

Taiwan Tobacco & Liquor Corporation

ESG REPORT

20
22



Taiwan Tobacco & Liquor Corporation

ESG REPORT

20
22





Table of Contents

Letter from Management	4
About the Report	6
About Taiwan Tobacco & Liquor Corporation	7
Sustainability Highlights	10
Identifying Material Topics and Communication with Stakeholders	12

TABLE OF CONTENTS

CHAPTER

1 Green Economy

1.1	Circular Economy	20
1.2	Sustainable Environment	22
1.3	Climate Change and Adaptations	26

CHAPTER

2 Corporate Governance

2.1	Sustainable Business Operation	34
2.2	Corporate Governance and Business Integrity	35
2.3	Risk Management and Regulatory Compliance	36

CHAPTER

3 Quality Management

3.1	Product Liability	40
3.2	Safety Guarantee for Raw Materials	40
3.3	Sustainable Supply Chain	41

CHAPTER

4 Happy Workplace and Social Welfare

4.1	Career Development	46
4.2	Social Care	48
Summary of ESG Performance		52
Appendix		54

Letter from Management

In 2022, the COVID-19 pandemic continued to impact society unpredictably. The situation further worsened due to the outbreak of the Russia-Ukraine war, leading to an international energy shortage. As a result, prices of bulk raw materials and transportation skyrocketed, intensifying global inflation and severely impacting Taiwan's overall economy. As a state-owned enterprise, Taiwan Tobacco & Liquor Corporation (TTL) continues to exert its utmost efforts to produce 75% cleansing alcohol for epidemic prevention meeting the demands of epidemic control and safeguarding the health of the people while facing severe operational challenges and increased cost pressures both domestically and internationally. Additionally, in line with the government's stable pricing policy, the essential commodity of red label cooking rice wine was maintained at its original price, easing the burden on the public. TTL is dedicated to fulfilling its responsibility of contributing to the national treasury and becoming a stabilizing force in society.

TTL is committed to fulfilling its corporate social responsibility and implementing sustainable development goals. Since 2022, TTL has aligned itself with the government's "Corporate Governance 3.0 - Sustainable Development Blueprint" by transforming its CSR (Corporate Social Responsibility) report into an ESG (Environmental, Social, and Governance) sustainability report. Concurrently, TTL established a Sustainable Development Committee consisting of the four subcommittees of "Corporate Governance," "Environmental Sustainability," "Consumer Food Safety," and "Social and Employee Care." These groups stipulate medium to long-term development goals and undertake ESG activities related to core business values. TTL continuously reviews its ESG performance by implementing sustainable performance indicators to promote the Company's sustainable development and outline a sustainable blueprint for the future.

Promote Green Production and Create a Green Energy Environment

To achieve 2050 Net-Zero Emissions, TTL formulated the "2050 Net-Zero Emissions Plan (including Net-Zero Emissions Pathway)" in 2022. TTL continues to promote greenhouse gas inventory and solar photovoltaic installation projects. Additionally, it has planned to acquire three-year carbon credits from the Wurih Brewery Boiler Replacement Project and calculate the carbon footprint of its Kaoliang liquor products from the Chiayi Distillery. TTL is dedicated to achieving significant carbon emission reductions and actively working towards these goals. TTL also implements the recycling and reuse of liquor bottles, tobacco remnants, distiller's grains, and brewer's spent grain. It utilizes these core byproducts from the main production process to develop biotechnology and biscuit products, effectively reducing the environmental impact of its manufacturing processes. As of 2022, TTL has cumulatively built 25 solar photovoltaic power plants, generating approximately 15.3 million kilowatt-hours of electricity annually since 2014. The renewable energy generation accounts for approximately 10.2% of our total power consumption. In the future, TTL will continue to prioritize and enhance its climate change adaptation capabilities, working towards the goal of becoming a green enterprise.

