution control and ecological conservation to achieve the ideal of “non-polluting production and non-destructive growth” and continue to improve the environmental performance to reach the goal of sustainable operation.

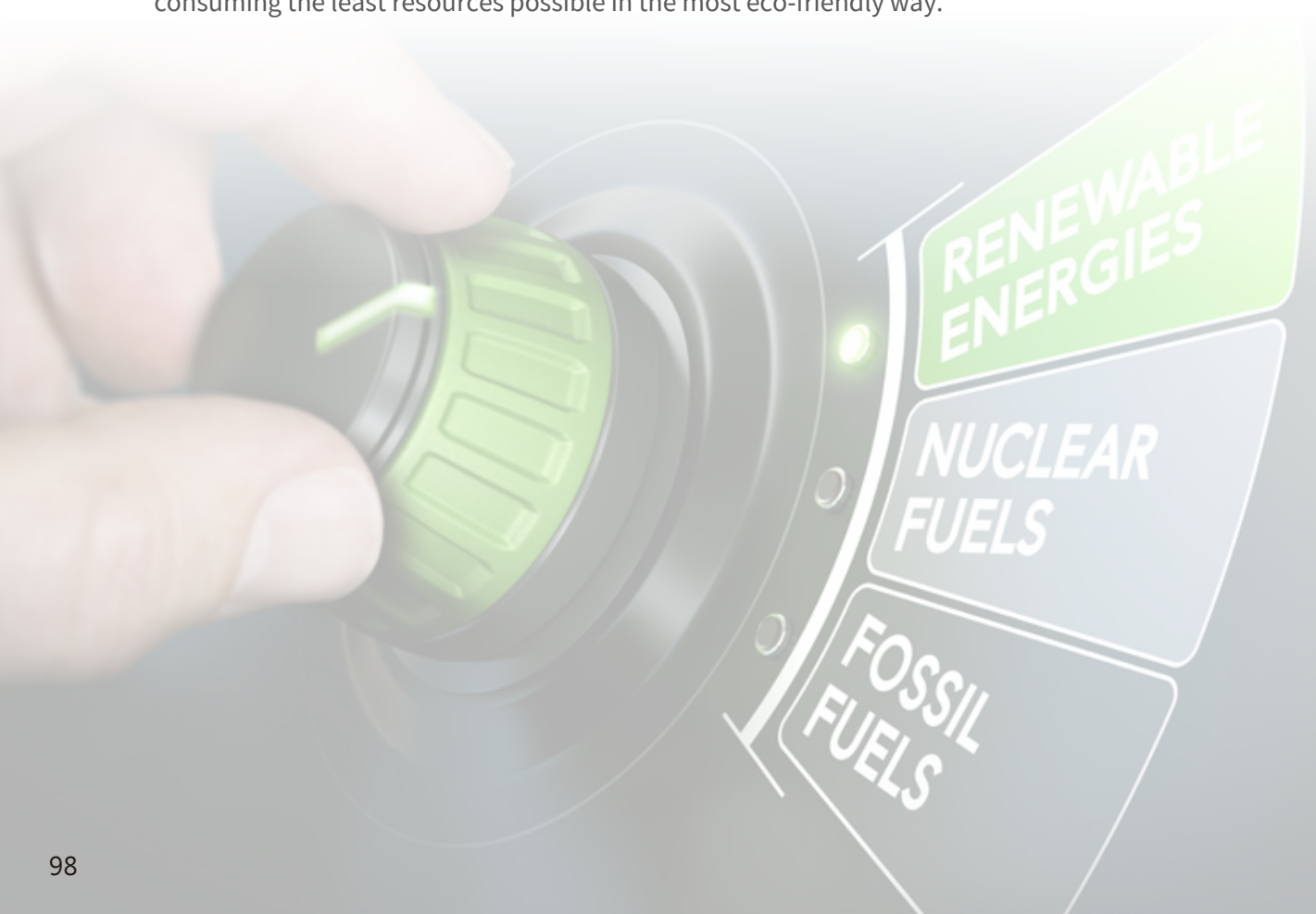


Corresponding material topics	Energy, Water and Effluents, Emissions, Waste, Environmental compliance, Circular Economy	
Policy	◆ Be devoted to the source management, waste reduction in the process and pollution prevention (Energy, Water and Effluents, Emissions, Waste, Environmental compliance) ◆ To construct a value chain of the green circular economy (Circular Economy) ➤ Short-term goals (within 3 years): 1. Wastewater recovery rate (R2) at 80% 2. Implementation of ISO 14001 Environmental Management Standards to improve environmental management performance 3. For frozen meat products in large and small packs to obtain carbon reduction label 4. To increase the use of renewable energy 5. Increase the recycling rate of oyster shells in Taiwan	
Commitments and goals	➤ Medium and long-term goals (3 to 7 years): 1. To comply with relevant environmental laws and regulations 2. The livestock manure and urine recovery rate exceeds 10% stipulated by the law 3. Replace the more polluting heavy oil with natural gas for the reduction of GHG emissions 4. Continue to study the recycling of agricultural waste and develop the recycling business in various fields	
Responsible units	◆ Environmental Sustainability Group of Corporate Sustainable Development Committee ◆ Energy Sustainability Group of Corporate Sustainable Development Committee ◆ Department of Planning ◆ Department of Secretariat	◆ Department of Property Management ◆ Department of Agribusiness Management ◆ Department of Environmental Protection Division ◆ Land Use and Activation Group ◆ Environmental Protection Committee
Input resources	◆ All the livestock farms invested NTD 788,123 thousand in the equipment improvement projects for pollution prevention and control ◆ Environmental protection expenditure of NTD 3,702,763 thousand (capital expenditure of NTD 2,940,196 thousand, operating expenditure of NTD 762,567 thousand) ◆ Invested NTD 10.74 billion to remodel 13 livestock farms into modern livestock housing. ◆ Invested NTD 170 million to build a biological material plant that recycles oyster shells for manufacturing ◆ Continue the research and development projects for the recycling of various waste	

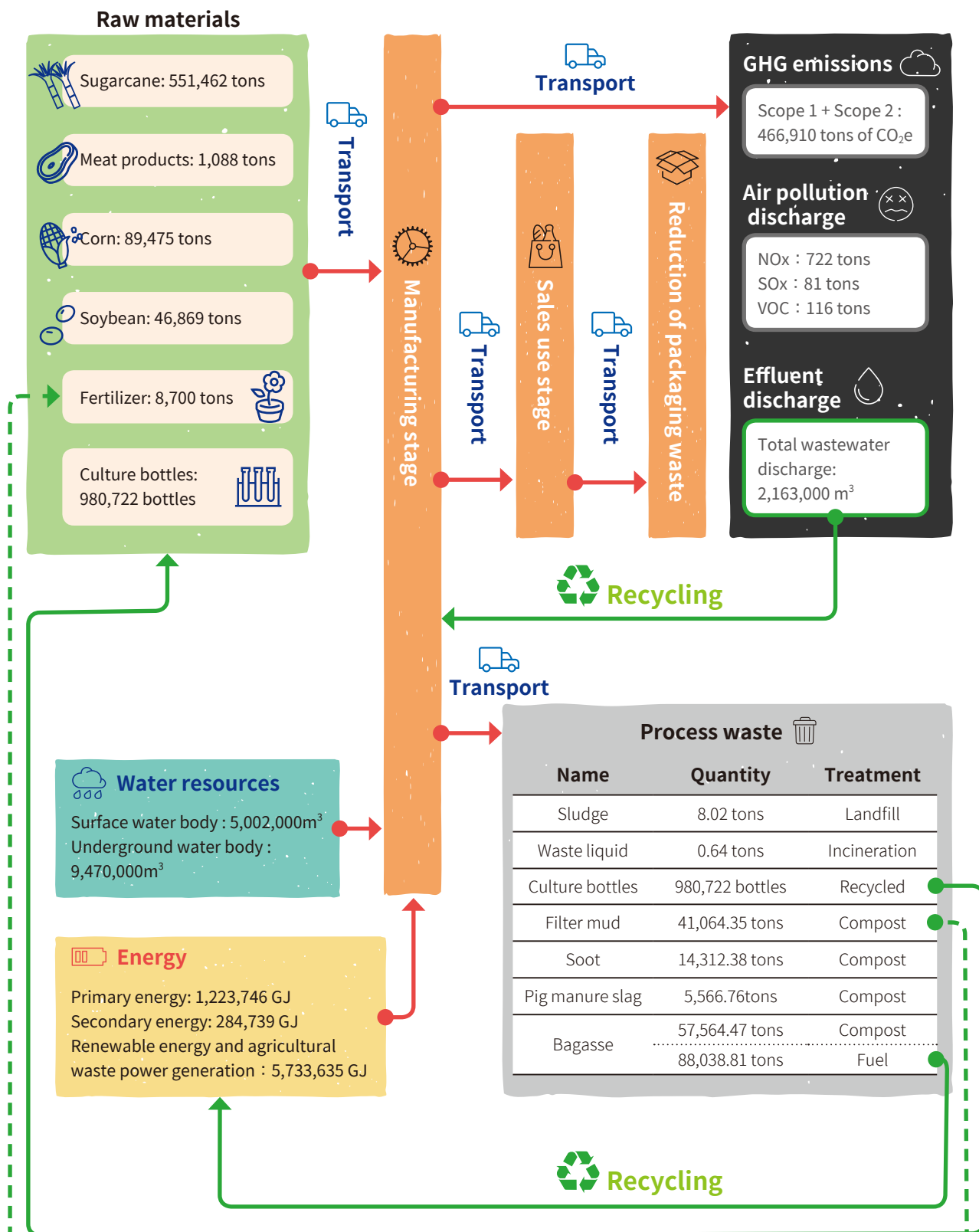
Recourse mechanism	Customer Complaints Handling Guidelines, Customer Service Hotline, Customer Service Email box, TSC Facebook Fan Page
Management System and Action	Guidelines for Environmental Management, Guidelines for Online Declaration and Follow-up Management of Business Wastes, Guidelines for Taiwan Sugar Corporation Checking and Accepting Land Pollution Prevention, Guidelines for Land Patrol, Guidelines for Providing Land as General Waste Disposal Sites for Local Governments, Environmental Accounting System, Environmental Management Standard (ISO 14001), Greenhouse Gas Inventory (ISO 14064), Carbon Footprint (PAS2050, ISO 14067), Water Footprint (WFN), and BS 8001 Circular Economy Standards
Assessment management mechanism	Internal Control System, TSC Performance Assessment System, Corporate Sustainable Development Committee Work Plan and Implementation Review Meeting

4.1 Energy Resource Management

Based on the consideration of cherishing natural resources and reducing the environmental impact, TSC actively promotes a green value chain so that the stages of birth, growth, decline and abandonment of a product can be completed under the conditions of consuming the least resources possible in the most eco-friendly way.



TSC's Environmental Footprint in 2020

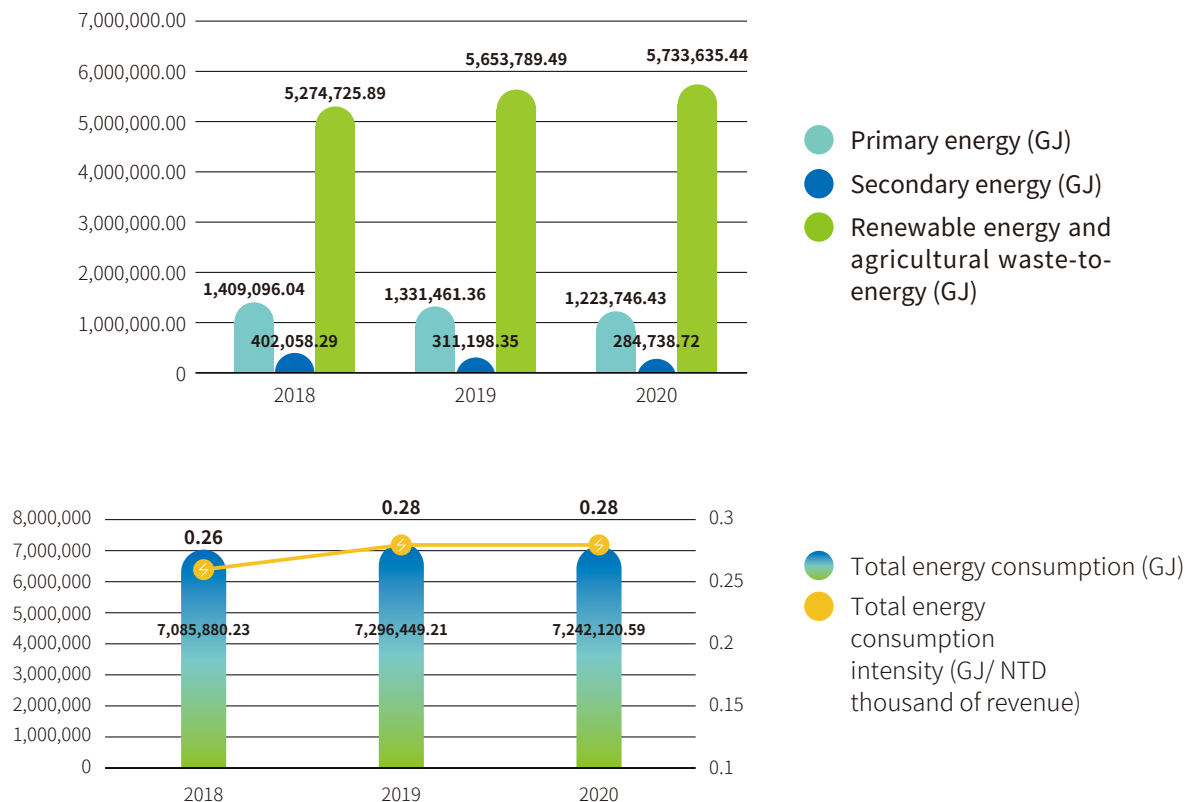


4.1.1 Consumption of Energy Resources

► Statistics of Energy Consumption

In 2020, the energy consumption within the organization was 7,242,120.59 GJ, and the energy intensity was 0.28 GJ/NTD 1,000. The energy intensity in 2020 was the same as that in 2019, which was mainly because of the decrease in the total energy consumption and the overall revenue of the company, resulting in the unchanged energy intensity.

Table of annual energy consumption within the organization



Note:

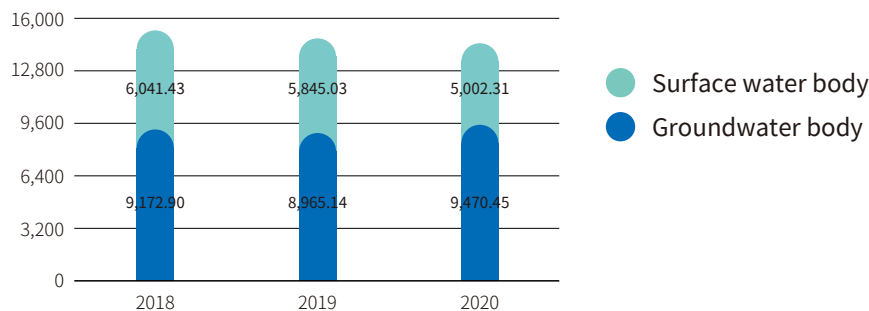
1. Primary energy includes gasoline, diesel, heavy oil, natural gas (NG), liquefied natural gas (LNG), liquefied petroleum gas (LPG), coal and motor oil.
2. Secondary energy is purchased electricity.
3. Renewable energy is biogas power generation.
4. Agricultural waste-to-energy refers to biomass power generation from bagasse cogeneration and power generation by the use of solid waste and cogeneration.
5. All the energy consumption was actual measured values.
6. The energy conversion coefficient refers to the calorific value coefficient of various energy sources in the content of 6.0.4 version of EPA's GHG Emission Coefficient Management Table.

► Water Resources Management

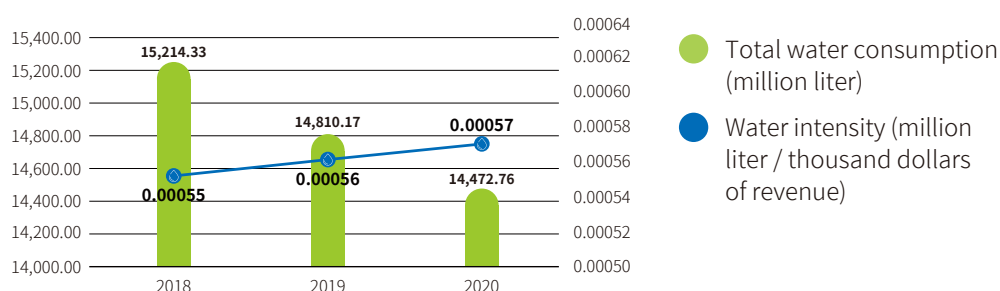
In order to properly use water resources, TSC is committed to the enhancement of water management and wastewater recycling. TSC actively promotes the recycling and reuse of wastewater to reduce the impact of wastewater discharged on the environment, and we also continue to improve the effectiveness of water conservation to reduce the consumption of water resources. According to the Aqueduct Water Risk Atlas of the World Resources Institute, all areas in Taiwan belong to Low – Medium (1-2). All the TSC operating bases are not set up in national or international protection areas, and the water intake is from the legal water resources authorized by the government, having no significant influence on water resources. The used water from TSC is legally discharged to the sewage system or approved water body. The quality of discharged water meets the effluent standards required for various industries by law.

In 2020, the amount of water intake was 14,472.76 million liters, a 2.28% decrease compared with 2019, and the water intensity increased by 1.79% compared with the previous year. The reason for the decrease in water intake and the increase in water intensity was mainly because of a 3.69% decrease in operating revenue.

Individual water consumption (million liter)



Water consumption and water intensity



Note:

1. The statistics of water consumption of groundwater body and surface water body were measured values on water meters.
2. Water consumption = Water intake - Water discharge = 14,472.76 - 2,163.1 = 12,309.66 million liters.

4.1.2 Energy Conservation and Carbon & Waste Reduction

In order to effectively implement energy conservation and carbon reduction policies and to continue to promote energy conservation movement. In 2020, the results in electricity and energy saving (including fixed and mobile sources) in all units were converted to a total of 20,033.54MJ, reducing approximately 1,735 tonnes of CO₂e.

Energy saving measures and effectiveness of all business units

Business unit	Energy saving measures and effectiveness
Agriculture Business Division	The old A/C equipment for flower forcing in Puli Farm was replaced with new ones, saving approximately 191 thousand kWh.
	The water walls for the greenhouse in Nanjing Farm were renovated (8 buildings), saving approximately 26 thousand kWh.
	The water walls for the greenhouse in Wushulin Recreation Farm were renovated (8 buildings), saving approximately 19 thousand kWh.
	The purchase of A/C heat pump equipment for the fourth greenhouse in Taitung Farm saved diesel consumption by 46,000 liters.
	The old air conditioners in the dormitory were replaced with new ones, saving about 5 thousand kWh.
Petroleum Business Division	All the lighting equipment in the 73 gas stations of the Petroleum Business Division was replaced by LED lamps. The total electricity consumption in 2020 was 2,812 thousand kWh, a decrease of 111 thousand kWh compared with the 2,923 thousand kWh in 2019.
Leisure Business Division	Solar power generation: Evergreen Plaza Hotel generated 61 thousand kWh of electricity while the canteen in Meet Gold Club generated 28 thousand kWh of electricity, reducing 89 thousand kWh of purchased electricity in total.
Sugar Business Division	1. Cleaning the energy-saving equipment of furnace (ECO, GAH), saving 274 m³ of fuel oil. 2. Solar power generation in all factories, reducing purchased electricity by 203 thousand kWh.
Biotechnology Business Division	1. The capacity of the solar power generation equipment (rooftop type and ground type) is 1,670 kwp, generating 2,253 thousand kWh of electricity in 2020. 2. Replaced lamps with LED ones for energy saving: old lamps (114W) in the packaging area (50 sets) and production area (50 sets) were replaced with LED lighting (44W), saving 2,000 hours* (114W-44W)/ 1,000* (100 sets)* power saving rate of 0.5 = 1,000 kWh of electricity. 3. Replaced A/C equipment for energy saving: Old A/C equipment consumed 883 kW of electricity annually and the 25 air conditioners in the dorms were with replaced with the ones with CSPF at 5.93 and annual electricity consumption of 562kW, saving (883kW-562kW)*(25 units)* power saving rate of 0.4=3,210 kWh.
Environmental Protection Business Operation Center	1. Replaced the original 40W fluorescent lamps with 40W LED lamps, saving 41,700 kWh of energy. 2. Replaced the air condenser motor, saving 65,100 kWh of energy. 3. Lighting equipment was replaced with new ones, saving 78,390 kWh of energy. 4. Recovered cooling water (renewal of the main condensate pump), saving 95,400 kWh of energy.

Business unit

Energy saving measures and effectiveness

Environmental Protection Business Operation Center	5. Reduced the times of furnace tube breakages, saving 131.9 m ³ of diesel fuel.
	6. Improved the production efficiency and energy saving (renewal of furnace tube), saving 79,350 kWh of energy.
Yunchia Operation Branch	1. Replaced the A/C equipment with new ones on the 1st and 2nd floor of the office building (replaced the 21 window-type A/C with the split DC Inverter AC).
	2. Replaced the total 240 T8 lighting lamps in the office building with LED lamps, which can save approximately 21,600 kWh annually.

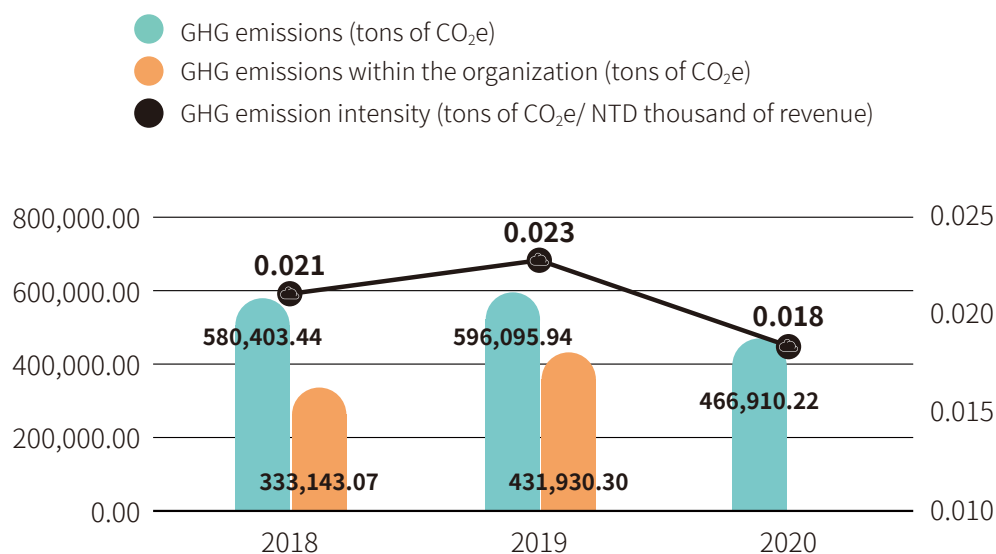
Note:

1. The data are all from actual calculation.
2. The table above only lists business units with better energy saving effects and does not include all business units.

► Greenhouse Gas Inventory

In 2020, the overall GHG emission was 466,910 tonnes of CO₂e, a 21.67% decrease compared with 2019. The GHG emission intensity was 0.018 tonnes of CO₂e/NTD thousand of revenue, 21.74% lower than 2019. The main reason for the reduction was mainly because the operations of the Gangshan and Kanting Incineration Plants became stable, reducing the consumption of fuel oil and purchased electricity, and the GHG emissions also decreased, leading to the reduced intensity of GHG emission. The total GHG emission amount and emission intensity of TSC and its affiliations is shown below.

GHG emissions within the organization over the years



GHG emissions within the organization over the years

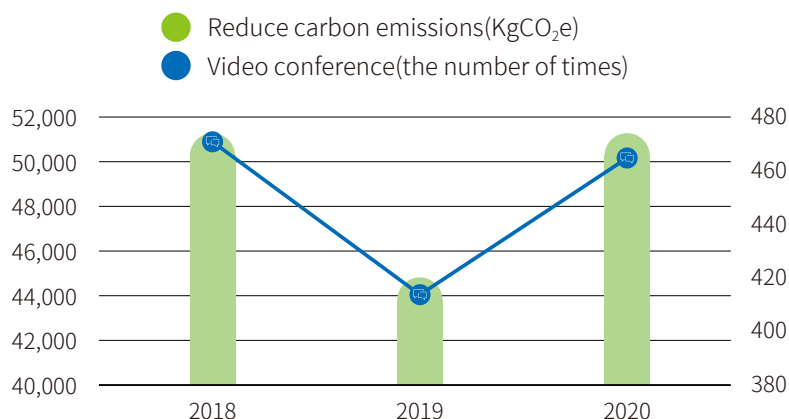
Note:

1. Scope: Taiwan Sugar Headquarters, 7 Business Divisions, 6 Operation Branches, Environmental Protection Business Operation Center, Taiwan Sugar Research Institute and Kaohsiung Branch. (The data was calculated based on the formula in which the amount of oil, water, electricity and gas usage is multiplied by the carbon emission factor).
2. The reference parameter description is based on the content of 6.0.4 version of EPA's GHG Emission Coefficient Management Table, and the CO₂e equivalent conversion GWP value referred to that from the fourth announcement by IPCC.
3. The GHG inventory data disclosed were data verified as of 2019. The inspection units were Environmental Protection Business Operation Center (Gangshan and Kanting Refuse Incineration Plants) and Xiaogang Factory of the Sugar Business Division. In 2019, the GHG inventory in Scope 1 was 428,606.89 tons of CO₂e. The GHG inventory in Scope 2 was 3,323.41 tons of CO₂e.
4. The GHG inventory data for 2020 will be disclosed in the 2021 CSR Report after verification.
5. The GHG Inventory Survey is mainly based on the emission coefficient method and supplemented by the mass balance method.

► Green Meetings

TSC continues to promote the use of video conference to replace physical meetings not only to reduce time and cost for longdistance travel and to increase work efficiency, but also to achieve the benefits of energy conservation and carbon reduction. Based on the assumption of "one person/per business division", there were a total of 465 video conferences held in 2020, and the calculated traveling distance saved (round-trip) was 446,420 km; in addition, according to the EPA's carbon footprint calculation service platform, the carbon footprint coefficient of a small passenger car (petrol) was 0.115 KgCO₂e/passenger-kilometer (the GHG emission generated from the small passenger cars used for carrying passengers, including emissions from the fuel production, distribution and vehicle consumption) was reduced by 51,338 KgCO₂e.

Green Meetings



4.2 Pollution Control

TSC combines pig farming, biogas, green energy, organic fertilizer and bio-refining technologies as the beginning of the promotion of circular economy in agriculture and livestock industries, which can reduce the dependence on raw materials and also reduce the environmental impacts.

4.2.1 Air Pollution Prevention

In order to comply with the environmental protection laws and regulations, TSC has formulated Key Points for Environmental Management for the Operations of Air Pollution Prevention, and also included the ISO 14001 Environmental Management Standards to establish operations, inspections and emergency response measures to ensure compliance with laws and regulations related to air pollution. Prevention of air pollution begins with the rational reduction of pollutants in the process before being emitted into the exhaust gas, and air pollution control equipment handles pollutants in the exhaust gas.

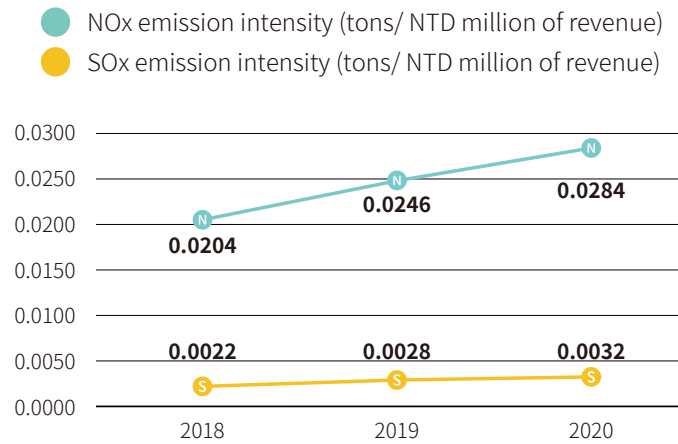
The actual test results of the concentration of air pollutants over the years all met the emission standards stipulated by EPA. The NO_x emission intensity in 2020 increased by 15.45% compared with 2019 while the SO_x emission intensity increased by 14.29% compared with 2019, which was mainly because of the increase in the sugarcane yields and the processing amount in Shanhua and Huwei Sugar Refineries, coupled with the increase in waste input in Kanting Incineration Plant, leading to the increased air pollutant emissions overall. In addition, the company's overall revenue was decreased, resulting in the increased emission intensity. The air pollution control situation is shown as follows, and the emission concentrations all met legal standards.

Air pollutant emissions

Unit: ton(s)

Item	2018	2019	2020
Particulate matter (PM)	18.70	28.31	53.29
NO_x	607.83	650.94	722.22
SO_x	65.21	74.84	81.35
VOC	235.02	135.20	116.09
HCL	45.55	57.95	62.65
CO	76.18	124.68	140.62
Ammonia	5.01	6.34	8.71
NTD million of revenue	27,558	26,410	25,435

Air pollutant emissions



Description of Hot News

Wasteland Fire Incident, 2020/12/9

A big fire broke out in TSC's land located in No. 1887 of Shalun Section, Guiren District in Tainan City on the evening of December 8th 2020, and the thick smoke was blown to the leeward areas of Gangshan and Nanzi Districts in Kaohsiung. TSC was impeached by Environmental Protection Bureau of both Kaohsiung City and Tainan City successively.

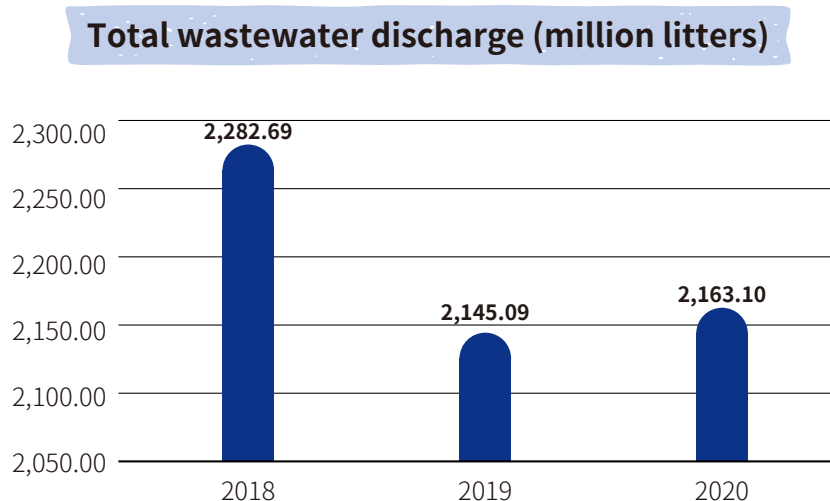
TSC did not stack any goods on such land and there was no "spontaneous combustion due to improper management" as stipulated in Item 3, Paragraph 1, Article 32 of Air Pollution Control Act, and nothing had been burned on it. In addition, Plans for Inspection Tours have also been established for land management. When our employees noticed fire, we immediately notified Fire Brigade to put out fire. Taiwan Sugar Corporation also sent letters to the Government Environmental Protection Bureau of both Kaohsiung City and Tainan City for the above statement and explanation.

After explanation of this case, Kaohsiung City Government issued a letter dated January 19, 2021 to withdraw the accusation. In addition, Tainan City Government also issued a letter of ruling on May 6, 2021, stating that the cause of fire was the "remaining flammable materials", and spontaneous combustion due to negligence in management or improper maintenance management was not found. Therefore, sanction was not imposed on TSC in this case.

4.2.2 Water Pollution Control

► Wastewater Discharge

In accordance with the Water Pollution Control Act, wastewater (sewage) generating units shall have wastewater treatment procedures and obtain approval documents of water pollution prevention and shall be sampled and analyzed by qualified testing agencies in accordance with the prescribed schedules. Regular reporting shall be done on the website designated by the EPA, and all the wastewater (sewage) discharged shall meet the effluent standards. Wastewater is finally discharged into the sea and does not have major impacts on the water sources. The amount of discharged wastewater in 2020 was 2,163.1 million liters, an increase of 0.84% compared with 2019. The production capacities of Huwei and Shanhua Sugar Refineries was 551,462 tonnes of sugarcane and 57,488.41 tonnes of sugar, an increase of 25.54% and 12.27% respectively compared with 2019, resulting in increased wastewater during the manufacturing process.

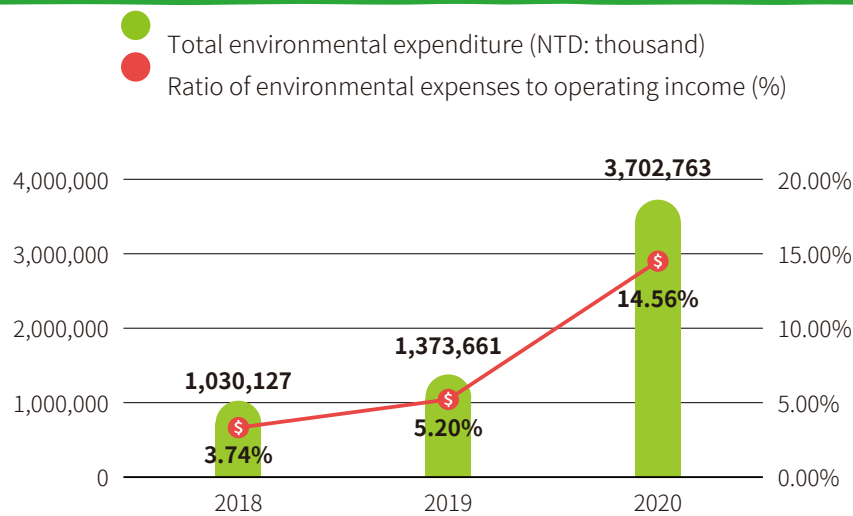


► Investment in Environmental Protection

There were no major environmental fines in 2020. However, the environmental impact of the livestock farms has been the major issue of the company in recent years. In addition to strengthening the wastewater and waste handling process in the field, we also review and improve the operation process and have prepared budgets for the installment of pig houses with water curtain and environmental protection facilities related to biogas power generation to meet the standards for wastewater discharge and reduce the occurrence of odor.

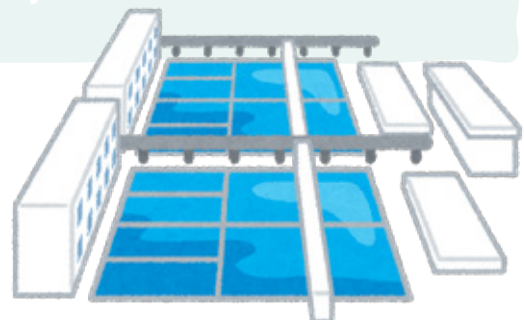
To fulfill our social responsibility for the environment, TSC has invested funds for environmental protection related work. In 2020, the environmental protection expenses amounted to NTD 3,702,763 thousand, a 169.55% increase from 2019.

Environmental protection expenditures over the past 3 years



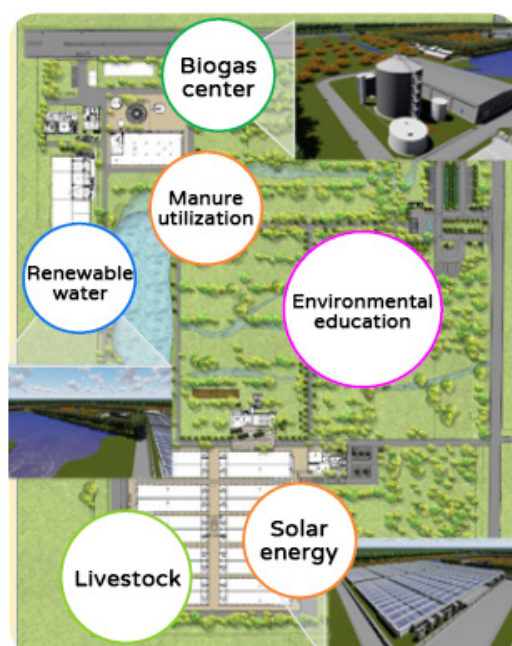
Wastewater Treatment and Recycling Measures of the Livestock Business Division (Pig Farms)

- ◆ The wastewater adopts secondary aeration treatment system.
- ◆ In 2020, Animal Industry Business Division initiated the application for the reuse of the wastewater in the farm, and 12 pig farms (Waipu, Huwei, Douliu, Annei, Nanjing, Lucao, Haipu, Shanhua, Nan Shalun, Xincuo, Silinfan and Da-er Chang Pig Farms) were approved for the reuse, with the accumulative amount of 421,931 tons of reclaimed wastewater. Other livestock farms will apply for it in 2021.
- ◆ We work with the Environmental Protection Agency's promotion of the use of biogas slurry and residues for farmland fertility and the reuse of agricultural business waste. As of 2020, the cumulative irrigation with biogas slurry and residue on the farmland amounted to 61,559 tonnes (Nanjin, Xincuo, Shilinfan and Da Xiang Er Chang), and the amount of reused liquid waste irrigated in Douliu Breeding Farm reached 21,164 tonnes. The biogas slurry is used on the farmland to increase soil fertility, reducing wastewater discharged to rivers and thus reduced pollution.
- ◆ Wastewater discharge standards: BOD: 80 mg/L, COD: 600 mg/L, SS: 150 mg/L.
- ◆ All the livestock farms of the Animal Industry Business Division entrusted qualified inspection agencies to conduct sampling analysis every 6 months in accordance with the Water Pollution Prevention and Control Law. Regular reporting shall be done by filling out the animal husbandry wastewater (sewage) test declaration form on the website designated by the EPA, and the declaration is handled through network transmission.



4.2.3 Dong Hai Feng Livestock Farm

Dong Hai Feng Livestock Farm is TSC's first green pig demonstration farm combining negative pressure ventilation and water curtain, biogas power generation and solar photovoltaics. Modern systems including ventilation and odor reduction, automatic feed and water supply and pig manure collection systems, along with the public facilities including power supply system, water supply system, reclaimed water system, rainwater recovery system, sewage collection system and drainage system have been introduced, and this demonstration farm was put into official operation in 2020. The target for biogas power generation is 2.3 million kWh/year and 1.5 million kWh/year for solar power generation.



Dong Hai Feng Circular Park has designed separate sewer systems for excreta and rainwater, and the recovered rainwater is introduced to the pig housing to replenish water for water curtain and pig housing cleaning, which will effectively reduce the production costs and increase the capacity by 20%, up to 42,370 pigs/year while the total water usage can be reduced by 83%. In addition, the establishment of regional biogas energy centers and sewage treatment facilities can help with treatment of pig manure and urine inside and outside the farm, and wastewater and agricultural waste generated by the pig farmers in the neighborhood can also be disposed. It is planned to treat 200 tonnes of pig manure and urine inside and outside the farm as well as external agricultural waste daily, disposing 200 CMD of domestic sewage and treated biogas slurry in the biogas center. In 2020, 6,730.62 tonnes of pig manure and urine outside the pig farms, 462.20 tonnes of distillers' grains and 491.07 tonnes of fruit peels have been treated.

After pig manure and urine are collected, the anaerobic fermentation treatment method is used for wastewater. Solid-liquid separation is carried out, and the separated pig manure is dried or fermented before reuse. Part of the liquid is provided for biogas power generation through anaerobic fermentation, and the biogas slurry is used as the fertilizer in the farmland. On the other hand, some part of treated sewage meeting the water discharge standards is used for irrigation within the circular park, aiming at reaching the goal of zero discharge of wastewater.

Dong Hai Feng Livestock Farm- Pig Housing with Green Energy & Water Resources Sharing



Traditional Pig Farming		Dong-Hai-Feng Green Energy Pig Housing
N/A	Rooftop solar panels in livestock housing	1.5 million kWh/year
Open	Type of livestock housing	Closed negative pressure water curtain
Equivalent to outside temperature	Temperature of livestock housing	24-28°C
30 liters	Water consumption (head/daily/day)	5 liters (reduced by more than 80%)
Pig manure on the farm	Biogas Center	Treatment of the pig farm and assisting with the disposal of surrounding agricultural waste
N/A	Biogas power generation	2.3 million kWh/ year
Entrusted cleaning	Organic fertilizer	2,000 tons/year, for self-reuse
Manual	Management mode	IOT- Automatic management
Groundwater pumping	Water resources management	Rainwater, wastewater recovery, reduction of groundwater pumping
N/A	Carbon reduction	2,000 tons CO ₂ e/year
N/A	Environmental education	Cooperate with the promotion of government policies

4.3 Waste Management and Reuse

In 2020, the amount of general business waste handled included 26,006.26 tons for landfill, 2.16 ton for incineration, and 213,528.93 tons for reuse (compost or soil amendments). In 2020, the waste disposal amount increased by 18.32% compared with 2019.

All pig carcasses and discarded afterbirths in all pig farms shall be destroyed, rendered or processed with measures necessary in accordance with the Statue for Prevention and Control of Infectious Animal Diseases and Waste Disposal Act, and shall not be cut, processed, transported, stored or sold for human consumption or intended for human consumption. Our Livestock Business Division complies with the government regulations and entrusts qualified rendering plants to handle pig carcasses and afterbirths in all farms with chemical processing procedures to avoid misappropriation by unscrupulous vendors, preventing them from entering the meat supply market, endangering the health of people in Taiwan and damaging the goodwill of TSC.