Chairman Yen-Che Ting, TTL

丁啟哲

Protect the Rights and Interests of Stakeholders and Deepen the Culture of Sustainable Governance

TTL places great importance on consumer health and safety. Through comprehensive quality management, TTL established a food safety traceability system, ensuring that consumers can have trust in its products and enjoy peace of mind knowing that they are of high quality. In order to safeguard the rights and interests of stakeholders, the Company adheres to legal requirements and continuously strengthens its corporate governance culture. We uphold the principles of integrity in governance. In recent years, our corporate governance evaluation scores have consistently exceeded 90 points. To encourage suppliers to take shared responsibility for environmental protection, social care, and corporate ethics, in 2022, we established the "Supplier Code of Conduct" and distributed the "Supplier ESG Sustainability Self-Assessment Questionnaire". Furthermore, to establish a transparent procurement environment, we launched the "Solar Photovoltaic System Green Procurement Integrity Platform" in 2023. This platform facilitates communication and oversight channels with stakeholders, ensuring continuous improvement in corporate governance effectiveness.

Care for Society and Human Rights

TTL is dedicated to contributing to social welfare by caring for the underprivileged, sponsoring public welfare initiatives, and fostering co-prosperity in the community. Continuously sponsoring the Taiwan Beer basketball team and baseball camps, we received recognition such as the Ministry of Education's Sports Promotion Award. In addition, we established the TaiwanBeer HeroBears basketball team, which joined the T1 Professional Basketball League, thereby promoting national sports development. We strive to create a friendly and diverse work environment, encouraging employees to value work-life balance. We provide fair and diverse compensation and benefits, as well as a healthy and safe working environment, promoting talent attraction and retention. In extensive collaboration with regional governments, we integrate local cultural and creative elements to create theme-based distilleries with unique local characteristics for tourists and recreational activities. This initiative stimulates local revitalization and development. We also provide long-term support to local farmers, selecting distinctive local agricultural products for research and development, aiming to create differentiated new products. Additionally, we actively participate in internationally renowned spirits competitions, showcasing Taiwan's excellence.

TTL upholds the business philosophy of "insisting on perfect quality, providing satisfactory services, pursuing excellent developments, and fulfilling social responsibilities". We dedicate our corporate resources to continuously plan and promote various sustainable actions. We enhance research and development capabilities, create product value, accelerate diversification, and strive towards the goal of green and low-carbon manufacturing. We respond to the diverse needs of stakeholders, exert positive social influence, and collaborate with our supply chain partners to fulfill our responsibilities as global citizens. Together, we embark on the path to sustainable business operations.

President Shih-Chi Lin, TTL

林士傑

About the Report

Taiwan Tobacco & Liquor Corporation (referred to as "TTL" or "the Company" in this report) has spontaneously published an annual Corporate Social Responsibility (CSR) report every year since 2015. Starting from 2021, the report has been transformed into the "ESG Sustainability Report". This report is the second English report issued by the Company, and a corporate sustainability section has been established on our official website. Adhering to the principles of transparency and integrity, we aim to fully disclose the goals and performance of TTL in various sustainability aspects.

Basis of Preparation

This report has been prepared in accordance with the Global Reporting Initiative (GRI) Standards issued by the Global Sustainability Standards Board (GSSB) and the industry-specific guidelines set by the Sustainability Accounting Standards Board (SASB). We have also followed international guidelines and standards, including the United Nations' Sustainable Development Goals (SDGs) and Task Force on Climate-related Financial Disclosures (TCFD), to strengthen the transparency of information in the sustainability report.

Disclosure Scope of the Report

This year's report covers the headquarters of TTL and its operating units, including the Northern Area, Taoyuan, Taichung, Chiayi, Tainan, Kaohsiung, Hualien, and Key Account offices under the Division of Marketing & Sales. It also includes the 17 plants, breweries, and distilleries across Taiwan under the Tobacco, Liquor, and Beer Divisions. The information and data presented in the report encompass the economic, environmental, and social performance of these operating locations.

Time of Release

TTL regularly publishes an annual sustainability report once a year. This 2022 report was published in August 2023, covering the period from January 1, 2022, to December 31, 2022 (with some information and performance indicators disclosed until April 2023). The next report is expected to be published in August 2024.

Quality Management Procedure in the Report



To ensure the integrity and accuracy of the data, relevant business objectives, performance indicators, achievements, and future efforts are reviewed by departmental managers. The Sustainability Report Compilation Team then consolidates the data, and the overall compilation and drafting are carried out by the Department of Planning.

Internal
The data and information are verified by the vice presidents and the directors of each division and department internally. After being compiled and confirmed by the Executive Secretary (Planning Department) of the Sustainable Development Committee, they are then submitted to the Chairperson for review and approval before disclosure.

External
Verification has been conducted by Ernst & Young (EY), a professional accounting firm, in accordance with the GRI Standards and the limited level assurance standard ISAE 3000. This verification process ensures the reliability of the information disclosed. The detailed third-party assurance statement can be found in the appendix of this report.

Submitted to the Chairperson of the Company for review and finalization

Basis for Calculations

The financial data of the Company is derived from audited financial statements certified by accountants and New Taiwan Dollars is used as the reporting currency. The ISO 14001 Environmental Management System, ISO 22000 Food Safety Management System, ISO 9001 Quality Management System, CNS 45001 Taiwanese Occupational Health and Safety Management System, ISO 45001 Occupational Health and Safety Management System, and ISO 14064-1 Greenhouse Gas Inventory have been certified by third-party verification organizations.

External Initiatives

TTL is voluntarily motivated to follow the provisions of the World Health Organization Framework Convention on Tobacco Control (WHO FCTC) in both the production and sale of tobacco products.

Feedback and Recommendations

If you have any questions or suggestions about the Report, please contact us through the following channels.

Contact department :

Department of Planning

Address :

No. 4, Sec. 1, Nanchang Rd.,
Zhongzheng Dist., Taipei City

Telephone :

(02) 2321-4567 Extension : 519

E-mail :

041110@mail.ttl.com.tw



TTL ESG Website

About Taiwan Tobacco & Liquor Corporation

Taiwan Tobacco & Liquor Corporation (TTL), headquartered in Taipei City, is a state-owned enterprise engaged in the production and distribution of tobacco, liquor, beer, biotechnology, and food products. TTL underwent a restructuring from the Taiwan Provincial Tobacco and Liquor Bureau in 2002 and became a public offering company in 2005. Moving forward, our primary goals are to enhance research and development capabilities, drive business optimization and transformation, and expand into overseas markets. We are committed to upholding consumer rights, providing excellent products, fulfilling social responsibilities, and carrying on the century-long spirit of TTL. We aim to share this heritage with consumers from different generations both domestically and internationally.



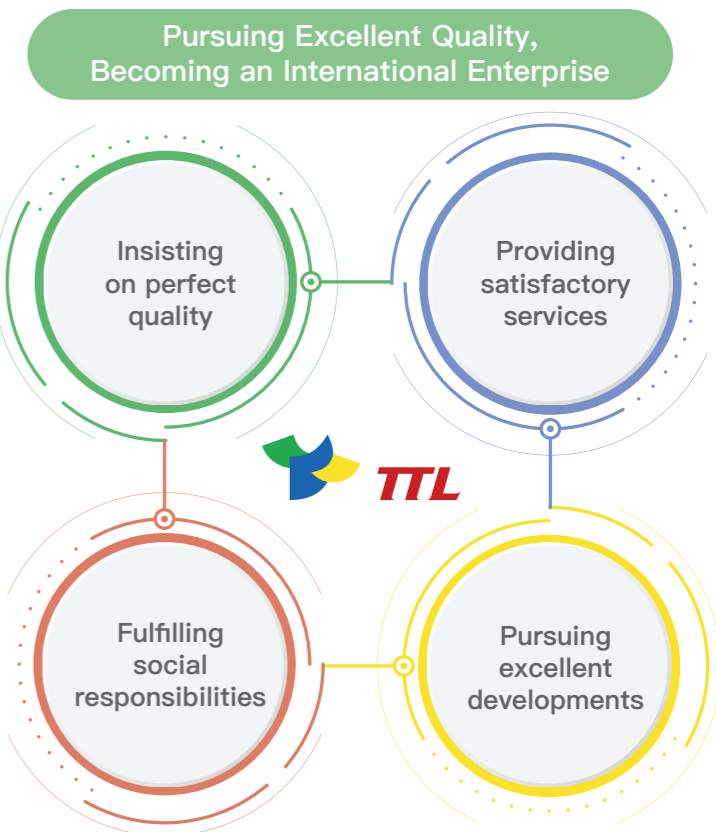
Taiwan Tobacco & Liquor Corporation Profile