Waste treatment capacity

Unit: ton(s)

Composition of Waste		On-site		Off-site
Item	Waste generation	Treatment method	Waste generation	Treatment method
Non-hazardous waste				
Sludge	-	-	8.02	Landfill
Fly ash stabilizer	-	-	24,295.16	Landfill, solidification treatment
Waste general items and containers	-	-	1,703.08	Landfill
Filter residue	-	-	5.39	Reuse (compost)
Filter paper	-	-	0.24	Incinerated (including energy recovery)
Plastic bags	-	-	1.28	Incinerated (including energy recovery)
Plant residue	-	-	39.76	Reuse (compost)
Waste clay	-	-	299.95	Reuse (compost)
soap stock	-	-	1,402.74	Reuse (compost)
Plant residues (waste bean meal)	-	-	27.93	Reuse (compost)
Died pigs	-	-	1,677.02	Reuse (processed in qualified rendering plant)
Bagasse	88,038.81	Reuse (fuel)	57,564.47	Reuse (compost, farm soil improvement)
Filter mud	-	-	41,064.35	Reuse (compost, farm soil improvement)
Soot	-	-	14,312.38	Reuse (compost, farm soil improvement)
Pig manure slag	2,396.1	Reuse (compost)	3,170.66	Reuse (treated by contract vendors)
Fertile soil	-	-	3,529.37	Reuse (public auction, soil amendments)
Hazardous waste				
Waste liquid	-	-	0.64	Incinerated (excluding energy recovery)

Note:

1. "On-site" refers to the scope within the physical boundary or administrative control of the reporting organization; "off-site" refers to the scope outside the physical boundary or administration control of the reporting organization.
2. Fly ash stabilizer is produced after incineration while treating public environmental waste problem. The unit responsible for the treatment of it is prescribed in the contract with the local environmental protection agency. Here only the amount treated in Gangshan Refuse Incineration Plant is listed.

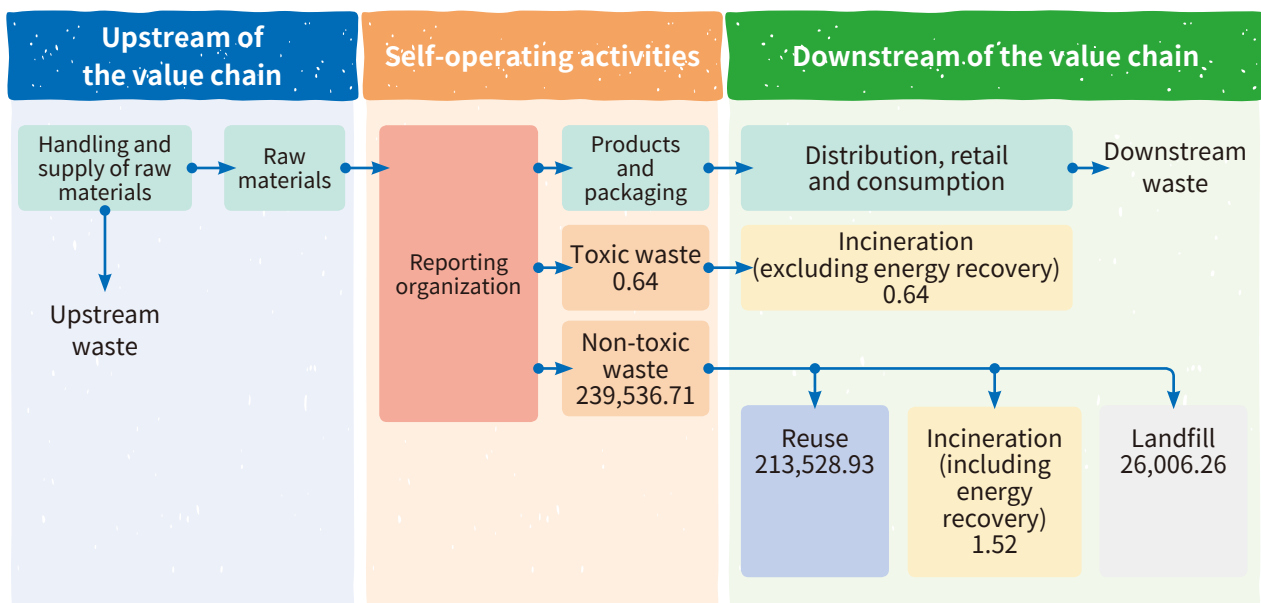
Waste treatment capacity

Unit: ton(s)

Composition of Waste	Hazardous waste		Non-hazardous waste		Total
Treatment method	On-site	Off-site	On-site	Off-site	
Transfer during disposal	0	0	90,434.91	123,094.02	213,528.93
		0		213,528.93	
Direct disposal	0	0.64	0	26,007.78	26,008.42
		0.64		26,007.78	
Total		0.64		239,536.71	239,537.35
Total waste					239,537.35
Recycle ratio					89.14%

Note:

1. Transfer during disposal: recycling for reuse.
2. Direct disposal: incineration (including energy recovery), incineration (excluding energy recovery), landfill and other disposal operations.
3. The calculation of Recycle ratio = Recyclable waste treatment volume/ Total waste volume x100%.



► Reduction in the Output of Waste

In 2020, the waste reduction measures were implemented in the manufacturing process, and the recycle ratio of waste reached 89.14%, increased by 3.15% compared with 2019. This was mainly because that the increase in sugarcane yield resulted in the increased processing volume of recyclable waste, including bagasse, filter sludge, soot, and fertile soil, and therefore, the recycle ratio increased accordingly.

2020 Achievements of the promotion of green products and services of all units



Marketing Business Division and Biotechnology Business Division

The new product packaging design of the Marketing Business Division is in line with the policy of limiting over-packaging of products announced by the Environmental Protection Administration (EPA), Executive Yuan, to reduce the use of packaging materials and generation of waste, easing off the environmental load. Take the packaging of the Clam Essence for example, the lining frame strengthens the structure and texture of the box with folded edges while the size of the gift box is reduced to meet the requirements of the prescription. In 2020, the Biotechnology Business Division continued to use 2,986,494 glass bottles with reduced weight for the Clam Essence Products, a 7.6% decrease in weight compared with the old glass bottles, which is converted to a 23,892 kg reduction in glass use, reducing the impact of glass to the environment.



Sugar Business Division

The Shanhua Sugar Refinery of Sugar Business Division changed business waste of bagasse and filter mud into recycled materials as the soil amendment, reaching the purpose of circular economy. In 2020, the Bagasse Company of Shanhua Sugar Refinery received 10,928.49 tons of bagasse internally and sold 9,320.79 tons externally; the filter mud is officially named Fertile Soil, and the Company received 15,904.1 tons internally and sold 3,529.37 tons externally, achieving the reuse of resources and reducing the use of chemical fertilizers.

In 2020, the egg cards of *Trichogramma chilonis* were provided to our self-operated farms and contracted sugarcane gardens. In addition, TSC was also entrusted to provide the eggs of *corcyra cephalonica* (stainton) as the materials to feed *Chrysopidae* to function as a pest control for fruits and vegetables, which can significantly reduce the use of pesticides.



Animal Industry Business Division

To work in line with the government's requirements of green environmental protection, in 2020, 39.7% of the pig manure slag produced in the livestock farms will be self-reused and fermented to environmentally friendly organic fertilizer for the farmers to use on the farmland to improve physical properties of soil, increase crop growth, yields of crops and the farmers' benefits.

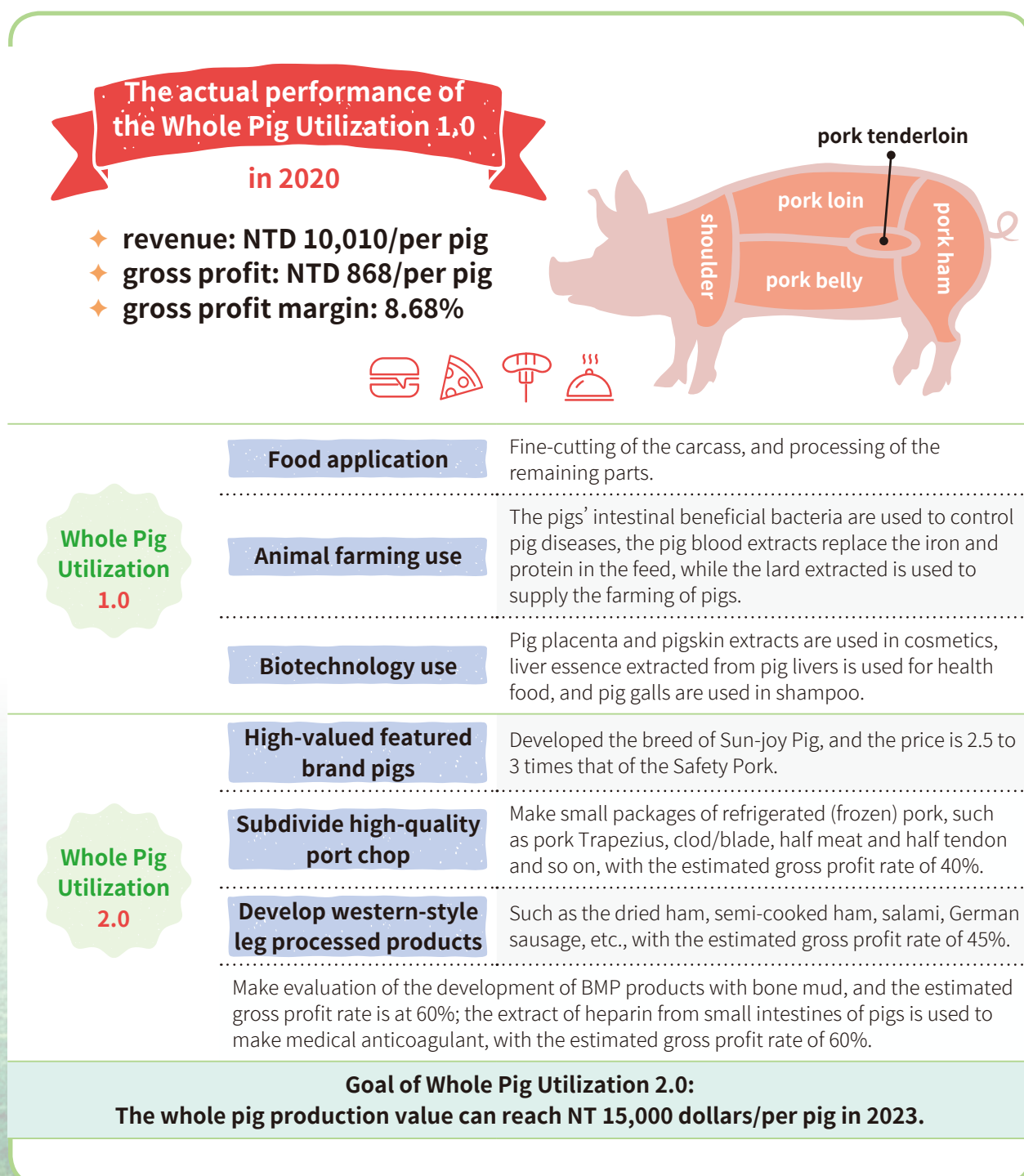


Agriculture Business Division

The tissue culture bottles used for the production of *Phalaenopsis* seedlings are reusable glass culture bottles instead of non-reusable plastic cases. From January to December in 2020, a total of 980,722 glass culture bottles were used, and all of them were recycled for reuse, with the reuse rate of 100%.

► Whole Pig Utilization

The Whole Pig Utilization Project is a 12-year project, starting from January 2017 to December 2028. The whole project includes Whole Pig Utilization 1.0 which focuses on hog carcass grading, processing of remaining parts, recycling waste such as excreta and non-edible parts; Whole Pig Utilization 2.0 which focuses on the refinement of pork, the high price of pork, and development of products for medical use that will start; Whole Pig Utilization 3.0 which aims at passing the SPF certification and applying the tissues and organs to the development of biochemical materials. In 2020, the actual performance of the Whole Pig Utilization 1.0: revenue NTD 10,010/per pig, gross profit NTD 868 /per pig, gross profit rate 8.68%.



Whole Pig Utilization 3.0

It is planned to pass the Specific Pathogen Free (SPF) certification of pigs in 2026, and in 2028, pigs' organs are to be applied in the development of biomedical materials, such as artificial heart valves, insulin, plasma proteins, etc.

Goal of Whole Pig Utilization 3.0:

The whole pig production value can reach NT 20,000 dollars/per pig in 2028.

Whole Pig Utilization 1.0- Value-added use of pig blood

The company outsources the slaughter of about 80,000 hogs annually, producing about 240,000 kilograms of pig blood. Currently, the technology of extracting heme iron from pig blood cells has been developed, and the iron content is 4 times more than that in the market, making it an excellent source of iron supplement. The plasma remained after heme iron is taken is planned to be made into plasma protein powder in the future that can be used as raw material for food or feed.

► The Use of Whole Sugarcane

Through the redesign of products and process, value is added to the by-product of sugar refining, sugarcane bagasse, for the reuse of it. We have developed an innovative business model to provide materials of composted bagasse to mushroom farmers in the rent to own model and was awarded Innovation Award of the 2020 Taiwan Circular Economy Awards.



This circular economy model not only makes use of bagasse to replace natural sawdust in the cultivation of mushrooms but also reduces tree logging while increasing mushroom production. The residual nitrogen fertilizer in bagasse can even shorten the composting time, and the introduction of the recycling mechanism also reduces the processing costs for mushroom farmers. It not only extends the life cycle of bagasse but also achieves the innovative business model of secondary recycling and continuous reuse, creating not only the products but also the value, fully embodying the spirit of circular economy.



5

Human Resources



5.1 Optimization of Talent and Organization

5.2 Labor Relations

5.3 Reinforced Occupational Safety



Talent cultivation and improvement of organizational efficiency are the key points of TSC's management innovation.



Corresponding material topics

Labor/ Management Relations, Occupational Health and Safety

Policy

- ◆ Cultivation of talents of the next generation and improvement of the overall operational management capabilities (Employment and Labor Relations)
- ◆ Anticipation, prevention, compliance, implementation, systemization, self-management, follow-up inspection, continuous improvement (Occupational Health and Safety)

➤ Short-term goals (within 3 years):

1. To implement the responsibility center system and practice goal management
2. To check the contents of the job responsibilities and make plans for the company's manpower needs in 5 years
3. To create more diversified channels for talent acquisition and strengthen talent cultivation
4. To promote engineering contract source management, build online operations of "engineering hazard assessment", and specify that when proposing the project budget, an engineering hazard assessment form must be submitted, and the safety and health protection costs should be listed in accordance with the "engineering hazard assessment form" for further precautions to avoid listing in an irregular format
5. Proactive performance target achievement rate: To have 100% compliance rate of regulations and other requirements as well as the improvement rate of deficiencies in safety and health inspections, and more than 98% of education and training participation rate
6. Achievement rate of passive performance target: To have 100% completion rate of event investigations, and the Disabling Injury Frequency Rate and the Disabling Severity Rate to be the average value of the middle three years of the previous five years

Commitments and goals

➤ Medium and long-term goals (3 to 7 years):

1. To publicly and selectively recruit manpower to reinforce the core and to meet the needs for sustainable management operations
2. To introduce contract professional managers and introduce professional advisors from different fields to provide professional advice
3. To achieve the highest occupational safety and health goals of "zero disaster", "zero accident" and "zero injury" for TSC

Responsible units

- ◆ Social and Employee Care Group of Corporate Sustainable Development Committee
- ◆ Internal and external units
- ◆ Industrial union of TSC

Input resources

- ◆ To foster the future talents for basic-, mid- and high-level executives through the reserve cadre plan to facilitate the succession. This plan is expected to be implemented in 2018~2022, with a budget of NTD 46.26 million
- ◆ Set up Employee Welfare Committee and the Recreational Activities Promotion Committee to actively handle various sports, arts and cultural activities, and develop the cohesion and team spirit of the employees
- ◆ In 2020, TSC's education and training expenses were NTD 38,546 thousand
- ◆ Invested NTD 2,162 thousand in occupational safety and health training

Recourse mechanism

- ◆ Set up an Employee Care Group to actively help employees with problems that can affect work, life and health, providing subsidies, condolence money and leave
- ◆ Established grievance channels for employees when their rights are infringed or when they face improper disposal which is not able to be solved properly
- ◆ Established the "Personnel Appraisal Committee" to review employee rewards and penalties
- ◆ Formulated "Taiwan Sugar Corporation Complaint Investigation and Discipline Guidelines for Sex Harassment Prevention" to free employees and job-seekers from a workplace with sexual harassment and to prevent sexual harassment in the workplace
- ◆ "Precautions against Illegal infringement in Duties"

Management System and Action

- ◆ Implement job rotation operations to expand personnel work functions and improve the flexibility of manpower utilization
- ◆ Incorporate specific KPIs into the individual annual performance assessment as a measurement indicator and add the mechanism for assessment interview and counselling to assist employees to understand the functional items and work competence needed to be strengthened
- ◆ Labor-management conferences, Organizational Rules for Employee Welfare Committee, Taiwan Sugar Corporation Complaint Investigation and Discipline Guidelines for Sex Harassment Prevention, Guideline of Grievance for TSC Staff, Working Rules for Practitioners, Guidelines for Employees' General and Project Evaluation, training-related rules and regulations
- ◆ Occupational Safety and Health Management System (TOSHMS, OHSAS18001), Disasters Handling Guidelines, Guidelines for Disasters Emergency Response, Fire Safety Equipment Inspection and Guidelines for Maintenance and Report, Precautions for Diseases Caused by Abnormal Workloads, Precautions for Musculoskeletal Disorders Caused by Repetitive Tasks

Assessment management mechanism

Internal Control System, TSC Performance Assessment System, Corporate Sustainable Development Committee Work Plan and Implementation Review Meeting



5.1 Optimization of Talent and Organization

The future planning of manpower and organization will be in line with the direction of business development and rolling adjustment will be adopted. In addition, through appropriate incentives and punishment systems, the Company can be united as one for smooth operation.

5.1.1 Talent Acquisition and Turnover

► Talent Acquisition

The recruitment is based on the Employment Services Act, Labor Standards Act and “Regulations for the Employment of the Personnel of Business Units Affiliated with the Ministry of Economic Affairs”. In addition, for specialized or technical personnel with special business nature, it is possible to hire them in an open manner as contract employees. Recruitment of talents complies with legal regulations that require the protection of employee human rights, personal privacy, and the prohibition of improper discrimination. In the recruitment of talents, the Company upholds the principles of fairness, justice and integrity. Recruitment, selection, and hiring of employees are all in compliance with government regulations. There will be no discrimination and differential remuneration based on race, class, language, ideology, religion, political party, place of origin, place of birth, gender, sexual orientation, age, marriage, appearance, facial features, physical or mental disabilities, or membership in a union.

The terms of each contract require the suppliers to provide labor and health insurance to their employees, shall not perform forced labor or employ child labor (15 years old and above, under 16 years old), and shall implement gender equality in work in accordance with the national human rights regulations and Labor Standards Act. Once suppliers are found to be in violation of gender equality in work, freedom of association, sexual harassment prevention, normal leave and non-payment of overtime, they will be immediately requested for improvement within a limited time and may be fined for breach of the contract. If they do not listen to advice or repeatedly violate the terms, the contract with such supplier may be terminated. Human rights protection requirements also apply to companies for major investment. Suppliers we have been working with for long can gradually attach more importance to human rights.



► Talent Retention

In order to retain competitive talents, TSC strives to establish a friendly working environment, pay attention to the balance between work and life, provide employees with training and development opportunities and encourage employees to continuously improve themselves to achieve the development of individual careers. In recent years, new blood has been activated and most new employees recruited are under 30 years old. The number of employees entering and leaving TSC in the last three years was as follows.

The number of new employees in the last three years

Year	2018				2019				2020			
Age\ Gender	No. of male employees	Employment rate of male employees (%)	No. of female employees	Employment rate of female employees (%)	No. of male employees	Employment rate of male employees (%)	No. of female employees	Employment rate of female employees (%)	No. of male employees	Employment rate of male employees (%)	No. of female employees	Employment rate of female employees (%)
Under 30 years old	82	41.0%	62	46.6%	97	37.3%	84	42.0%	79	32.6%	23	12.9%
31-50 years old	72	7.2%	35	17.2%	72	7.3%	21	9.7%	45	5.0%	16	6.9%
51 years old and above	4	0%	1	0%	5	0.3%	1	1.0%	2	0.1%	0	0%
Total number of new employees	256				280				165			
Total number of employees	3,560				3,451				3,288			
Employment rate (%)	7.2%				8.1%				5.0%			

Note:

1. New employees include retired/resigned ones.
2. Employment rate (%): Number of new employees in the category for the current year/ Total number of employees in the category at the end of the year.
3. The total number of employees does not include the number of those on leave without pay for the current year.



The number of retired/resigned employees in the last three years

Year	2018				2019				2020			
Age\ Gender	No. of male employees	Turnover rate of male employees (%)	No. of female employees	Turnover rate of female employees (%)	No. of male employees	Turnover rate of male employees (%)	No. of female employees	Turnover rate of female employees (%)	No. of male employees	Turnover rate of male employees (%)	No. of female employees	Turnover rate of female employees (%)
Under 30 years old	8	4.0%	4	3.0%	15	5.8%	4	2.0%	12	5.0%	7	3.9%
31-50 years old	17	1.7%	3	1.5%	44	4.4%	20	9.2%	16	1.8%	4	1.7%
51 years old and above	207	10.9%	11	8.7%	215	12.8%	22	21.0%	151	9.2%	15	15.6%
Total number of retired /resigned employees	250				320				205			
Total number of employees	3,560				3,451				3,288			
Turnover rate (%)	7.0%				9.2%				6.2%			

Note:

1. Turnover rate (%) = the number of retired/resigned employees in that category for the current year/the total number of employees in that category at the end of the year.
2. The number of retired/resigned employees includes employees who volunteer to resign or are fired, retire, or who die while on duty.
3. The total number of employees does not include the number of those on leave without salary for the current year.

5.1.2 Labor Structure

TSC has no foreign employees. We hire employees based on professional competence and experience, and all the employees are protected by the Labor Standards Act. The ratio of male to female employees is approximately 5.5:1. However, there is no differential treatment or discrimination in terms of employment, salary, performance appraisal and promotion due to gender or marriage status.

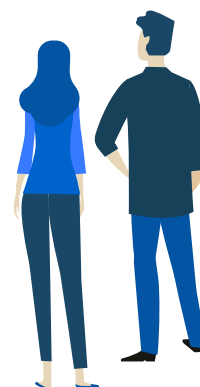
TSC is mainly in the agriculture and animal husbandry industry, with a majority of employees being males. Male employees account for 84.64% while female ones account for 15.36% of all employees. A joint examination is established based on medium and long-term manpower planning and the manpower needs of the respective units to recruit new employees, those who are enrolled will be assigned to the units in need of manpower for adequate jobs. The distribution and composition of TSC's staff in the past five years are as follows.

Total number of employees

Item\ Year	2018		2019		2020	
Item\ Gender	Male	Female	Male	Female	Male	Female
Total number of employees	3,560		3,451		3,288	
Dispatched personnel	1,328	266	1,343	346	1,312	340
Employed personnel	1,722	116	1,575	125	1,462	118
Contract-based personnel	19	6	7	2	6	1
Contracted personnel	29	74	4	49	3	46

Note:

According to Article 5 of the "Regulations for the Employment of the Personnel of Business Units Affiliated with the Ministry of Economic Affairs", personnel dispatched with rank 6 or above are called dispatched personnel; those who are employed with rank 5 or below are called employed personnel. In addition, for the needs of the business, for specialized or technical personnel with special business nature, it is possible to hire them in an open manner. Employees with rank 6 or above are contract-based personnel, the ones with rank 5 or below are contracted personnel.



Looking at the distribution of age and gender among the employees, those under the age of 30 have increased by 33.83% compared to 2018, showing that the manpower structure in the Company is now being adjusted.

Age and gender distribution of employees

Year	2018		2019		2020	
Age group \ Gender	Male	Female	Male	Female	Male	Female
Under 30 years old	200	133	260	200	242	178
31-40 years old	286	126	311	147	294	149
41-50 years old	713	77	681	70	606	82
51 years old and above	1,899	126	1,677	105	1,641	96
Total	3,098	462	2,929	522	2,783	505

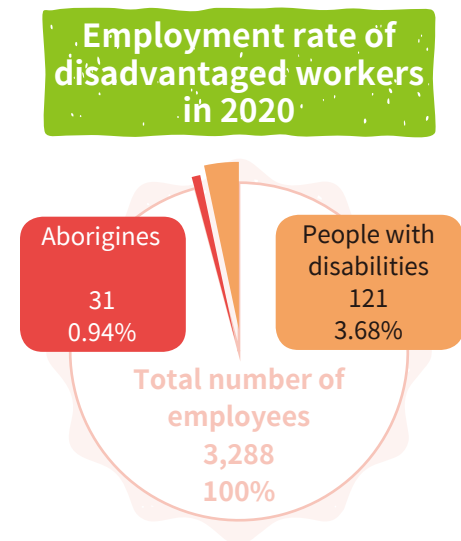
Category, education background and age distribution of employees in 2020

Age group/category		High-level executives		Mid-level executives		Basic-level executives		Administration		Techniques	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
 Age	Under 30 years old	0	0	0	0	0	2	72	111	170	65
	31-40 years old	0	0	3	0	10	3	132	101	149	45
	41-50 years old	1	0	37	2	45	4	262	59	261	17
	51 years old and above	65	7	227	13	185	4	556	63	608	9
 Education background	Graduate school	36	5	104	10	53	6	184	121	179	60
	University/College	29	2	156	5	168	6	553	191	541	74
	High school and below	1	0	7	0	19	1	285	22	468	2
	Aborigines	0	0	0	0	0	0	14	3	12	2
People with disabilities		2	0	10	0	14	0	53	17	25	0

Note: High-level executives include chairman, president, VP and all bosses and deputies herein in each unit.

► Hiring and Caring for Disadvantaged Groups

In order to protect equal employment opportunities for disadvantaged and related ethnic groups, we have complied with the relevant provisions of People with Disabilities Rights Protection Act and Indigenous Peoples Employment Rights Protection Act in the employment of physically and mentally disabled persons and indigenous peoples. The Company now employs 31 aborigines and 121 people with disabilities in compliance with the employment regulations. There has been no report of infringement of the aborigines' right in the Company in 2020.



5.1.3 Talent Cultivation

TSC attaches great importance to the development of each employee's work function and lifelong learning. By the end of November each year, we ask the various departments and units to organize curriculum that enhance the operation and management performance of each unit. The minimum number of training hours per person per year is set according to the positions and ranks of employees. The promotion system and education and training are implemented to improve the knowledge and skills of employees and cultivate correct working attitudes.

► Training Hours

TSC will immediately carry out relevant education and training on its own rights, safety and health and internal control of the Company after the employment. We constantly explore the needs of organizations and individuals, review them at all times and gradually carry out all necessary trainings to enhance their knowledge and skills required for career development.

In 2020, the number of trainees was 3,364 (average number from January to December), with 15,029 training hours in total, and the average training hours per person (physical and online) were 47.27 (15,029/3,364=47.27) hours respectively, and the staff training expenses totaled NTD 38,546.



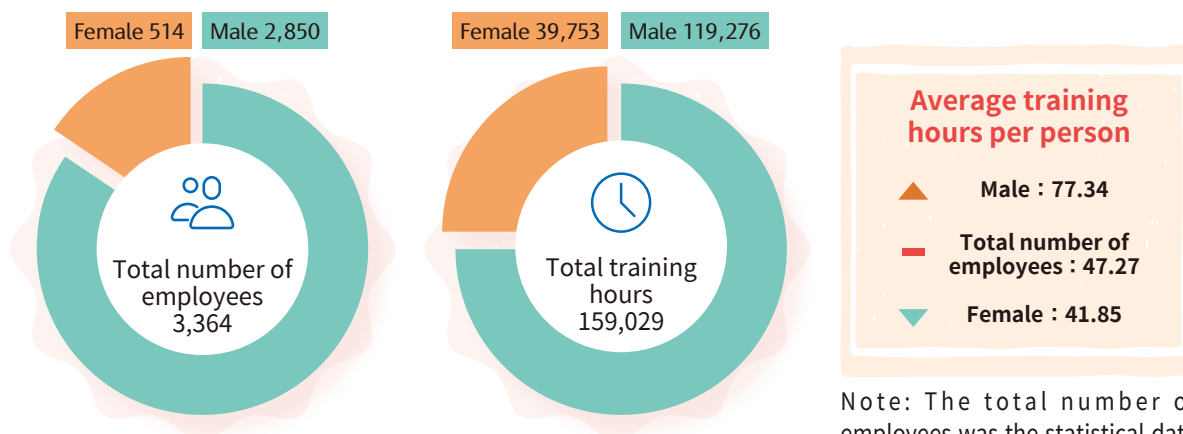
The category and gender of the trainees and average number of training hours

Year		2018			2019			2020		
Item / Gender		Total no.	Total training hours	Average training hours	Total no.	Total training hours	Average training hours	Total no.	Total training hours	Average training hours
Management	Male	1,235	76,950	62.31	1,115	61,671	55.31	1,079	53,949	50.00
	Female	148	13,731	92.78	131	7,764	59.27	127	6,792	53.48
Permanent employees	Male	1,815	87,867	48.41	1,803	73,979	41.03	1,745	71,500	40.97
	Female	234	22,669	96.88	340	35,800	105.29	353	24,995	70.81
Temporary employees	Male	48	2,283	47.56	27	698	25.85	10	250	25.00
	Female	80	3,173	39.66	60	1,878	31.30	50	1,543	30.86
Dispatched workers	Male	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0

Note:

- Formula: Average training hours of male employees in 2020 = Total training hours of male employees in 2020 / Total number of male employees in 2020.
- Management includes the personnel with rank 7 (inclusive) or above; formal employees include the personnel with rank 6 or below and the evaluators; permanent employees include assigned and employed ones; temporary employees include contract-based personnel and contract personnel.
- The Company was in sugar manufacturing industry in early days. Due to the business model, the proportion of male and female employees was very different (about 10:1). In recent years, the proportion of newly recruited female employees has increased significantly (male/female: 5.5:1). The Company has arranged intensive training courses (about 70 hours/ person) so that new recruits can get familiar with the business earlier. The proportion of female new recruits in 2020 was higher (the number of female new recruits was 39/ the total number of female employees was 329: the number of male new recruits was 126/ the total number of female employees was 1,745 in 2020), resulting in their higher average training hours than male employees'.

Average hours for employee learning and development in 2020 (by gender)



Note: The total number of employees was the statistical data as of December 2020.

► All-around Development

The employee training is based on the long-term development of the enterprise, with the indicators of promoting and activating the development of talent function. TSC attaches importance to the all-round learning of employees and provides diversified and innovative training channels to implement life-long learning to create a learning-type organization. The Company has formulated the “TSC Education and Training Operation Guidelines” to cultivate professional manpower meeting the company’s business needs.

The Company provides regular and comprehensive training resources and learning environment, including the common training organized by the Company, independent training organized by each unit in accordance with the individual business needs, second expertise and transfer training, participation in training outside the company, on-the-job training, knowledge sharing activities, digital learning courses. We enable more efficient growth and learning of our employees with a solid education and training system, creating a company brand with value and competitiveness.

Number of employees in various courses in 2020

Course Type	No. of trainees	Male	Female
New staff training	172	123	49
Primary supervisor training	73	45	28
Mid-level supervisor training	39	29	10
Expertise and technology training	33,218	28,494	4,724
Total	33,502	28,691	4,811



The Performance and Results in 2020

In-service education dvancement subsidies

There were 42 applications with a total subsidy of NTD 594,192.

Tuition subsidies for foreign language studies

39 applications were submitted with a total subsidy of NTD 255,790.

Knowledge sharing activities

A total of 14 units participated in knowledge sharing activities in 2020.

There were 189 sessions in total with 4,988 participants.

The book review competition held by the Ministry of Economic Affairs

A total of 32 articles.

5.2 Labor Relations

► Performance Assessment and Rewards & Punishments

The purpose of employee appraisal not only focuses on the annual performance assessment of the employees but also on the stimulation of the development of their potentials. 100% of the employees at TSC are subject to annual performance assessment. The direct supervisors conduct initial appraisal of the performance and submitted it to the indirect supervisor of the department for reassessment, and the performance is verified in accordance with their responsibilities. Starting from 2015, the Company formulated the procedures and matters regarding the annual assessment of employees in order to promote the spirit of performance appraisal, awarding superior and eliminating the inferior and encourage performance of the employees. In addition, in order to make the system prudent and careful, we enhanced the audit level and established a review team to enforce the controversial administrative power based on the harmony of the employer-employee relationship.

The operational performance bonus is divided into “assessment bonus” and “performance bonus” as prescribed in the “Key Points for the Implementation of Performance Bonus Plan of the State-owned Enterprises Affiliated to the Ministry of Economic Affairs”. Assessment bonus has to be granted in accordance with the results of work assessment; performance bonus is distributed when there is surplus in the company. The operational performance bonus of the year in all units is divided into “assessment bonus” and “performance bonus”. The total allocated amount of the bonuses was amended in 2012 by MOEA to the limit of no more than 4.4 months’ salary.



► Collective Agreement

The TSC Federation of Labor Unions entered the annual agreement with the Company for both parties to abide by in 2010 to protect the rights and interests of both parties, improve work efficiency and respect each other's exercise of rights of operation and labor to create a business development. The ratio of employees being protected by the collective agreement reaches 100%. In response to some changes in part of the labor conditions announced in the Labor Standards Act, TSC and TSC Federation of Labor Unions restarted the negotiation and completed the signing of the collective agreement on August 10, 2020.

► Maintaining Employee Rights

TSC has been upholding the concept that the employees are the Company's most important assets as well as the cornerstone of the Company's growth, and it also attaches great importance to the employees' working environment, development and care. We have established diversified communication channels. Continue to promote various employee care measures in an attempt to establish a warm and caring working environment and create an organizational culture of good interaction. The protection of human rights is handled in accordance with government regulations at TSC. During the reporting period of 2020, TSC was not subject to any human rights review or impact assessment.

In order to strengthen and implement human rights, regular human rights-related courses are held, including the implementation of gender mainstreaming, sexual harassment prevention and control, the Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW) and seminars or courses related to gender equality, labor laws and Labor Standards Act. There were 2,830 participants in 2020, and the total number of training hours was 5,417 hours, accounting for 86.1% of the total number of employees.

In terms of labor rights, TSC strictly abides by various labor laws. We have established employee opinion mailboxes and held employee seminars which allow the employees to offer open and unimpeded advice and appeals. TSC also commits itself to prevention and control measures for sexual harassment. Apart from advocating in orientation training, it also sets up special hotlines, faxes or e-mail boxes to handle sexual harassment complaints. If a complaint is received, the privacy of the parties should be protected during the investigation process in order to provide employees with a work environment free from sexual harassment. Education and training programs such as gender mainstreaming, sexual harassment prevention and gender impact assessment are continuously arranged from time to time to enhance employees' awareness of gender sensitivity and gender mainstreaming. In 2020, there was no occurrence of violation of human rights and discrimination nor labor complaints. If there is feedback from the employees, TSC will immediately reply and help them solve the problem.

► Labor Conference

The Labor Conference aims to dissolve differences and seek consensus. It consists of representatives of both employers and employees and discusses and effectively communicates relevant issues such as labor rights and working conditions. The proposals of the labor conference are all documented, tracked and understood at any time. All employees are provided with timely information on the meeting and an interactive mechanism is established. In addition, it also strengthens the relationship between the Company and its employees through multiple practices such as timely communication with labor representatives, issuing company publications and setting up mailboxes to enhance employee satisfaction. Both employers and employees timely exchange opinions or negotiate with each other in terms of the issues of common concern between them. In 2020, all units held a total of 72 labor conferences , and no labor dispute or loss was caused by it.

► Advance Notice of Operation Change

Where TSC 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:

- ◆ 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.
- ◆ 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.
- ◆ Where a worker has worked continuously for more than three years, the notice shall be given thirty days in advance.

After receiving the advance notice referred to in the preceding paragraph, a worker may, during working hours, ask for leave of absence for the purpose of finding a new job. Such leave of absence may not exceed two work days per week. Wages shall be paid during such leave of absence. Where an employer terminates the contract without serving an advance notice within the time limit prescribed in the first paragraph of this article, he/she shall pay the worker wages for the advance notice period.

► Remuneration System

The overall employee remuneration includes the monthly salary and variable pay (including bonuses). The monthly salary is based on the employee's professional functions and job title, and the variable pay is distributed in accordance with the company's operating performance and individual work performance regardless of gender or region. The salary was not adjusted in 2020. The self-employed personnel through independent exams was NTD 26,896. The salary of new recruits is higher than the local (Taiwan) minimum wage. The ratio of basic salary and remuneration of women and men in the same department, seniority, position and rank is 1:1. The ratio of TSC's highest annual personal income to the median annual income of all employees was 204%. The percentage of the Company's highest annual total salary increase is consistent with the median percentage of other employees' average annual total salary increase.



► Welfare

In addition to providing basic protection for employees, TSC has also established the “TSC Employee Welfare Committee” in accordance with the “Employee Welfare Fund Act” and “Organization Regulations on Employee Welfare Committee” in order to strengthen the implementation of employee welfare programs in the affiliated units. Handle the planning and implementation of employee welfare issues. A harmonious working environment is therefore created by the perfect welfare system.

Welfare Items

Employee and children education loans	Condolatory supplement for death of employees' parents and spouses	Condolatory supplement for major illness/injury
The subsidy for children attending Nan-Kwang Senior High School	Condolatory supplement for natural disasters	Accommodation subsidy in TSC's own tourist attraction
Employees' and their Children's Award and Scholarship	Emergency loans for employees and dependents	Employees' maternity allowance
Employees' and the dependents' medical benefits	Condolatory supplement for employees suffering from cancer	Wedding gift money
Subsidy of Consultation fee	Employee Welfare Committee Group Insurance	Employee health examination subsidy
Loans for natural disasters		

► Nursery Benefits

There is no difference regarding parental leave without pay due to gender, job titles and work areas. Both male and female employees can apply for parental leave without pay. In 2020, 8 employees applied for parental leave without pay and 7 were reinstated. In 2020, the retention rate for women reached 100%.



Year	2018			2019			2020		
Item/ Gender	Male	Female	Total	Male	Female	Total	Male	Female	Total
The number of employees eligible to apply for parental leave without pay (A)	72	42	114	74	42	116	75	36	111
The number of employees who actually applied for parental leave without pay in the current year (B)	2	10	12	1	10	11	3	5	8

Year	2018			2019			2020		
Item/ Gender	Male	Female	Total	Male	Female	Total	Male	Female	Total
The number of employees who were expected to be reinstated after parental leave without pay in the current year (C)	2	4	6	0	7	7	2	5	7
The number of employees who were actually reinstated in the current year (D)	1	4	5	0	7	7	2	5	7
The number of employees who were actually reinstated in the previous year (E)	2	3	5	1	4	5	0	7	7
The number of employees who were actually reinstated in the previous year and has been reinstated for 12 months (F)	2	3	5	1	4	5	0	7	7
Reinstatement rate in the current year % (D/C)	50%	100%	83%	-	100%	100%	100%	100%	100%
Retention rate in the current year % (F/E)	100%	100%	100%	100%	100%	100%	-	100%	100%

Note:

As one of the male employees resigned after the reinstatement in March 2018, the male retention rate for 2018 was 50%.

► A Sound and Complete Retirement System

TSC handles retirement, compensation and severance in accordance with the “Regulations Governing the Pension, Severance and Survivor Payments for Employees of State-owned Enterprises Administered by the Ministry of Economic Affairs”. The pensions contributed are deposited in the special accounts of the trust department of the Bank of Taiwan. The Employee Pension Management Committee and the Supervisory Committee of Business Entities’ Labor Retirement Reserve are responsible for management and supervision. Pensions were allocated in accordance with the ratio of the total salary paid in 2020 (staff: 4.59%; worker: 0.18%). The pensions contributed are deposited in the special accounts of the trust department of the Bank of Taiwan managed and supervised by the Employee Pension Management Committee and the Supervisory Committee of Business Entities’ Labor Retirement Reserve. For workers choosing new pension system, 6% of their monthly salary is set aside as their retirement pension. In addition, job tenure settlement of the old pension system was conducted in July, 2020, and 830 people participated among the 1,217 qualified candidates.

5.3 Reinforced Occupational Safety

In order to promote workplace safety, prevent accidents, improve working conditions and safeguard the health of employees, the Head Office, the units and their subordinate units meeting the conditions prescribed in Article 10 of the “Regulations for Management of Occupational Safety and Health” all established the Occupational Safety and Health Committees. Members of the committee include safety and health managers, full-time nurses and members in different areas within the organization. Through regular meetings, the policy of TSC Labor Safety is communicated and the opinions between representatives of labor and management are exchanged through the Health and Safety Committee to prevent occupational disasters and to protect occupational safety and health.

In the collective agreement signed on August 10, 2020, the Company and the TSC Federation of Labor Unions agreed that the Company should handle safety and health issues in accordance with the Occupational Safety and Health Act and other relevant regulations and carry out occupational disaster prevention in accordance with government regulations. The trade union members should strictly abide by the relevant provisions of the Occupational Safety and Health Act and the rules made by the Company to prevent the occurrence of occupational hazards. In the collective agreement, the percentage of health and safety related topics is about 7%.