Location of headquarters	No. 4, Sec. 1, Nanchang Rd., Zhongzheng Dist., Taipei City
Shareholders	Ministry of Finance holds 100% equity
Main products	Production and sales business for cigarettes, liquor, wine, beer, biotechnology, and food products
Total number of employees	4,822 persons
Operating revenue	56,741,034 (NT\$ in thousands)
Total assets	Equity : 103,334,870 Liabilities : 14,288,998 (NT\$ in thousands)

Vision and Philosophy

With a history of over 120 years, TTL has adopted a sustainable vision of "Pursuing Excellent Quality, Becoming an International Enterprise" as its strategic focus. We uphold the business philosophy of "insisting on perfect quality, providing satisfactory services, pursuing excellent developments, and fulfilling social responsibilities". Our operations are guided by the mission of creating a workplace dignity for employees, ensuring customer health by advocating rational consumption of tobacco and liquor, and adhering to the values of innovation, proactivity, responsibility, honesty, and trustworthiness. TTL cherishes the land that has nurtured its growth. With a vision of sustainable development and our four core business philosophies, TTL deeply cultivates the Taiwanese market while actively accelerating its presence and expansion in international markets to become an internationally recognized brand representing Taiwan.

The Four Sustainability Vision of TTL



History and Organization

1898

Expanded the monopoly

Besides maintaining the original monopolized opium good, the Taiwan Governor's Office expanded its range of product items to include salt and camphor subsequently.

1901

Established the "Monopoly Bureau of the Taiwan Governor's Office"

The Taiwan Pharmaceutical Factory, the Taiwan Salt Bureau and the Taiwan Camphor Bureau were consolidated into the "Monopoly Bureau of the Taiwan Governor's Office." The monopolized goods were expanded to eight items including tobacco, liquor, opium, salt, camphor, matches, petroleum, and standardized weights and measures.

1945

Reorganized to form the "Taiwan Provincial Monopoly Bureau"

The scope of business shrank to five items: tobacco, liquor, camphor, matches, and standardized weights and measures.

1947

Reorganized to form the "Taiwan Tobacco and Wine Bureau"

The Taiwan Provincial Government brought the Bureau directly under its authority. The number of monopolized items was reduced to three: tobacco, liquor, and camphor.

1951-1999

Reorganization

- In 1951, the Bureau was placed under the supervision of the Finance Department of the Taiwan Provincial Government.
- In 1968, the monopoly range of the Taiwan Tobacco and Wine Monopoly Bureau was reduced to only two items, tobacco and liquor.
- In 1999, the Bureau was reformed under the Ministry of Finance.