5.3.1 Occupational Safety and Health Management System

The "Taiwan Occupational Health and Safety Systems (TOSHMS)" has been established according to the “Regulations for Management of Occupational Safety and Health”. We have 9 units that have been verified by ISO 45001 and TOSHMS, including the Head Office, Xiaogang Sugar Refinery of Sugar Business Division, Shanhua Sugar Refinery, Huwei Sugar Refinery, Gangshan Incineration Plant of the Environmental Protection Business Operation Division, Kanting Incineration Plant, Kaohsiung Branch, the Petroleum Business Division and Biotechnology Business Division. Kaohsiung Operation Branch and Livestock Business Division have passed the verification in 2020.

In order to integrate matters regarding occupational safety and health management and improve performance in industrial safety management, the “TSC Occupational Safety and Health Management Information System” was established to manage occupational safety online. In addition to sharing information on industrial safety and saving data online, it also accelerates data transmission and simplifies the procedures. Meanwhile, it also achieves the purpose of saving paper for environmental protection. In addition, the Environmental Protection Information Webpage on TSC International Information Network and TSC Workplace Safety and Health Improvement Business Reporting System were established to establish a communication channel with employees to improve workplace safety and health.

► Hazard Identification and Risk Assessment

The head of each unit assigns personnel for “hazard identification and risk/opportunity assessment operations” for the relevant education and training organized by Occupational Safety and Health Department for 3 hours and more, and such personnel will be responsible for hazard identification and risk/opportunity assessment operations within the unit. Every September, it is necessary for them to confirm the hazard identification and risk/opportunity assessment operations online at the “TSC Occupational Safety and Health Management Information System” and publicize the hazards in the workplace and preventive measures.

The head of each department should also establish corresponding control measures based on the results of the hazard identification and risk assessment (risk level). Occupational Safety and Health Department also visits the workplace from time to time to discover potential hazards, make suggestions, propose improvement measures, and organize the List of Unacceptable Risks.

► Guidance and Inspection of Industrial Safety

In order to implement the management of industrial safety and strengthen the inspection of industrial safety, the annual "Industrial Safety Inspection Plan" is established according to the nature of business. Items to be improved are proposed and tracked until they are improved to ensure the safety of factory sites, business sites and workplaces and prevent disasters from happening so as to improve occupational safety and health management performance. In addition, through the walking management of high-level executives, senior executives at all levels will be sent to each unit for guidance and inspections from time to time.

Year/Item	2018	2019	2020
No. of annual industrial safety audits	1,037	936	917
No. of the walking management of high-level executives	3,183	3,074	3,088
No. of industrial safety audits for contractors	711	784	778



► Occupational Safety Performance Indicators

TSC attaches great importance to the safety of the working environment of employees and contractors, and is committed to creating a safe operating environment. In 2020, there have not been any occupational disease related cases among our employees and contractors, nor has there been any case of death, showing the efforts we have made in occupational safety for our employees.

Statistics of occupational injury

	Category	Item	2020
 Employees	Working hours	Total working hours for men	5,574,175
		Total working hours for women	1,611,177
		Total working hours	7,185,352
	Serious Occupational Injury Rate (Excluding deaths)	Total male Serious Occupational Injury Rate	0
		Total female Serious Occupational Injury Rate	0
		Total Serious Occupational Injury Rate	0
	Recordable occupational injury rate (including deaths and number of serious occupational injury)	Total male Occupational Injury Rate	0.11
		Total female Occupational Injury Rate	0
		Total Occupational Injury Rate	0.08
 Nonemployee workers (contractors)	Working hours	Total working hours for men	3,237,972
		Total working hours for women	2,842,607
		Total working hours	6,080,579
	Serious Occupational Injury Rate (Excluding deaths)	Total male Serious Occupational Injury Rate	0
		Total female Serious Occupational Injury Rate	0.07
		Total Serious Occupational Injury Rate	0.03
	Recordable occupational injury rate (including deaths and number of serious occupational injury)	Total male Occupational Injury Rate	0.06
		Total female Occupational Injury Rate	0.07
		Total Occupational Injury Rate	0.07

Note :

- There were 3 work-related injuries all happening to male employees in 2020, including 1 who was bumped by a pig and 2 who got hurt in traffic at work.
- There were 2 injuries for non-employee workers (contractors) in 2020, including one male contractor who fell and the other female who tumbled.
- After the accident, every unit has to file the report to the Occupational Safety and Health Management Information System in accordance with the guidelines of injury filing and statistical analysis operation standards.
- Severe occupational injuries (SOI) refer to cases taking 6-month work-related injury leave or longer.
- Related calculation formulas:
 - Death rate caused by occupational injury= number of deaths caused by occupational injury/working hours* 1,000,000 hours
 - Serious Occupational Injury Rate= Number of serious occupational injuries (excluding deaths)/ working hours* 1,000,000 hours
 - Recordable occupational injury rate= recordable occupational injury number(including death)/ working hours* 1,000,000 hours

5.3.2 Safe Working Environment



To reduce occupational safety risks, the company has formulated corresponding operation management process, adopted appropriate preventative measures and implemented necessary control methods. In addition, through training, advocacy, drills and inspections, hazard identification continues to be carried out to control risks within an acceptable level and positively creates a safe working environment.

The Shalun Smart Green Energy Recycling Residential Park Project of Tainan Operation Branch participated in the selection of the Golden Safety Award of the 2020 National Occupational Safety and Health Award for public works for Group B and was awarded Excellent Work. This is TSC's first project to receive the honor of Golden Safety Award, and what makes it more amazing is that this is also the only one construction project among the 8 award-winning projects in Group B.

► Equipment Safety Management

TSC classifies risks based on the contents of the equipment and operating conditions, formulates the procedures of equipment safety management and plans a plant maintenance and service system based on critical levels. Detailed inspections are planned for dangerous equipment to ensure safe operation of the equipment. During the use of dangerous equipment, automatic inspections, key inspections, operating inspections shall be carried out according to laws. In addition, regular inspections shall be carried out by labor inspection agencies within the statutory period.

For hazardous gas and chemical supply systems, toxic gas monitoring systems, process exhaust gas treatment systems, there are regular inspections and maintenance procedures in place. In the area of equipment, safety management methods are proposed in response to the safety needs of people, incidents, places and objects and they are controlled by standard operating procedures.

► Emergency Response Management

Taiwan Sugar Corporation has also developed various types of emergency contingency plans for various situations, such as natural disasters, chemical spills and hypoxia operations and established an emergency reporting system based on the internal control system of Disasters Handling Guidelines, Guidelines for Disasters Emergency Response and TSC Operation Guidelines for Various Disasters and Emergency Incident Reporting to achieve the purpose of preventing fires, earthquakes and other disasters to ensure the safety of lives.

Each unit has developed the “Fire Protection Plan”. The employees are organized into teams for fire protection and training for disaster prevention and contingency are provided (including reporting, fire extinguishing, evacuation guiding, safe protection and rescue courses) which helps all employees establish the correct earthquake-proof concept and develop the emergency evacuation and response capabilities at the early stage of the earthquake so as to achieve the purpose of earthquake prevention for employees. In 2020, we cooperated with the National Disaster Prevention Day and organized earthquake disaster prevention education and emergency evacuation drills. We organized 125 sessions in total and 3,030 participants attended the training and drills.



► Industrial Safety Educaiton and Training for Zero Disaster

TSC has developed the annual training program to ensure the industrial safety of the laborers based on the "Occupational Safety and Health Education and Training Rules". Besides, to increase the knowledge and management ability of the persons in charge of workplaces in occupational safety and health, letters are sent to the persons in charge who have not yet received the training to require them to participate in the “Occupational Safety and Health Training” they need.

Before the newly employed or transferred personnel commence their work, each unit must provide training to them based on the nature of their business and work requirements and keep records of the training for review. In 2020, a total of 9 sessions of occupational safety and health-related education and training were conducted, with 15 classes, and 810 people were trained.

To strengthen the hazard identification of our employees, 16 units organized “danger prediction training for zero disaster” and “traffic safety promotion activity” in 2020, with 1,972 participants in total, and the performance was included in the annual assessment to encourage all units to organize such training and activity.



► Industrial Safety and Environmental Protection Month and Occupational Safety Promotion Assembly

To promote employees' awareness of industrial safety and environmental protection, prevent incidents of occupational hazards and pollution, promote employee safety and health, protect the environment and show good will, the "Industrial Safety and Environmental Protection Month" was introduced in November 2020 to promote content in environmental protection.



To cooperate with the Ministry of Labor, TSC organized the national Occupational Safety Health Promotion Assembly, focusing on the enhancement of the employees' knowledge and skills of workplace safety and disaster prevention, promoting occupational safety, reinforcing autonomous management and health promoting activities to reduce the occurrence of occupational accidents. This current year, each unit organizes the related activity separately based on the characteristics of the business unit. In the Head Office, the President will lead the employees to make a declaration of labor safety in the meeting of the Occupational Safety and Health Management Committee in the third quarter this year. The number of participants amounted to 1,208 (including the online participants).

► Establishment of Safety and Health Family



To continue to expand the local project of occupational safety and health, TSC's Environmental Protection Business Operation Center took the initiative in establishing the Sustainable Environmental Protection & Safety and Health Family in 2011, serving as the leader and leading family member manufacturers to improve their occupational safety performance through education and training, safety inspections, disaster case discussions or simulation drill of emergency response. In addition, through on-site counseling, advice related to industrial safety improvement can be provided to family member manufacturers to effectively improve the working environment in the workplace and improve labor safety and health. Currently, there are a total of 35 members in this family. In 2020, various occupational safety

and health related training was organized in the factories for the family member manufacturers to participate for free. A total of 4 sessions of training were organized.

Jianshanpi Jiangnan Resort under the Leisure Business Division also followed the same pattern and called on 24 regional leisure industries and tourism accommodation companies to form a "All for Your Safety and Health Family" in 2020, and a total of 5 sessions of occupational safety and health related training were provided to family members for free.

5.3.3 Employee Health Management

We attach great importance to the health and safety of our employees. In accordance with the Regulations of the Labor Health Protection, we have employed ten nursing staff in the HQ, the Sugar Business Division and Hsiougan Refinery, Yunchia Operation Branch and Huewei Sugar Factory, Tainan Operation Branch and Shanhwa Sugar Factory, Agriculture Business Division, Petroleum Business Division, Livestock Business Division, Kaohsiung Operation Branch and Pingtung Operation Branch respectively, which is superior to the regulations. The total number of employed or contracted nursing staff service covers 100% of the total number of employees.

We cooperate with contracted on-site physicians to promote the four comprehensive health management programs of special protection, health care, health promotion and employee assistance. We hope to comply with the regulations and meet the practical needs and focus on risk management and employee care. In addition, we strive to prevent occupational injuries and diseases and promote the physical and mental health of our employees.

► Occupational Hazard Prevention

In order to prevent employees from diseases caused by shift work, night work, long hours of work and other abnormal workloads, we planned a management plan for "brain and cardiovascular disease prevention". We arranged for doctors to predict the risk of brain and cardiovascular disease associated with workload. Employees with high risks need to consult with the doctors for specific guidance and follow-up. In 2020, 171 employees were arranged for this management plan and 100% have been completed. The risk factor for cardiovascular disease in 2020 remained at 8% to 11%, showing actual improvement results. For employees taking long-term sick leave and public injury leave, injury management and recovery tracking was carried, and the evaluation report of a total of 48 people returning to work was completed.

► Health Promotion Activities

We held relevant health education lectures to promote employees' self-health management ability and professional growth. There were 34 sessions with 1,602 participants in total. In order to encourage the employees for the follow-up and early treatment, we provide the official leave for self-paid health examination and the Employee Welfare Committee subsidizes up to NTD 10,000 of self-paid health examination fee per person per year. The employees informed of major abnormalities in the health checkups would receive re-inspection notice for the return visit within 10 working days, and a total of 126 people paid return visits.



In addition, free cancer screening services and Maternal Health Protection Plan are provided. In 2020, 424 employees received colorectal cancer screening and 31 employees received breast cancer screening. The regular birth inspection rate among the 15 pregnant female workers was 100%, and the rate of health instruction and promotion of the 3 female workers during lactation also reached 100%.

By upholding the concept that the talent is the most important asset of the Company, TSC has been committed to the development of a healthy and friendly workplace, planning complete physical and mental balance measures. In addition to requiring all units to actively promote the employee assistance programs, the Heart to Heart Consulting Room has also been set up to help the employees to relieve their mental stress. Various parent-child activities are also organized. Basketball courts, badminton courts and tennis courts as well as walking trails are also established in the company to enable the employees to train their body for health. We also encourage our employees to establish sports associations to set autonomous training. Company Cup badminton, tennis, 3 to 3 basketball games are also held to allow our employees to show the results of their usual training and to condense the team spirit.





Social Inclusion.

6.1 Sustainable Management of the Value Chain

6.2 Cultural Preservation and Added Value

6.3 Collaboration with Allies

6.4 Community Care and Services

TSC continues its commitment to social participation and actively holds public welfare activities to give back to the society. In addition, we also attach great importance to the regeneration of cultural assets, aiming at reshaping the sugar culture industry and boosting tourism to further facilitate local development.



Corresponding material topics

Cultural Assets, Local Communities

Policy

- ◆ In cooperation with the Ministry of Culture's promotion of "Cultural Assets Protection, Restoration, Management and Maintenance Project", TSC promotes the utilization and development of the area of sugar refineries, shaping them into fields for cultural education and tourism to market the culture of sugar industry
- ◆ Widening service items to meet social welfare needs (Local Communities)

► Short-term goals (within 3 years):

1. To combine with local government resources, interpret the cultural value, transformation and linking resources of the sugar refinery area, and develop a cultural and educational sightseeing
2. To strengthen relations with neighboring communities, improve the well-being of the surrounding residents, and establish a good neighbor image

Commitments and goals

► Medium and long-term goals (3 to 7 years):

1. To integrate cultural assets, transform sugar refinery space into a cultural and creative base, providing employment opportunities and developing cultural and business opportunities with the local communities
2. To make a commitment to continue to abide by the code of ethics, contribute to economic development, and improve the quality of life in the local community and society as the company's sustainable business objectives

Responsible units

- ◆ Social and Employee Care Group of Corporate Sustainable Development Committee
- ◆ Department of Planning
- ◆ Department of Secretariat
- ◆ Department of Land Development
- ◆ Department of Property Management
- ◆ Land Use and Activation Group

Input resources

- ◆ Allocated a budget of NTD 99,700 thousand for cultural asset management and maintenance in 2020, TSC conducts maintenance, planning and restoration of cultural assets of sugar industry and organizes cultural activities of the sugar industry
- ◆ Developed the "Guidelines for developing neighborly relations by TSC" and allocated a budget of NTD 12 million in 2020 to assist local governments, student associations, associations and foundations in handling various activities

Recourse mechanism

Customer Complaints Handling Guidelines, Customer Service Hotline, Customer Service Email box, TSC Facebook Fan Page

Management System and Action

Guidelines for Cultural Asset Management, Guidelines for Developing Neighborly Relations by TSC

Assessment management mechanism

Internal Control System, TSC Performance Assessment System, Corporate Sustainable Development Committee Work Plan and Implementation Review Meeting

6.1 Sustainable Management of the Value Chain

6.1.1 Procurement Policies

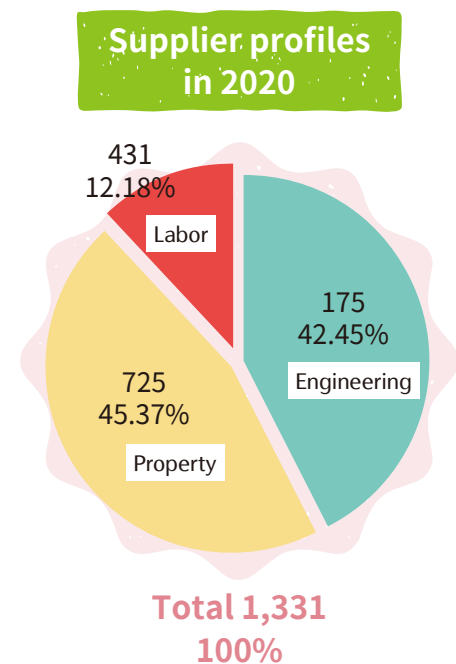
The selection of suppliers follows the prescriptions of the Government Procurement Act. In addition, it is clearly stated in all relevant bidding documents that new suppliers shall comply with the principles of fair trade, environmental protection regulations, Labor Standards Act, and Occupational Safety and Health Act. Due to the complexity of human rights assessment mechanism, TSC currently screens the suppliers based on the self-assessment of the human rights compliance prescribed in the procurement agreement by the suppliers. In 2020, the percentage of new suppliers meeting the selection criteria reached 100%.

Moreover, to support domestic industries, priority is given to the sources of goods manufactured or services provided by domestic suppliers. At present, apart from the 100% of bulk grain raw materials in the Animal Industry Business and sugar raw materials in the Sugar Business that are imported from abroad, domestic suppliers are prioritized for the supply of the remaining raw materials.

► Procurement Overview

All the procurement of TSC must comply with the relevant provisions of the Government Procurement Act in order to achieve justice, openness and fairness, and the results have been good. The internal control system set up the Key Points for Financial and Labor Procurement Operations, Key Points for Bulk Grain Purchase, Operating Points of Project Purchase and Performance Management, and Operating Points of Public Selection of Technical Service and Labor Procurement. TSC has set up an outsourcing center as a dedicated unit in charge of purchasing and organizes doubts, objections, complaints and consulting related to the Government Procurement Act so as to complete the procurement system and increase procurement efficiency. New suppliers and existing suppliers should all meet the requirements of the Procurement Act.

In 2020, the total purchase amount (based on the contract amount) was NTD 10,710,000,000. Among them, the purchase amount of bulk grain purchase and imported sugar was NTD 5,240,000,000. In 2020, the amount of foreign purchases accounted for approximately 48.90% of the total purchase and the domestic purchases accounted for 51.10%.



► Usage of Raw Materials

The main raw materials imported in 2020 include raw sugar, corn and soybeans. No recycled raw materials were used as the raw materials for the production of food products.

						
	Sugarcane	Imported cane sugar	Corn	Soybeans	Meat	Oil products
Usage amount in 2020	551,462 tons	282,000 tons	89,475 tons	46,869 tons	1,088 tons	316,968 kL
Country of origin	Taiwan 100%	Brazil 38.30% Thailand 12.41% Nicaragua 12.41% Guatemala 12.41% South Africa 12.41% El Salvador 12.06%	U.S. 59.22% Brazil 35.38% South Africa 4.29% Argentina 1.11%	U.S. 100%	Taiwan 100%	Taiwan 100%
Renewable raw materials/ Non-renewable raw materials	Renewable raw materials	Renewable raw materials	Renewable raw materials	Renewable raw materials	Renewable raw materials	Non-renewable raw materials
Usage of recycled raw materials	None	None	None	None	None	None



6.1.2 Supplier Management

The reason for TSC to operate so steadily is because we have reliable partners throughout the value chain. TSC's suppliers, distributors, corporate customers, consumers and communities where our business is located are all the key elements for Taiwan Sugar to develop steadily. After analysis, the four major issues of concern to TSC and its partners in the value chain are Product and Service Labeling, Customer Health and Safety, Marketing Communication and Product Compliance.



► Supplier Compliance Management

TSC signs contracts with all its suppliers. During the compliance period, the manufacturer acceptance is conducted before entering the factory. If quality and quantity do not comply with the purchase contract after acceptance, the supplier will be notified of a deadline for improvement. The terms of each contract require the suppliers to provide labor and health insurance to their employees. Once suppliers are found to be in violation of environmental protection, labor or human rights, they will be immediately requested for improvement within a limited time and may be fined for breach of the contract. If they do not listen to advice or repeatedly violate the terms, the contract with such supplier may be terminated.

We also strengthen the safety and health management of contract operations, and all units shall inform the work environment, hazard factors and safety and health related regulations of the units in advance when the project is delivered. In addition, TSC's "Precautions for Occupational Safety and Health of Engineering and Labor Services" shall be specified in the contract and obligate the contractors to implement safety and health management and conduct automatic inspections to prevent accidents during construction operations in accordance with Occupational Safety and Health Act and relevant regulations. In order to protect the contractors' labor rights, it is stipulated that the contracted project must cover the employer's accidental liability insurance and the third-party accident insurance with an individual death and injury of at least NTD 6 million. For labor services or construction contracts below NTD 100,000, it is required to establish a simple contract and handle the prescribed safety and health management issues.

► Human Rights and Security Personnel Management

Except for the office building of Marketing Business Division that adopts Security Alarm System, the access control and security of all units of Taiwan Sugar Corporation is entrusted to the security company. Security personnel all received professional courses and firstaid personnel training, and they also have to receive an 8-hour human rights related education every year. According to statistics, there are a total of 142 security personnel in 13 locations in 2020, and 142 of them received human right education training, with the training rate reaching 100%.