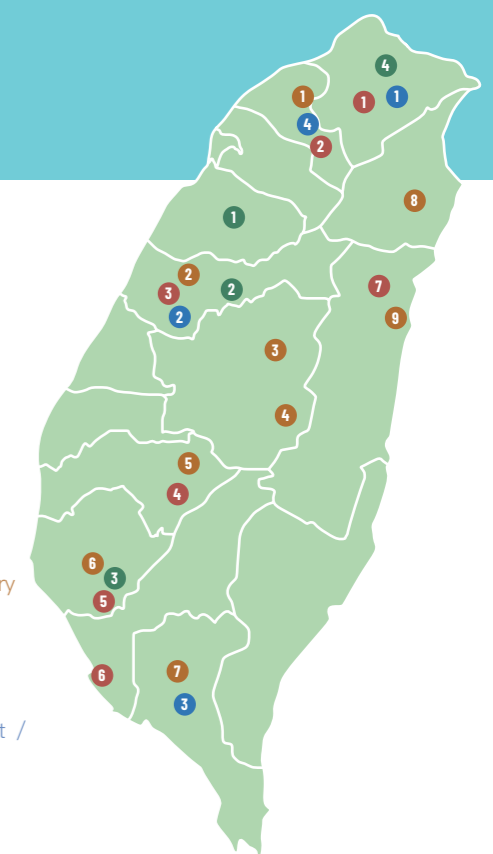
2002-NOW

Restructured as "Taiwan Tobacco and Liquor Corporation"

- The "Tobacco and Alcohol Administration Act" and the "Tobacco and Liquor Tax Act" were enacted in January, 2002. Since then, the monopoly system was eliminated and the free production of tobacco and liquor began.
- The Bureau was subsequently restructured as Taiwan Tobacco and Liquor Corporation in July, 2002.

Global Sales Map of TTL

Canada	Liquor, Beer, Food
USA	Liquor, Beer, Food
South America Market	Beer, Food
Europe	Liquor, Beer, Food
Middle East Market	Cigarettes, Food
ASEAN Market	Cigarettes, Liquor, Beer, Food
Russia	Beer, Liquor
Korea	Liquor, Beer
Japan	Liquor, Beer, Food
China	Cigarettes, Liquor, Beer, Food
New Zealand and Australian markets	Liquor, Beer, Food
India	Liquor, Beer



Domestic Operating Location:

- ① Northern Area Office / ② Taoyuan Office / ③ Taichung Office / ④ Chiayi Office / ⑤ Tainan Office / ⑥ Kaohsiung Office / ⑦ Hualien Office

Distillery:

- ① Taoyuan Sake Brewery / ② Taichung Distillery / ③ Puli Shaohsing Brewery / ④ Nantou Winery & Distillery / ⑤ Chiayi Distillery / ⑥ Longtian Distillery / ⑦ Pingtung Distillery / ⑧ Yilan Brewery / ⑨ Hualien Distillery

Brewery:

- ① Jhunan Brewery / ② Wurih Brewery / ③ Shanhua Brewery / ④ Taipei Brewery

Cigarette Plant:

- ① Taipei Cigarette Plant / ② Fongyuan Cigarette R&D Plant / ③ Neipu Cigarette Plant / ④ Taoyuan Printing Factory

HIGHLIGHT Sustainability

Promote the Solar Power Installation Projects to Produce Clean Energy

In line with Taiwan's green energy development goals, TTL actively responds to the green energy policy outlined in the "Renewable Energy Development Act". We have completed solar photovoltaic (PV) Installation Project I (2017–2019) and Project II (2020–2021). To accelerate the installation of Solar PV power systems and promote the application of solar PV technology, we are currently implementing Solar PV Installation Project III (2022–2023) and planning for Project IV (2024–2025). Until the end of 2022, TTL has cumulatively established 25 solar photovoltaic (PV) power plants since 2014. The total power generation from Project I and II exceeded 50.42 million kWh, growing 42.9% year on year (YoY) in 2022. The cumulative revenue from electricity sales has reached over NT\$225 million.

Until 2022 the estimated generation capacity of the installed 25 solar photovoltaic (PV) power systems is approximately 15.30 million kWh as the renewable energy generation accounts for approximately 10.2% of our total power consumption.

Solar power generation has reached **50.42 million kWh** increased YoY in 2022. **+42.9%**



Planning Carbon Footprints of Products to Reach the Net Zero Target

- One of the few alcohol products in Taiwan to obtain the Carbon Footprint Label.
- Providing the carbon footprint records for customers' purchase.
- The certified breweries have shown significant improvements in energy, resources, waste management, and emissions reduction as evaluated by the related environmental indicators.