► Food Supplier Assessment

TSC conducts assessment of its partner suppliers in terms of the technical capacity, production performance, corporate image and responsibility and contract performance reliability so as to maintain its market sensitivity and keep abreast of the dynamics of supplier and if necessary, TSC will perform or entrust a third impartial inspection agency to conduct on-site inspection of the factory and the assessment results will be included in the score. Related defects will be asked to improve to ensure all the products and services the suppliers provide meet the needs of TSC. The assessment results are also used as reference for contract renewal.

List of the ratio of food suppliers meeting the food safety system standards

Compliant Standards	Business Division	Sugar Business Division	Animal Industry Business Division	Marketing Business Division	Biotechnology Business Division
TQF	-	-	-	2.41%	3.60%
CAS	-	-	94.04%	41.36%	-
ISO 9001	-	9.58%	-	15.41%	8.39%
ISO 22000	-	9.67%	94.04%	85.19%	14.19%
FSSC 22000	-	9.58%	-	20.16%	0.30%
IFS	-	-	-	25.15%	-
BRC	-	-	-	19.46%	-
HACCP	-	9.67%	94.04%	96.15%	4.45%
GMP	-	-	-	25.06%	-

Note:

Ratio of food suppliers meeting the food safety system standards = the 2020 purchase amount of the food suppliers meeting the food safety system standards of the business division / the 2020 purchase amount of the business division *100%

Assessment results of food industry suppliers

Business Division	Number of suppliers	Number of suppliers assessed	Percentage	Assessment items	Assessment results
Sugar Business Division	86	86	100%	Quality, price, and delivery situation	Pass rate: 100%
Animal Industry Business Division	41	41	100%	Quality, price, and compliance deadline	Pass rate: 100%
Biotechnology Business Division	151	151	100%	Quality, price, and delivery situation	Pass rate: 100%
Marketing Business Division	43	43	100%	Purchase specifications, amount, and compliance deadline	Pass rate: 100%

► Audit of OEM Factories

To ensure the quality and safety of TSC branded foods, TSC conducts strict quality and safety management of the outsourced foods. In addition to sending non-scheduled staff from various units to station in the factories to supervise the manufacturing, the Quality Management Committee also organizes inspection teams irregularly to conduct on-site inspections without prior notice to thoroughly check and inspect the OEM factories. The inspection content shall follow the 72 items of inspection record of OEM factory listed in the Key Points for the Quality Management Operations of the Manufacturing Companies” and the audit results shall be included in the reference for assessment scores for annual contract renewal. The manufacturers with the total assessment score reaching 80 points are entitled to renew the contract.

Assessment results of OEM factories

	Product Category	Number of entrusted manufacturers	Number of manufacturers audited	Percentage	Audit results
 Domestic	Health food	1	1	100%	Excellent, acceptable OEM factory
	Fresh and processed meat	1	1	100%	Good, acceptable OEM factory
	Edible oil	1	1	100%	Excellent, acceptable OEM factory
	Brewed & reconstituted food	6	6	100%	1 ranked excellent, 5 ranked good, acceptable OEM factory
	Mineral water and beverages	4	4	100%	3 ranked excellent, 1 ranked good, acceptable OEM factory
	Prepared frozen food	3	3	100%	3 ranked good, acceptable OEM factory
	Snack foods	2	2	100%	1 ranked excellent, 1 ranked good, acceptable OEM factory
	Canned food	3	3	100%	2 ranked excellent, 1 ranked good, acceptable OEM factory
 Imported	Edible oil	1	0	0%	TSC's internal control is to conduct the audit every three years. This item was audited in 2018, so the auditing in 2020 was not listed.
	Canned food	4	0	0%	TSC's internal control is to conduct the audit every three years, and 3 factories were audited in 2019, and 1 new factory was added in 2020.
	Total	26	21	80.77%	

Note: On-site audits of foreign OEM factories are conducted every three years.

► Project Contractor Management

For TSC's project contractors, the principle of inspection scope of the construction quality inspection is no less than 10% of the ongoing construction projects exceeding the announced construction costs of the year, as prescribed in the Key Points for the Establishment of TSC's Construction Quality Inspection Team. For projects with the purchase amount of NTD 20 million or more, at least 1 inspection should be conducted. The selection of engineering contractors and product distributors is based on the prescriptions of the Government Procurement Act in an open, just and fair manner. Domestic companies are given priority, and contractors are screened by human right regulations. However, the conditions in each contract are the same as the requirements of suppliers in accordance with national human rights regulations and Labor Standards Act to protect human rights. In addition, the "Precautions for Occupational Safety and Health of Engineering and Labor Services" is formulated as part of the contract, and with the strategies of counseling, auditing and advocacy, TSC is actively engaged in the counseling of contractors' safety management, strengthening the industrial safety counseling and reinforcing the safety awareness of the laborers in the workplace to safeguard the labor safety. There were no violations of relevant provisions of the contract in 2020.

► Dealer Management

The dealership is concerned with the quality of TSC products to consumers. We plan the dealership based on the overall marketing strategy and merchandise access strategies (access coverage, number of access levels, single access or multiple access, vertical marketing systems or horizontal marketing systems) and follow the Dealer Selection Criteria and the Government Procurement Act when selecting and auditing dealers. The performance management of dealers is handled in accordance with the principles of the management of suppliers and contractors.

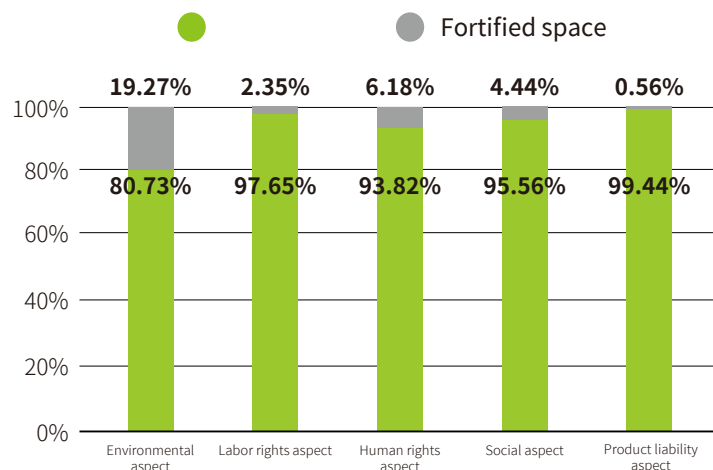
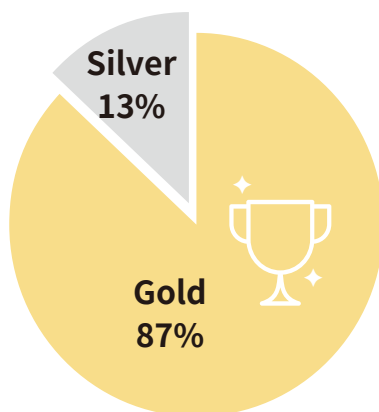


► Supplier CSR Evaluation

TSC conducts a CSR evaluation system for suppliers with more than the amount of 5 million purchase to complete a selfassessment questionnaire, whose content would be adjusted annually based on the current situation of TSC, the international trends and reference to GRI provisions. In addition to the introduction of GRI Standard Topics, specifications and regulations of RBA, Ecovadis and ISO 20400 were also referred in the revision of the questionnaire, which is divided into five aspects, including environmental, labor rights, human rights, social and product liability aspects. A total of 71 suppliers completed the self-evaluation in 2020.

According to the self-evaluation results, the suppliers are divided into three levels, gold, silver and copper based on the scores. All the suppliers in this evaluation scored more than 60 points, with 100% of passing rate. Among them, 62 even scored more than 85 points, reaching gold level. In addition, further analysis of the five aspects was conducted, and each aspect scored more than 60 points averagely. The scores were lower only in the environmental aspect because TSC sets higher requirements in environmental management, leading to the lower scores among the suppliers. However, all the suppliers comply with relevant laws and regulations. We will refer to the results of the suppliers' self-assessment and adjust the contents of the questionnaire. TSC will strengthen the management of suppliers with lower assessment scores to improve the procurement system and enhance the efficiency of procurement. In the future, we will also continue to promote the assessment of the five major aspects of corporate social responsibility in our suppliers of all categories to enhance our partners' implementation and management of CSR.

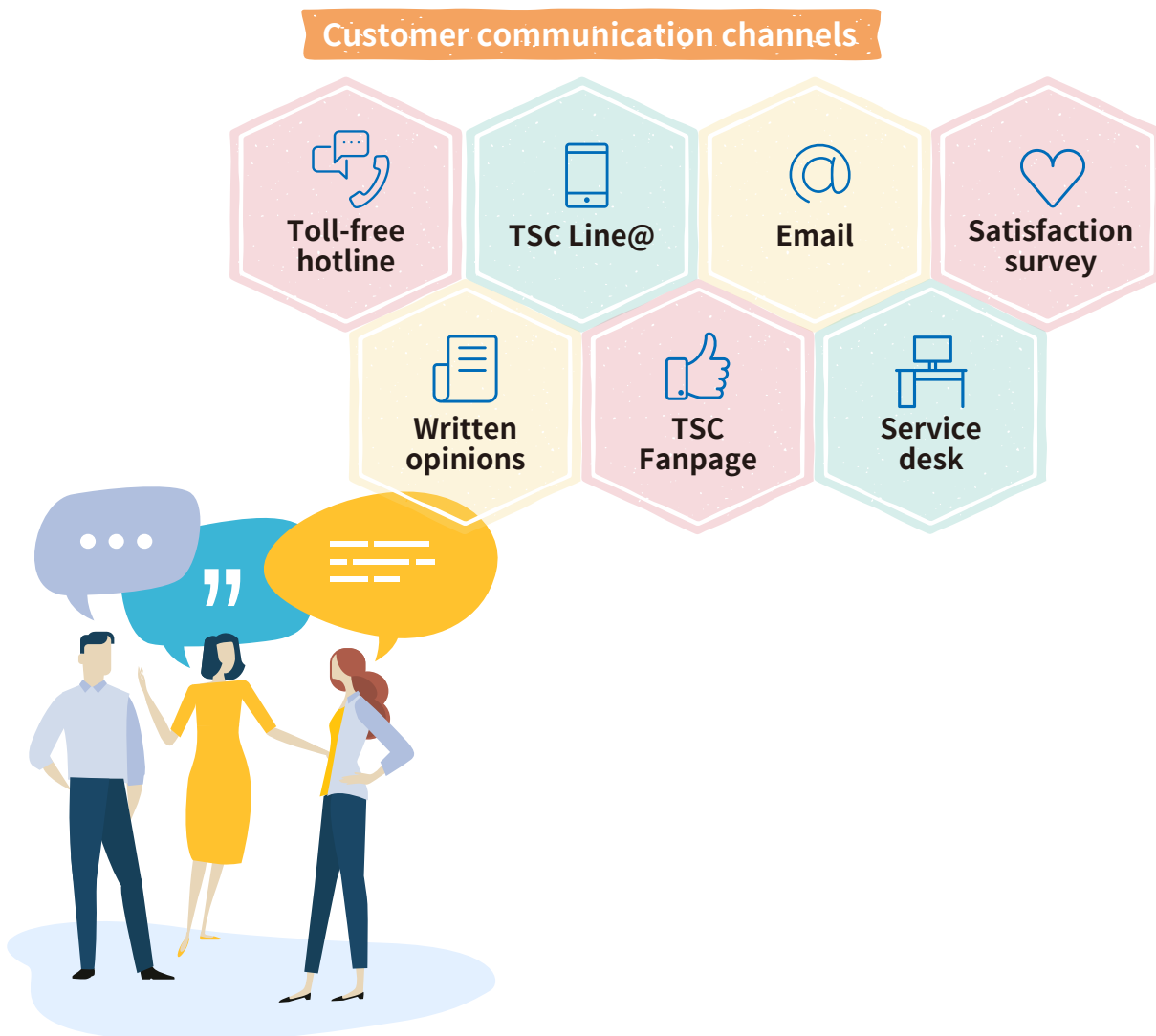
Analysis of Supplier CSR evaluation



6.1.3 Customer Relationship Management

Taiwan Sugar Corporation has issued the “Customer Compliant Handling Guidelines” and established a customer service system which is also responsible for the protection of the confidentiality of customer information, to provide transparent and effective consumer complaint procedures to handle complaints from customers and clients in a fair and immediate manner. In addition, “Customer Opinion Management System” was established to gather customer feedback and the customer satisfaction survey is also conducted every year. The feedback would be dealt with quickly, and statistics and analysis could be conducted through the internal network as a reference for all units as reference for operations and improvement. At the same time, we set up various communication channels such as TSC Fan Page, Customer Service Line (0800-026-168), and online customer service mailbox (tsc01@taisugar.com.tw). In addition, the designated person will answer the questions for customers and respond to suggestions and customer complaints.

In cooperation with State Enterprise Commission, MOEA, TSC has entrusted an impartial third party to conduct the “Customer Satisfaction Surveys”. The score for customer satisfaction survey in 2020 was 93.2 points and the results of the survey and recommendations were submitted to TSC as a reference for improvement.



6.2 Cultural Preservation and Added Value

In cooperation with the Ministry of Culture's promotion of "Industrial Cultural Asset Regeneration Project" and "Guidelines for Subsidies for Preservation and Maintenance & Management of Cultural Assets from Bureau of Cultural Heritage, Ministry of Culture", TSC's units, including Yamay Sugar Refinery, Beigang Sugar Refinery, Huwei Sugar Refinery, Suantou Sugar Refinery, Xingying Sugar Refinery and Ciaotou Sugar Refinery as well as Department of Land Development applied and obtained a grant of NTD 8.15million from the Ministry of Culture to accelerate the development and utilization of the idled cultural assets in the area of sugar refineries, activate the utilization to enhance the cultural added value of the sugar industry culture, achieving sustainable development of industrial heritage.

► Heritage Preservation and Activation of Sugar Railways

Sugar Train Culture has been regarded as an important cultural asset by the government. It witnessed the live history of the development of local industries and is also a resource for future tourism development. Therefore, there is a need to repair it for good preservation. Relevant plans are now being promoted.



Project	Project Content	Execution Status
Repair and maintenance of Sugar Train Station with historical value	In the period of 2019-2021, investments would be made in "Restoration Plan and Project of Wufen Station of Suantau Sugar Refinery".	The planning and design of the Restoration Plan and Project of Wufen Station of Suantau Sugar Refinery was completed in 2020, and the reconstruction project is still on going.
	Between 2018 and 2019, the industrial cultural asset regeneration plan -The Wushulin Sugar Train Culture Redevelopment Project was implemented.	It was open to the public in 2020.
Repair and restore sugar trains with characteristics	In 2020, the passenger car, Shengli (Victory) and the 111 Patrol Car were repaired and restored in Wushulin Sugar Refinery. The wooden shed cars and machine tools were repaired in Hualien Sugar Factory.	After the restoration, it can be self-propelled as a chartered car and dynamic display activity for the cultural festival. The wooden shed cars were the highlights in the display.
Training for driving and maintenance techniques for internal combustion and steam locomotives	In 2020, the Department of Land Development of the Headquarters organized the training courses for driving internal combustion engine train for new drivers, practical class for mechanical affairs and maintenance and engineering works of railway dedicated for sugar train, and on-the-job training course for railway operators.	The training courses have been completed in 2020, and the professional knowledge and practical experience of sugar train operators was also increased.
Cooperation with the policy to conduct the survey of the paths of sugar train culture and national greenways	Inventory of cultural paths and national greenways.	Between 2020-2021, 11 routes were surveyed for the cultural paths for sugar train culture.

Project	Project Content	Execution Status
Project to extend the sugar train line to Chiayi High Speed Rail Station	To connect the scenic spots in the surrounding area and promote the development of local tourism, the sugar train will be extended by 1.41 kilometers from Suantau Sugar Refinery to the High Speed Rail Station, with an investment amount of NTD 80 million.	Cooperate with the policy to promote local tourism industry. This project continues to be promoted in 2020, and it targets at its official operation in October, 2022.

► Repair of Japanese Style Houses and Industrial Facilities

During the Japanese Colonial Period, wooden structures and the industrial facilities in sugar factories had their own styles. These structures not only witnessed the process and transformation of the sugar industry but are also unique historical landscape and a symbol of memories. After restoration, business invitation will be conducted for art and commercial purposes, and the houses and facilities will also be reused for accommodation experience, cultural relics exhibitions, film shooting activities and other activities. They have become cultural elements in the cultural and creative industry and enhanced the value of cultural assets of the sugar industry.

For a long time, TSC cooperates with cultural units of the government for the application of “Regeneration Project of Industrial Cultural Assets” and “Management and Maintenance Subsidy Plan for Cultural Assets Preservation” to plan repair and reutilization. In 2020, the ongoing projects include:

- ◆ Restoration and Reutilization of Yamay Sugar Refinery
- ◆ The re-utilization project of the 11 buildings of the dormitory group and alcohol tanks in Huwei Sugar Refinery and the restoration of Beigang Sugar Refinery
- ◆ The restoration project of the dormitory group of Huwei Sugar Refinery on No. 2 & 4, Ming Zhu 9th Road
- ◆ The planning and design of the 1st Guest House and the factory director's dormitory in Huwei Sugar Refinery
- ◆ The restoration project of the old clinic and barbershop in Huwei Sugar Refinery
- ◆ The restoration project of Wufen Station of Suantau Sugar Refinery
- ◆ The restoration project of the headquarters office of Ensuiiko Sugar Refining Co., Ltd. in Xinying
- ◆ The planning and design of the Security Unit in Ciaotou Sugar Refinery in Kaohsiung



► Promotion and Marketing of Sugar Industry

To “preserve” and “maintain” tangible and intangible cultural assets of the sugar industry and to combine creativity to continue cultural updates and accumulation, we will continue to add values and industrialize culture through assets inventory, introduction of technology, professional maintenance and government subsidies, making the brand of TSC one with unique cultural connotation value.

On November 28, 2020, TSC, the Cultural Affairs Department of Pingtung County Government, and the 7th River Management Office of WRA co-organized the Wandan Sugarcane Festival and planned the Wufeng Station Route for hiking. We not only prepared 1,000 souvenirs for the participants but also arranged fun activities such as sugarcane cutting and peeling competitions, parent-child activity of sugarcane grilling, scarecrow archery, and parent-child sketching competition. What was more, people could also take an ox cart ride



around the sugarcane garden to experience the early rural life atmosphere. In addition, there is also a guided tour of the sugarcane planting workflow and physical displays, and the public can learn more about sugarcane and the sugar refining industry in a fun and yet educational way.

A grand opening for sugar making and cultural activities such as guided tours of historical sites and cultural relics was held at Huwei Sugar Refinery on December 10th, 2020. This was a year when sugar making entered its 113rd year. About 4 months after the start of sugar refinery, images of sugar train traveling among the sugarcane garden in Huwei Township can be seen. The aroma and sweet scent around the sugar factory marks the major event of the sugar industry culture of a year. Shanhua Sugar Refinery started sugar refining on December 15th, 2020. Due to the concern of the epidemic, it was not open to the public. But the Shanhua Sugar Factory Cultural Park located in the factory area was still open to the public, enabling the public to visit the sugar industry culture.



TSC cooperated with the National Archives Administration to hold a special exhibition of the Sweet Time, which was first exhibited in the National Archive Administration, and the second session was in Ciaotou Sugar Refinery from July 13rd to November 8th, 2020. In addition, we also co-published a book entitled Grains Engraved in History- Memories of the History of Taiwan's Sugar Industry.

TSC and Foundation of Taiwan Sugar Association co-organized the Forum on Sugar Railways in Taisugar Wushulin Park of the Leisure Business Division on November 20, 2020, and the cultural activity of 2020 Take a Day Tour to Sugar Train was held on December 6th.



From October 2020 to December 2021, Taiwan Sugar Research Institute and the Institute of History and Philology, Academia Sinica worked together with the “Construction Project of Taiwan Rural Human Ecology Survey Database System” to collect sugar industry literature during the Japanese colonial rule in digital form to preserve precious cultural assets.



6.3 Collaboration with Allies

TSC continues to deepen and expand its overseas investment and cooperation with our allies. To strengthen the current overseas bases, we continue to strengthen the supervision of the investment target, Vietnam-Taiwan Sugar Co. Ltd. In addition, we also keep a close grasp of the Vietnamese Government’s policy for sugar industry and information of the domestic needs for local sugar industry to expand our production capacity at an appropriate time. Furthermore, the current business performance of the Tai Viet. Agribusiness Company Limited is improved based on local production and local sales, seeking investment opportunities to expand the operation scale in Vietnam.

For highly developed regions such as Japan, the United States and Canada, we have established production bases and channels for TSC’s orchids which enjoy international reputation globally. Therefore, we will continue to deepen the existing overseas markets, accurately grasp the market information, actively reduce the costs, focus on the strains meeting market demands and seek opportunities for profits. Furthermore, a team was formed with the collaboration among the diplomatic, agricultural agencies and the industry to plan suitable high-quality orchid species for special orchid exhibitions presented in a way combining Taiwanese culture, art and stories based on the local market needs. The exhibitions will not only increase the orchid marketing markets and brand exposure but also promote the international competitiveness and sales volume of domestic orchid industry.

► **Assessment of New Southbound Investment (Assessment of Investment in Indonesia Sugar Industry)**

New Southbound Policy has been one of the important policies of the government. As a state-owned enterprise, TSC should assist the government in the implementation of related policies. Located in Southeast Asia close to Taiwan, Indonesia is a great investment target for the short distance from Taiwan and the convenience in investment management. In addition, the similar climate and customs as well as the similar management of agricultural farming, along with the lower production cost and easy access to land and materials all make Indonesia one of the best choices for TSC's sugar investment.

► **Working in Line with Foreign Policy to Promote Collaboration with Allies**

Honduras is an important country we have diplomatic relation with. Honduran coffee is imported to Taiwan for sale through trade. In addition, TSC assists Taiwan Agricultural Investment and Development Co., Ltd. to expand the international supply chain of agricultural products (such as avocado) from contract farming and integrated production and marketing. Coffee is an important export commodity of Honduras. Based on the consideration of overseas agriculture and humane care for coffee farmers, TSC directly purchases coffee from smallholders in Honduras and cooperates with domestic companies to bring excellent Honduran coffee to people in Taiwan and give back partial of the profits to projects to enhance the smallholders' production technology and quality of life in Honduras. Purchases from smallholders and marketing activities of the project will continue from 2018-2022 to establish TSC's Honduran coffee brand and consumer groups. In order to strengthen the friendly relations with Paraguay, the government has planned investments. TSC works with International Cooperation and Development Fund and Taiwan Agricultural Investment and Development Co. Ltd. to assist Paraguay in establishing a production and business model of Phalaenopsis seedlings.

► **TSC worked with IMPCT in the Promotion of Smallholder Coffee from Honduras and Cooperated in School Building Projects**

Since the introduction of special highland smallholder coffee from Honduras at the end of 2017, the coffee has been well received, and the smallholder coffee farmers were substantially helped. In July, 2018, TSC worked with an international social enterprise, IMPCT in the Coffee For the Future Project and promoted TSC's Honduran Smallholder Coffee with its story, and part of the income from the coffee trade would be directly given back to the coffee plantation area in the construction of high schools.



Please refer to
official website
for more details

The opening ceremony of the first school, built in a community called Los Izotes in Tegucigalpa City in the Province of Francisco Morazán. The school started operation in March, 2019, with 26 students aged between 12-18 enrolling in the school. Through the course of Community Young Leaders Development Plan, students can pay part of their tuition by community service working hours such as discovering community problems and providing assistance and finding solutions, which further positively affect the lives of about 200 households in the community.

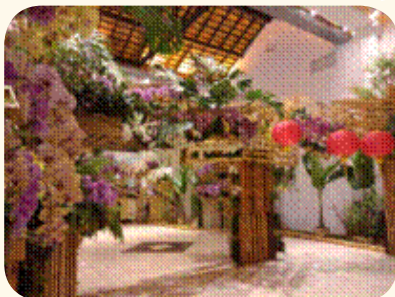
In 2020, TSC and IMPCT cooperated again in the construction of schools in a community called Chaguite in the Province of El Paralso and one called Las Delicias in the Province of Francisco Morazán. However, due to the spread of COVID-19 pandemic, the construction projects were suspended and will be completed within 2 months after the epidemic is completely over and economic activities returns to normal.

► Orchids in Paraguay

In recent years, the economic development in Paraguay has grown rapidly and the demands for flowers has also gone up sharply. When Paraguayan President Mario Abdo Benitez visited Taiwan on the occasion of Taiwan National Day in 2018, Taiwan President Tsai Ing-Wen proposed the “Taiwan-Paraguay Phalaenopsis Industry Development Plan”, hoping to assist Paraguay in establishing the Phalaenopsis Industry, creating employment opportunities so as to improve the economic income and people’s lives in Paraguay through the successful experience in Taiwan.

To carry out the Taiwan-Paraguay Phalaenopsis Industry Development Plan”, TSC cooperated with the Council of Agriculture, the Ministry of Foreign Affairs, the Paraguayan Embassy, the International Cooperation and Development Fund and Taiwan Orchid Growers Association and organized the Taiwan Orchid Exhibition in Asuncion, the capital of Paraguay during the National Day of Paraguay in 2019. This orchid exhibition combined the elements of Taiwanese culture, art and storytelling and was well received, enhancing the understanding of Phalaenopsis among people in Paraguay and laying the foundation for cooperation in the Phalaenopsis Industry between Taiwan and Paraguay.

TSC, International Cooperation and Development Fund and Taiwan Agricultural Investment and Development Co. Ltd. formed a team and sent personnel to Paraguay in December 2019 to assist them in the production of high-quality Phalaenopsis and establishment of a business model to open up the high-end market locally. In 2020, the team overcame the impact of COVID-19 and produced high-end Phalaenopsis locally, and even organized a Valentine’s Day orchid exhibition in February 2021, attracting interviews from many local TV station. Many local people also went to buy the orchids, took pictures and inquired about investing in Phalaenopsis industry.



The venue of Taiwan Orchid Exhibition in Paraguay



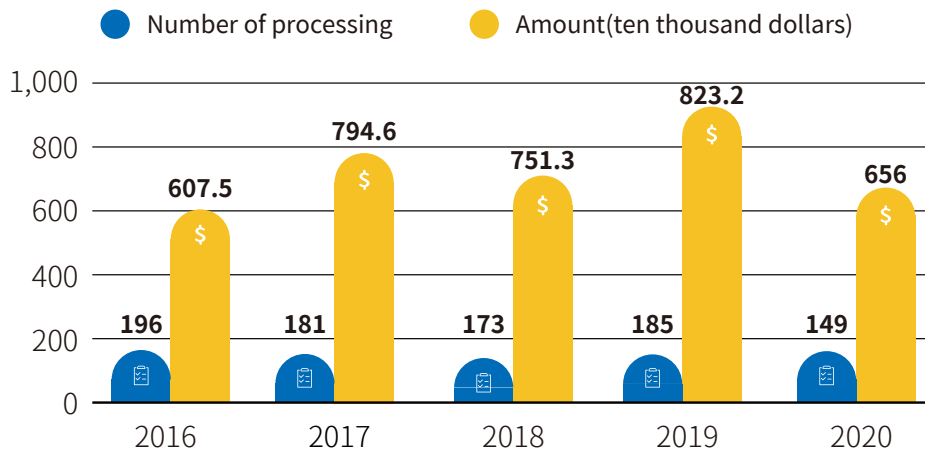
The grand opening ceremony of Taiwan Orchid Exhibition in Paraguay



Briefing on the Phalaenopsis industry in Taiwan Orchid Exhibition in Paraguay

6.4 Community Care and Services

TSC and its affiliated units not only implement the promotion of the good neighborly relations to provide help and assistance to the communities but also continue to invest in the public welfare to care for the society and the disadvantaged groups so as to fulfill our corporate social responsibility. In 2020, due to the impact of the epidemic of COVID-19, the number of public welfare activities decreased compared with 2019, with a total of 149 public welfare activities, donating NTD 6.56 million in total.



2020 public welfare activities (only some of the activities are listed here)

- ◆ **Donation was made to the low-income households and the physically and mentally challenged in Tainan City, providing livelihood materials for both good neighborly relations and public welfare.**

Through this donation activity, the products of the company were promoted, and litchi farmers were also assisted to go through the crisis of draggy sales. It is hoped that by giving back to the minority groups in the society through local public welfare groups, TSC can promote its corporate social responsibility policy and its public image.

- ◆ **2020 Auspicious Year-End Dinner to Embrace the Year of Rat**

We invited the elders living alone from social welfare institutions, needy and disadvantaged families and also invited the low-income families in the neighborhood through the heads of the subdivisions of the district to join in this year-end event together, allowing our Hotel to give back to the community.



♦ Paying visit and making donation- public welfare activity at RJRC Education Foundation

It is hoped that through this paying visit and making donation activity, we can convey our care for the disadvantaged groups in the society and also encourage the public to contribute to public welfare activities in the society when they have the capability to connect people with good will.



♦ Cleaning homes and communities for the prevention and control of Dengue Fever

To strengthen the residents' epidemic prevention concept and reduce the risk of infection so as to take care of the health of the residents in the neighborhood. By interacting with the residents, harmony can be improved in the communities and the corporate image can also be enhanced.



♦ Visiting Dong Hai Feng Agricultural Circular Park and the briefing of park farm renovation

After visiting Dong Hai Feng Agricultural Circular Park, the residents understood the fact that the planning direction of TSC's pig farms is moving toward the circular economy model, strengthening energy saving, water conservation and eco-friendliness. After the renovation, the competitiveness in the livestock breeding industry can be enhanced, and all the old pig farms will be turned into eco-friendly agricultural circular pig farms.



♦ Donation of living materials to Chiayi County Zhongpu Private Institutional Care Center

The materials donated this time were not only used by the physical and mental challenged students in this care center, the president of the care center also helped give these materials to the families undergoing unforeseen events in the community as condolences to convey our warmth and intentions to give back and care for the society on our behalf.



♦ Visiting Lain Xin Yuan Education and Nursing Center and Community Care Activity

By providing materials and working together with local charity organizations, TSC helped children with disabilities and developmental delays, which will enhance the public image of Taiwan Sugar Corporation.



◆ “Sending Warmth in Winter, Sending Love from the Gas Stations” Charity Garden Party

Petroleum Business Division initiated the “You fill Gas, We Donate Materials” activity from November, and the materials worth NTD 600,000 were donated to 10 public welfare groups, including Huashan Social Welfare Foundation, Genesis Social Welfare Foundation, Eden Social Welfare Foundation, Taiwan Fund for Children and Families, The Garden of Hope Foundation, Tobias Social Welfare Foundation, Changhua County private Christian Joy Nursery, Association of Trouble Angels of Nantou County, Christian the House of Xin-Fu Little Lamb and Good Shepherd Social Welfare Foundation at the “Sending Warmth in Winter, Sending Love from the Gas Stations” Charity Garden Party held in Xihu Sugar Factory in Changhua on December 26th.



◆ Materials donation activity to send love to the elders and also the low-income families in Tainan City on Double Ninth Day

On the eve of Double Ninth Day, the heads of the subdivisions of the district received a batch of bananas on the elders' behalf and distribute them to the elders and low-income families for them to have a festive atmosphere to care for the disadvantaged groups and give them timely assistance and warmth.

◆ Social Care Activities on Mid-Autumn Festival

Upon the time when the weather turned cool around Mid-Autumn Festival, TSC would extend its gratitude to all staff in the social welfare institutions for their efforts made to assist the disadvantaged groups in the society by giving them TSC food and materials to pay the highest respect and care from TSC.



◆ A Conversation with the aboriginal elders on health in Hualien Sugar Factory

The manager of the district branch invited the head of the town to visit various cultural and health stations (10 stations) in Guangfu Township. TSC products were given out on the spot. Through this activity, interaction among the elders were enhanced, shortening the distance among them and improving the harmonious relationship between the district branch and the locals.



◆ **Ciaotou District Office of Kaohsiung City organized the 2020 Fathers' Day Celebration and Model Fathers Award Ceremony**

On the day of the event, TSC sponsored 20 boxes of Taiwan Sugar mineral water (in 600 cc bottles) and 300 popsicles to enhance our corporate image and to maintain good interaction with the residents in the neighborhood.



◆ **Paying visit and making donation- Public welfare activity of living materials donations to the Private Tzuen Charity Social Welfare Foundation in Changhua County**

In this activity, 38 boxes of milled rice and 10 boxes of brown rice were donated to Tzuen Charity Social Welfare Foundation, and those from low-income families under 65 years old and the institutionalized with physical and mental disorders were benefited.



◆ **"Planting Love, Enabling Love to Fly" Charity Garden Party**

The public needed only 5 unredeemed uniform invoices to exchange a pack of TSC's high-quality golden brown sugar to support the charity event and help people in a vegetative state staying at the institutions of Genesis Social Welfare Foundation



◆ **Caring for the Society, Sending Warmth at the End of the Year**

We donated TSC's organic milled rice, salad oil and sugar to the private Xin Yi Children's Home in Yulin County and helped children here to have nutritious and safe food.



◆ **Paying visit and making donation- Donations of living materials to Juridical Person Taiwan Province Hun-Chia Sanctuary for the Handicapped for good neighborly & public welfare activity**

During the visit, TSC donated a batch of living materials to enable those mentally challenged and disadvantaged in the sanctuary to have enough living materials to use.



◆ **Wall billboards were provided free of charge to agencies or groups for the promotion of government orders and public welfare activity.**

We cooperated with government agencies to promote traffic safety, prevention of dengue fever and animal protection, reassured childcare, legal consultation for the physically challenged, and also assisted schools in enrollment propaganda to implement the good neighborly work.



◆ **2020 TSC Run for Love**

The starting pistol fired for the TSC Run for Love in Shanhua Sugar Refinery, and the polar adventurer Kevin Lin led 15 groups of visually impaired runners and over 2,600 runners to run from the starting line and to enjoy running and playing in Shanhua. TSC also turned the cumulative running mileage from the runners into materials equivalent of NTD 130,000 and donated these materials to Yow Ming Low Vision Blindness Association in Tainan City with "Love in the Eye" and to convey care from TSC and the general public.



0

1

2

3

4

5

6

Social Inclusion

7



7. 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/ Material Asects	No	GRI Index	External Verification	Chapter and Section	Page	Omit/ remark
1. Organizational Profile						
GRI102General disclosure 2016 : Core	102-1	Name of the organization	●	1.1.1 Company Overview	33	
	102-2	Activities, brands, products, and services	●	1.1.1 Company Overview	33	
	102-3	Location of headquarters	●	1.1.1 Company Overview	33	
	102-4	Location of operations	●	1.1.1 Company Overview	33	
	102-5	Ownership and legal form	●	1.1.1 Company Overview	33	
	102-6	Markets served	●	1.1.1 Company Overview	33	
	102-7	Scale of the organization	●	1.1.1 Company Overview	33	
				1.1.2 Financial Performance	38	
				5.1.2 Labor Structure	122	
	102-8	Information on employees and other workers	●	5.1.2 Labor Structure	122	
	102-9	Supply chain	●	6.1.1 Procurement Policies	142	
	102-10	Significant changes to the organization and its supply chain	●	1.1.1 Company Overview	33	
	102-11	Precautionary Principle or approach	●	2.3.1 Risk Management	66	
102-12	External initiatives	●	Editing Principles	2		
			Implementation of SDGs and Objectives	10		
102-13	Memberships of associations	●	1.1.1 Company Overview	33		
2. Strategy						
GRI102 General disclosure2016 : Core	102-14	Statement from senior decision-maker	●	Message from the Top Management	6	
3. Ethics and Integrity						
GRI102General disclosure2016 : Core	102-16	Values, principles, standards, and norms of behavior	●	1.2 Sustainable Development Policy	41	
				2.2.1 Implementation of Integrity Management	62	
4. Ethics and Integrity						
GRI102General disclosure2016 : Core	102-18	Governance structure	●	2.1.1 Corporate Governance	54	

Category/ Material Asects	No	GRI Index	External Verification	Chapter and Section	Page	Omit/ remark
5. Stakeholder Engagement						
GRI102General disclosure2016 : Core	102-40	List of stakeholder groups	●	1.3 Identification of Stakeholders	43	
	102-41	Collective bargaining agreements	●	5.2 Labor Relations	127	
	102-42	Identifying and selecting stakeholders	●	1.3 Identification of Stakeholders	43	
	102-43	Approach to stakeholder engagement	●	1.3 Identification of Stakeholders	43	
	102-44	Key topics and concerns raised	●	1.3 Identification of Stakeholders	43	
6. Report Profile						
GRI102General disclosure2016 : Core	102-45	Entities included in the consolidated financial statements	●	1.1.1 Company Overview	33	
	102-46	Defining report content and topic Boundaries	●	1.4.2 The Value Chain Boundary of Material Topics	50	
	102-47	List of material topics	●	1.4.1 Identification of Material Topics	48	
	102-48	Restatements of information	●	Editing Principles	2	
	102-49	Changes in reporting	●	Editing Principles 1.4.1 Identification of Material Topics	2 48	
	102-50	Reporting period	●	Editing Principles	2	
	102-51	Date of most recent report	●	Editing Principles	2	
	102-52	Reporting cycle	●	Editing Principles	2	
	102-53	Contact point for questions regarding the report	●	Editing Principles	2	
	102-54	Claims of reporting in accordance with the GRI Standards	●	Editing Principles	2	
	102-55	GRI content index	●	Appendix I: GRI Sustainability Reporting Standards (GRI Standards) Reference Table (including supplementary indicators of GRI G4 Sector Disclosures- Food and Processing)	160	
	102-56	External assurance	●	Editing Principles	2	
Topic-specific disclosure: 200 series (Economic topics)						
*Indirect Economic Impacts						
GRI 103 Management approach of indirect economic impact management 2016	103-1	Explanation of the material topic and its Boundary	●	1.4.2 The Value Chain Boundary of Material Topics 3 Core Values	50 72	
	103-2	The management approach and its components	●	Implementation of SDGs and Objectives 3 Core Values	10 72	
	103-3	Evaluation of the management approach	●	Implementation of SDGs and Objectives 3 Core Values	10 72	

Category/ Material Asects	No	GRI Index	External Verification	Chapter and Section	Page	Omit/ remark
GRI 203 Disclosure of Indirect Econom- ic Impacts topics 2016	203-1	Infrastructure investments and services supported	●	Special Column: Overall Renovation Project of Modern Livestock Housing	26	
				6.2 Cultural Preservation and Added Value	150	
				6.4 Community Care and Services	156	
				3.1 Sustainable Food	75	
	203-2	Significant indirect economic impacts	●	3.3 Land Utilization in Line with Policies	86	
Topic-specific disclosure: 300 series (Environmental topics)						
*Energy						
GRI 103 Management ap- proach of Energy 2016	103-1	Explanation of the material topic and its Boundary	●	1.4.2 The Value Chain Boundary of Material Topics	50	
				4 Green Production	96	
	103-2	The management approach and its components	●	Implementation of SDGs and Ob- jectives	10	
				4 Green Production	96	
	103-3	Evaluation of the management approach	●	Implementation of SDGs and Ob- jectives	10	
GRI 302 Disclosure of En- ergy topics 2016	302-1	Energy consumption within the organization.	●	4.1.1 Consumption of Energy Resources	100	
	302-3	Energy intensity	●	4.1.1 Consumption of Energy Resources	100	
	302-4	Reduction of energy consumption.	●	4.1.2 Energy Conservation and Carbon & Waste Reduction	102	
*Water and Effluents						
GRI 103 Management approach of Wa- ter and Effluents 2018	103-1	Explanation of the material topic and its Boundary	●	1.4.2 The Value Chain Boundary of Material Topics	102	
				4 Green Production	96	
	103-2	The management approach and its components	●	Implementation of SDGs and Ob- jectives	10	
				4 Green Production	96	
	103-3	Evaluation of the management approach	●	Implementation of SDGs and Ob- jectives	10	
				4 Green Production	96	
	303-1	Interactions with water as a shared resource	●	4.1.1 Consumption of Energy Resources 4.2.3 Dong Hai Feng Livestock Farm	100 109	
GRI 303 Disclosure of Wa- ter and Effluents 2018	303-2	Management of water discharge-related impacts	●	4.2.2 Water Pollution Control	107	
	303-3	Water withdrawal	●	4.1.1 Consumption of Energy Resources	100	
	303-4	Water discharge	●	4.2.2 Water Pollution Control	107	
	303-5	Water consumption	●	4.1.1 Consumption of Energy Resources	100	