In the face of the severe challenges posed by global climate change, TTL is endeavoring to achieve the 2050 Net-Zero Emissions target. In 2022, we initially chose the alcohol products to calculate carbon footprints, helping us understand the proportion of greenhouse gas emissions generated at each stage of the product life cycle for further review to develop greenhouse gas reduction strategies. We are currently working towards obtaining the carbon footprint of Chiayi Kaoiliang liquor products and have set the scheduled milestones to obtain the carbon footprints of whiskey products within 3 years as well as beer and rice wine products within 5 years. These milestones serve as the basis for continuous emissions reduction measures throughout the supply chain of our products.

- 2027** Obtain the carbon footprint of beer and rice wine products
- 2025** Obtain the carbon footprint of whiskey products
- 2023** Obtain the carbon footprint of Chiayi Kaoiliang liquor products

Carbon footprint of products

The total greenhouse gas emissions generated throughout the life cycle of a product, including the stages of raw material acquisition, manufacturing in the factory, distribution and sales, consumer use, and final disposal or recycling, are recorded and converted into carbon dioxide equivalent.

Supplier code of conduct

In 2022, TTL established the Sustainable Development Committee and then stipulated the "Supplier Code of Conduct" to make our management system of sustainable supply chains be more comprehensive, assuring our suppliers conform to the ethical, legal, and social responsibilities while undertaking business activities. This initiative aims to establish an ethical and responsible supply chain that contributes to sustainable development.



Implement a Sustainable Supply Chain to Ensure Quality

The "Supplier Code of Conduct" regulates suppliers from five major aspects. Establishing an ethical and responsible supply chain that supports sustainable development

TTL sticks to its commitment of "Stay True for a Century, Be Reliable and Safe". We strictly manage the quality and operations of the upstream, midstream, and downstream supply chains. At each stage, we implement meticulous control over our products and their supply chains. Every link between raw material sourcing, processing, production, distribution and product launch undergoes rigorous inspections over the supply chain to achieve the highest quality standards and ensure consumer safety.



Stipulate Anti-Corruption Guidelines for Small Procurement



Although small procurement pertaining to the Company daily operations is valued below NT\$150,000, the number of cases is numerous. For preventing malpractice that the purchasing personnel take shortcuts without inquiring prices from enough qualified suppliers or splitting the major procurement into several smaller contracts due to the relatively simplified procurement process, Taiwan Tobacco and Liquor Corporation established an anti-corruption task force in 2022, publishing a manual on Anti-Corruption Guidelines to provide guidance for employees and vendors to follow. The manual also briefly introduces the concept, connotation, and outlook to set up a corporate integrity service platform, expecting to enhance each reader's understanding of its significance for the Company's sustainable operation.

- Small Procurement Process
- Case study on Risk Analysis
- Common mistakes in Small Procurement
- Relevant Legal Provisions
- Corporate Integrity Service Platform

A Safe Workplace Leads Happy Families

The environmental health and safety training budget was increased by **+28%** in 2022 to ensure employee safety in the workplace

encourage employees to be relieved for pregnancy and childrearing

- 15** contracted childcare institutions
- 2** Cooperative Educare Service Centers

As employees are valuable assets to TTL, caring for their physical and mental well-being is an important task of all work items. The Company has made an Occupational health and safety management plan from three major aspects of regulatory compliance, employee involvement, and a zero-incident environment to create a safe and secure working environment as well as systemically enhance occupational health and safety management to achieve the goal of "zero occupational accident" together. In 2022, NT\$5.46 million was disbursed for education and training on environmental, safety, and health. The Lost Day Rate (LDR) decreased by 56% compared to 2021. Furthermore, TTL conducted three seminars on promoting mental health and stress management as well as two seminars on promoting worker health. An Employee Assistance Program (EAP) was also schemed out to provide free psychological counseling services to employees for relieving their physical and mental stress, which is expected to have employees develop problem-solving skills for life challenges leading the enhancement of work efficiency ultimately.



Moreover, we are continuously promoting employee care and support. In 2022, we negotiated preferential contracts with 15 childcare institutions and established 2 Cooperative Educare Service Centers at the Taichung Distillery and the Puli Shaohsing Brewery, which provides employees with diverse and convenient childcare options in the neighborhood to alleviate the parental burden. Simultaneously, the Company provides a comprehensive mechanism of Parental Leave for Raising Children to achieve a work-life balance. In 2022, the average Employee Retained Rate after the parental leave in the Company reached 96.55%.



Integrate Channel Resources to Implement Sustainable Management

Strengthen channel competitiveness and reduce the carbon footprint of merchandise delivery

Originating from the southern Taiwan, "Show Ba Department Store Ltd." is renowned for a reputation of its good quality, affordable prices, open all year round, and a wide range of products as the most familiar and trusted hardware retailer. As of 2022, Taiwan Tobacco and Liquor Corporation collaborated with Show Ba Department Store to streamline the display conditions for 143 branches to enhance product exposure and organize event marketing of the major festivals, expecting to increase market share and revenue as well as create mutually beneficial results. Additionally, the Company has divided Show Ba Department Store's several small and medium-sized retailers into six major regions. The goods distribution of placed orders centralized at a single branch is subsequently arranged the delivery from nearby TTL warehouses to the appointed stores for the purpose of reducing the carbon footprint of goods distribution. In the future, Taiwan Tobacco and Liquor Corporation will directly negotiate "Retail Display Contract" with the headquarters of Show Ba Department Store Ltd. to simplify operational processes and strengthen channel competitiveness for the implementation of sustainable operation.

Integrated into **6** major regions compile display conditions **143** stores

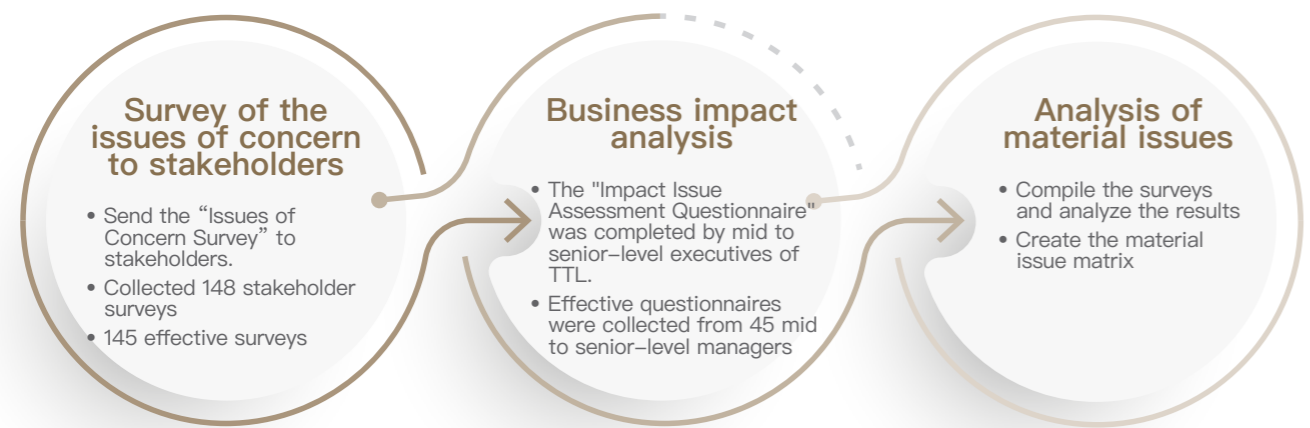


Identifying Material Topics and Communication with Stakeholders

TTL adheres the GRI Standards for sustainability reporting and the AA1000SES Standard for stakeholder engagement. In accordance with the 2021 GRI General Standards, TTL assesses the significance of major issues in terms of their impact on the economy, environment, and human rights. This serves as the foundation for information disclosures in this report. The Company has established a materiality analysis model and process to identify the most material topics for the Company and its stakeholders. This helps determine the scope and content of the report as well as explain relevant management policies and performance. In addition to ensuring that the report covers the significant sustainability challenges faced by TTL internally and externally, it also serves as a foundation for developing sustainability management goals.