Category/ Material Asects	No	GRI Index	External Verification	Chapter and Section	Page	Omit/ remark
*Emissions						
GRI 103 Management approach of Emissions 2016	103-1	Explanation of the material topic and its Boundary	●	1.4.2 The Value Chain Boundary of Material Topics	50	
				4 Green Production	96	
	103-2	The management approach and its components	●	Implementation of SDGs and Objectives	10	
				4 Green Production	96	
	103-3	Evaluation of the management approach	●	Implementation of SDGs and Objectives	10	
				4 Green Production	96	
GRI 305 Disclosure of Emissions topics 2016	305-1	Direct (Scope 1) GHG emissions	●	4.1.2 Energy Conservation and Carbon & Waste Reduction	102	
	305-2	Energy indirect (Scope 2) GHG emissions	●	4.1.2 Energy Conservation and Carbon & Waste Reduction	102	
	305-3	Other indirect (Scope 3) GHG emissions	●	4.1.2 Energy Conservation and Carbon & Waste Reduction	102	
	305-4	GHG emissions intensity	●	4.1.2 Energy Conservation and Carbon & Waste Reduction	102	
	305-5	Reduction of GHG emissions	●	4.1.2 Energy Conservation and Carbon & Waste Reduction	102	
	305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	●	4.2.1 Air Pollution Prevention	105	
*Waste						
GRI 103 Management ap- proach of Waste 2020	103-1	Explanation of the material topic and its Boundary	●	1.4.2 The Value Chain Boundary of Material Topics	50	
				4Green Production	96	
	103-2	The management approach and its components	●	Implementation of SDGs and Objectives	10	
				4 Green Production	96	
	103-3	Evaluation of the management approach	●	Implementation of SDGs and Objectives	10	
				4 Green Production	96	
GRI 306 Disclosure of Waste topics 2020	306-1	Waste generation and significant waste-related impac	●	4.2.2 Water Pollution Control	107	
				4.2.3 Dong Hai Feng Livestock Farm	109	
	306-2	Management of significant waste-related impacts	●	4.2.3 Dong Hai Feng Livestock Farm	109	
				4.3 Waste Management and Reuse	110	
	306-3	Waste generated	●	4.3 Waste Management and Reuse	110	
	306-4	Waste diverted from disposal	●	4.3 Waste Management and Reuse	110	
	306-5	Water bodies affected by water discharges and/or runoff	●	4.2.3 Dong Hai Feng Livestock Farm	109	
				4.3 Waste Management and Reuse	110	

Category/ Material Aspects	No	GRI Index	External Verification	Chapter and Section	Page	Omit/ remark
*Environmental Compliance						
GRI 103 Management approach of Environmental Compliance 2016	103-1	Explanation of the material topic and its Boundary	●	1.4.2 The Value Chain Boundary of Material Topics 4 Green Production	50 96	
	103-2	The management approach and its components	●	Implementation of SDGs and Ob- jectives 4 Green Production	10 96	
	103-3	Evaluation of the management approach	●	Implementation of SDGs and Objectives 4 Green Production	10 96	
GRI 307 Disclosure of Environmental Compliance 2016	307-1	Non-compliance with environmental laws and regulations	●	4.2.2 Water Pollution Control	107	
Topic-specific disclosure: 400 series (Social topics)						
*Employment						
GRI 103 Management ap- proach of Labor/ Management Relations 2016	103-1	Explanation of the material topic and its Boundary	●	1.4.2 The Value Chain Boundary of Material Topics 5 Human Resources	50 116	
	103-2	The management approach and its components	●	Implementation of SDGs and Ob- jectives 5 Human Resources	10 116	
	103-3	Evaluation of the management approach	●	Implementation of SDGs and Ob- jectives 5 Human Resources	10 116	
GRI 402 Disclosure of La- bor/Management Relations 2016	402-1	Minimum notice periods regarding operational changes	●	5.2 Labor Relations	127	
*Occupational Health and Safety						
GRI 103 Management approach of Occupational Health and Safety 2018	103-1	Explanation of the material topic and its Boundary	●	1.4.2 The Value Chain Boundary of Material Topics 5 Human Resources	50 116	
	103-2	The management approach and its components	●	Implementation of SDGs and Ob- jectives 5 Human Resources	10 116	
	103-3	Evaluation of the management approach	●	Implementation of SDGs and Objectives 5 Human Resources	10 116	
	403-1	Occupational health and safety management system	●	5.3.1 Occupational Safety and Health Management System	132	
	403-2	Hazard identification, risk assessment, and incident investigation	●	5.3.1 Occupational Safety and Health Management System	132	
	403-3	Occupational health services	●	5.3.3 Employee Health Manage- ment	138	

Category/ Material Aspects	No	GRI Index	External Verification	Chapter and Section	Page	Omit/ remark
GRI 103 Management approach of Occupational Health and Safety 2018	403-4	Worker participation, consultation, and communication on occupational health and safety	●	5.3 Reinforced Occupational Safety	132	
	403-5	Worker training on occupational health and safety	●	5.3.2 Safe Working Environment	135	
	403-6	Promotion of worker health	●	5.3.3 Employee Health Management	138	
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	●	5.3.2 Safe Working Environment	135	
GRI 403 Disclosure of Occupational Health and Safety 2018	403-8	Workers covered by an occupational health and safety management system	●	5.3.1 Occupational Safety and Health Management System	132	
	403-9	Work-related injuries	●	5.3.1 Occupational Safety and Health Management System	132	
	403-10	Work-related ill health	●	5.3.1 Occupational Safety and Health Management System	132	
*Local Communities						
GRI 103 Management approach of Local Communities 2016	103-1	Explanation of the material topic and its Boundary	●	1.4.2 The Value Chain Boundary of Material Topics	50	
				6 Social Inclusion	140	
	103-2	The management approach and its components	●	Implementation of SDGs and Objectives	10	
				6 Social Inclusion	140	
GRI 413 Disclosure of Local Communities topics 2016	103-3	Evaluation of the management approach	●	Implementation of SDGs and Objectives	10	
				6 Social Inclusion	140	
	413-1	Operations with local community engagement, impact assessments, and development programs	●	6.2 Cultural Preservation and Added Value	150	
	413-2	Operations with significant actual and potential negative impacts on local communities	●	4.2.1 Air Pollution Prevention 4.2.2 Water Pollution Control	105 107	
*Customer Health and Safety						
GRI 103 Management approach of Customer Health and Safety 2016	103-1	Explanation of the material topic and its Boundary	●	1.4.2 The Value Chain Boundary of Material Topics	50	
				3 Core Values	72	
	103-2	The management approach and its components	●	Implementation of SDGs and Objectives	10	
				3 Core Values	72	
GRI 416 Disclosure of Customer Health and Safety topics 2016	416-1	Assessment of the health and safety impacts of product and service categories	●	Implementation of SDGs and Objectives	10	
				3 Core Values	72	
GRI 416 Disclosure of Customer Health and Safety topics 2016	416-1	Assessment of the health and safety impacts of product and service categories	●	3.2.1 Product Health and Food Safety	81	

Category/ Material Aspects	No	GRI Index	External Verification	Chapter and Section	Page	Omit/ remark
GRI 416 Disclosure of Customer Health and Safety topics 2016	416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	●	2.2.2 Compliance and Information Disclosure	64	
*Marketing and Labeling						
GRI 103 Management ap- proach of Market- ing and Labeling 2016	103-1	Explanation of the material topic and its Boundary	●	1.4.2 The Value Chain Boundary of Material Topics	50	
				3 Core Values	72	
	103-2	The management approach and its components	●	Implementation of SDGs and Objectives	10	
				3 Core Values	72	
	103-3	Evaluation of the management approach	●	Implementation of SDGs and Objectives	10	
				3 Core Values	72	
GRI 417 Disclosure of Marketing and Labeling 2016	417-1	Requirements for product and service information and labeling	●	3.2.1 Product Health and Food Safety	81	
	417-2	Incidents of non-compliance concerning product and service information and labeling	●	2.2.2 Compliance and Informa- tion Disclosure	64	
	417-3	Incidents of non-compliance concerning marketing communications	●	2.2.2 Compliance and Information Disclosure	64	
*Customer Privacy						
GRI 103 Management approach of Customer Privacy 2016	103-1	Explanation of the material topic and its Boundary	●	1.4.2 The Value Chain Boundary of Material Topics	50	
				2 Governance and Risk Manage- ment	52	
	103-2	The management approach and its components	●	Implementation of SDGs and Ob- jectives	10	
				2 Governance and Risk Manage- ment	52	
	103-3	Evaluation of the management approach	●	Implementation of SDGs and Ob- jectives	10	
				2 Governance and Risk Manage- ment	52	
GRI 418 Disclosure of Customer Privacy topics 2016	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	●	2.3.1 Risk Management	66	
*Social and economic compliance						
GRI 103 Management approach of Compliance 2016	103-1	Explanation of the material topic and its Boundary	●	1.4.2 The Value Chain Boundary of Material Topics	50	
				2 Governance and Risk Manage- ment	52	
	103-2	The management approach and its components	●	Implementation of SDGs and Ob- jectives	10	
				2 Governance and Risk Manage- ment	52	

Category/ Material Asects	No	GRI Index	External Verification	Chapter and Section	Page	Omit/ remark
GRI 103 Management approach of Compliance 2016	103-3	Evaluation of the management approach	●	Implementation of SDGs and Ob- jectives	10	
				2 Governance and Risk Manage- ment	52	
GRI 419 Disclosure of Compliance topics 2016	419-1	Non-compliance with laws and regulations in the social and economic area	●	2.2.2 Compliance and Information Disclosure	62	
Supplementary disclosure of GRI G4 Food Processing Sector						
GRI Disclosure of labor relations topics 2016	FP3	Percentage of working time lost due to industrial disputes, strikes and/or lockouts, by country	●	5.2 Labor Relations	127	
GRI Disclosure of Customer Health and Safety topics 2016	FP5	Percentage of production volume manufactured in sites certified by an independent third party	●	3.2.1 Product Health and Food Safety	81	
	FP6	According to internationally recognized food safety management system standards	●	3.2.1 Product Health and Food Safety	81	
	FP7	Percentage of total sales volume of consumer products, by product category, that are lowered in	●	3.2.1 Product Health and Food Safety	81	
*Healthy and reasonably priced food						
GRI 103 Management ap- proach of Healthy and reasonably priced food 2016	103-1	Explanation of the material topic and its Boundary	●	1.4.2 The Value Chain Boundary of Material Topics	50	
				3 Core Values	72	
	103-2	The management approach and its components	●	Implementation of SDGs and Objectives	10	
				3 Core Values	72	
103-3	Evaluation of the management approach	●	Implementation of SDGs and Objectives	10		
			3 Core Values	72		
TSC’s sustainability topics						
*Corporate Governance						
GRI 103 Management approach of Corporate Gover- nance 2016	103-1	Explanation of the material topic and its Boundary	●	1.4.2 The Value Chain Boundary of Material Topics	50	
				2 Governance and Risk Manage- ment	52	
	103-2	The management approach and its components	●	Implementation of SDGs and Ob- jectives	10	
				2 Governance and Risk Manage- ment	52	
103-3	Evaluation of the management approach	●	Implementation of SDGs and Ob- jectives	10		
			2 Governance and Risk Manage- ment	52		

Category/ Material Asects	No	GRI Index	External Verification	Chapter and Section	Page	Omit/ remark
*Innovative Research and Development						
GRI 103 Management ap- proach of Innova- tive Research and Development 2016	103-1	Explanation of the material topic and its Boundary	●	1.4.2 The Value Chain Boundary of Material Topics	50	
				3 Core Values	72	
	103-2	The management approach and its components	●	Implementation of SDGs and Objectives	10	
				3 Core Values	72	
	103-3	Evaluation of the management approach	●	Implementation of SDGs and Objectives	10	
				3 Core Values	72	
TSC’s sustainability topics	PT1	Types and quantities of patents applied and passed in the year	●	3.2 Innovation Dynamics	80	
Supplementary disclosure of Innovative R&D topics 2016	PT2	Number of cases infringing patents or intellectual property rights (IPR) of others in the year	●	3.2 Innovation Dynamics	80	
* Sustainable food						
GRI 103 Management approach of Sustainable food 2016	103-1	Explanation of the material topic and its Boundary	●	1.4.2 The Value Chain Boundary of Material Topics	50	
				3 Core Values	72	
	103-2	The management approach and its components	●	Implementation of SDGs and Objectives	10	
				3 Core Values	72	
	103-3	Evaluation of the management approach	●	Implementation of SDGs and Objectives	10	
				3 Core Values	72	
* Circular economy						
GRI 103 Management ap- proach of Circular economy 2016	103-1	Explanation of the material topic and its Boundary	●	1.4.2 The Value Chain Boundary of Material Topics	50	
				4 Green Production	96	
	103-2	The management approach and its components	●	Implementation of SDGs and Ob- jectives	10	
				4 Green Production	96	
	103-3	Evaluation of the management approach	●	Implementation of SDGs and Ob- jectives	10	
				4 Green Production	96	
*Providing land for urban planning						
GRI 103 Management approach of Providing land for urban planning 2016	103-1	Explanation of the material topic and its Boundary	●	1.4.2 The Value Chain Boundary of Material Topics	50	
				3 Core Values	72	
	103-2	Explanation of the material topic and its Boundary	●	Implementation of SDGs and Objectives	10	
				3 Core Values	72	
	103-3	Evaluation of the management approach	●	Implementation of SDGs and Objectives	10	
				3 Core Values	72	

Category/ Material Asects	No	GRI Index	External Verification	Chapter and Section	Page	Omit/ remark
*Climate action						
GRI 103 Management ap- proach of Climate action 2016	103-1	Explanation of the material topic and its Boundary	●	1.4.2 The Value Chain Boundary of Material Topics	52	
				2 Governance and Risk Manage- ment	52	
	103-2	The management approach and its components	●	Implementation of SDGs and Ob- jectives	10	
				2 Governance and Risk Manage- ment	52	
	103-3	Evaluation of the management approach	●	Implementation of SDGs and Ob- jectives	10	
				2 Governance and Risk Manage- ment	52	
*Cultural assets						
GRI 103 Management approach of Cul- tural assets 2016	103-1	Explanation of the material topic and its Boundary	●	1.4.2 The Value Chain Boundary of Material Topics	50	
				6 Social Inclusion	140	
	103-2	The management approach and its components	●	Implementation of SDGs and Objectives	10	
				6 Social Inclusion	140	
	103-3	Evaluation of the management approach	●	Implementation of SDGs and Objectives	10	
				6 Social Inclusion	140	
Supplementary disclosure of non-material GRI G4 Sector Disclosures- Food and Processing						
GRI Disclosure of Procurement Practices topic 2016	FP1	Proportion of raw materials purchased from suppliers meeting the Company's procurement policy	●	6.1.1 Procurement Policies	142	
	FP2	Proportion of raw materials purchased in accordance with internationally reliable production standards, listed in accordance with different production standards	●	6.1.2 Supplier Management	144	
GRI Disclosure of Animal welfare topic 2016	FP9	List of all quantities and percentages of breeding and processed animal species and varieties	●	Special Column: Overall Renovation Project of Modern Livestock Housing	17	
	FP10	Policies and regulations of physiological modification and use of anesthetics according to animal species and varieties	●	Special Column: Overall Renovation Project of Modern Livestock Housing	26	
	FP11	The quantities and percentages of breeding and processed animal species and varieties by type of housing	●	Special Column: Overall Renovation Project of Modern Livestock Housing	26	
	FP12	Policies and regulations of the use of antibiotics, hormones and growth hormones according to animal species and varieties	●	Special Column: Overall Renovation Project of Modern Livestock Housing	26	
	FP13	Total number of violations of law and regulations and total number of voluntary standards during the process of transportation, handling and slaughtering of animals and aquatic animals	●	Special Column: Overall Renovation Project of Modern Livestock Housing	26	

Appendix II : Reference table of Taiwan Stock Exchange Corporation Rules Governing the Preparation and Filing of Corporate Social Responsibility Reports by TWSE Listed Companies (Article 4, Item 1)

Number	Content of indicator	Chapter and section	page
(1)	The evaluation and improvement regarding the company's personnel, work environment, hygiene management of facilities and quality control system to improve food sanitation, safety and quality, as well as the significant product categories and the percentage affected.	3.2.1 Product Health and Food Safety	81
(2)	The applicable laws relating to the management of food safety and sanitation which the listed company shall observe, as well as the types and number of incidents of violation by the listed company against the aforesaid laws.	2.2.2 Compliance and Information Disclosure	64
(3)	The percentage of the listed company's purchased volume in accordance with internationally recognized responsible production standards.	6.1.2 Supplier Management	144
(4)	The percentage of the production volume manufactured in sites certified by an independent third party according to internationally recognized food safety management system standards.	3.2.1 Product Health and Food Safety	81
(5)	The number and percentage of suppliers audited by the listed company, and the audit items and results.	6.1.2 Supplier Management	144
(6)	The product trace and track management conducted by the listed company voluntarily or according to the applicable laws, and the percentage of such relevant products to the whole products.	3.2.1 Product Health and Food Safety	81
(7)	The food safety laboratories established by the listed company voluntarily or according to the applicable laws, testing items, testing results, relevant expenses and the percentage of such expenses to the net revenue.	3.2.1 Product Health and Food Safety	81

Appendix III : Sustainable Development Goals (SDGs) Index

Item	Sustainable Development Goals	Chapter and section	page
Goal 1	End poverty in all its forms everywhere	Implementation of SDGs and Objectives	10
Goal 2	End hunger, achieve food security and improved nutrition and promote sustainable agriculture.	Implementation of SDGs and Objectives	10
Goal 3	Ensure healthy lives and promote well-being for all at all ages	Implementation of SDGs and Objectives	10
Goal 4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.	5.1.3 Talent Cultivation	124
Goal 6	Ensure availability and sustainable management of water and sanitation for all.	Implementation of SDGs and Objectives	10
Goal 7	Ensure access to affordable, reliable, sustainable and modern energy for all.	Implementation of SDGs and Objectives	10
Goal 8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.	Implementation of SDGs and Objectives	10
Goal 9	Build resilient infrastructure, promote inclusive and Sustainable industrialization and foster innovation.	Special Column: Turning Oyster Shells into Calcium Carbonate- the Realization of Circular Economy	24
		Special Column: Overall Renovation Project of Modern Livestock Housing	26
Goal 11	Make cities and human settlements inclusive, safe, resilient and sustainable.	Implementation of SDGs and Objectives	10
Goal12	Ensure sustainable consumption and production patterns.	Implementation of SDGs and Objectives	10
Goal13	Take urgent action to combat climate change and its impacts.	Implementation of SDGs and Objectives	10
Goal14	Conserve and sustainably use the oceans, seas and marine resources for sustainable development	Implementation of SDGs and Objectives	10
Goal15	Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.	Implementation of SDGs and Objectives	10
Goal16	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.	Implementation of SDGs and Objectives	10
Goal17	Strengthen the means of implementation and revitalize the global partnership for sustainable development	Implementation of SDGs and Objectives	10

Appendix IV : British Standards Institution(BSI) Verification statement



INDEPENDENT ASSURANCE OPINION STATEMENT

Taiwan Sugar Corporation 2021 Sustainability Report

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

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

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

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

Scope

The scope of engagement agreed upon with Taiwan Sugar includes the followings:

1. The assurance scope is consistent with the description of Taiwan Sugar Corporation 2021 Sustainability Report.
2. The evaluation of the nature and extent of the Taiwan Sugar's adherence to AA1000 AccountAbility Principles (2018) in this report as conducted in accordance with type 1 / type 2 of AA1000AS v3 sustainability assurance engagement and therefore, the information/data disclosed in the report is not verified through the verification process except for food industry specific management approach and performance indicators concerning the aspects of supply chain management and procurement practices, protection of customer health and safety, product and service label and legal compliance.

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

Opinion Statement

We conclude that the Taiwan Sugar Corporation 2021 Sustainability Report provides a fair view of the Taiwan Sugar CSR programmes and performances during 2020. The CSR report subject to assurance is free from material misstatement based upon testing within the limitations of the scope of the assurance, the information and data provided by the Taiwan Sugar and the sample taken. We believe that the 2020 economic, social and environmental performance information are fairly represented. The CSR performance information disclosed in the report demonstrate Taiwan Sugar's efforts recognized by its stakeholders.

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

Methodology

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

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

Conclusions

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

Appendix IV : British Standards Institution(BSI) Verification statement

Inclusivity

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

Materiality

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

Responsiveness

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

Impact

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

GRI Sustainability Reporting Standards (GRI Standards)

Taiwan Sugar provided us with their self-declaration of in accordance with GRI Standards: Core option (For each material topic covered by a topic-specific GRI Standard, comply with all reporting requirements for at least one topic-specific disclosure). Based on our review, we confirm that social responsibility and sustainable development disclosures with reference to GRI Standards' disclosures are reported, partially reported or omitted. In our professional opinion the self-declaration covers the Taiwan Sugar's social responsibility and sustainability topics.

Assurance level

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

Responsibility

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

Competency and Independence

The assurance team was composed of Lead auditors experienced in relevant sectors, and trained in a range of sustainability, environmental and social standards including AA1000AS, ISO 14001, ISO 45001, ISO 14064 and ISO 9001. BSI is a leading global standards and assessment body founded in 1901. The assurance is carried out in line with the BSI Fair Trading Code of Practice.

For and on behalf of BSI:



Peter Pu, Managing Director BSI Taiwan



...making excellence a habit.™

Statement No: SRA-TW-2020009

2021-05-10

Taiwan Headquarters: 2nd Floor, No. 37, Ji-Hu Rd., Nei-Hu Dist., Taipei 114, Taiwan, R.O.C.

BSI Taiwan is a subsidiary of British Standards Institution.