Material Issue Analysis Procedure

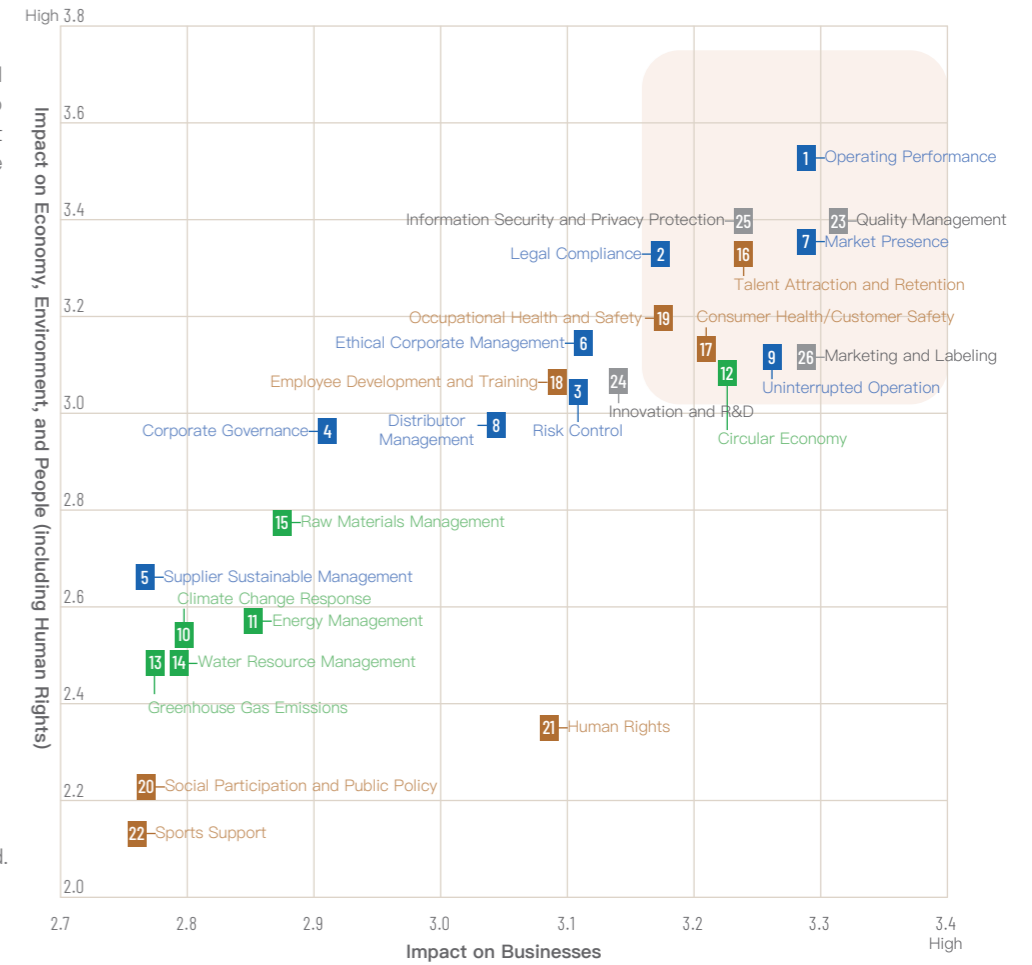


Material Topic Matrix of TTL

In 2022, TTL identified 11 material topics that are highly important to stakeholders and have a significant impact on the organization. The topics are as follows:

- 1 Operating Performance
- 2 Quality Management
- 3 Market Presence
- 4 Information Security and Privacy Protection
- 5 Talent Attraction and Retention
- 6 Legal Compliance
- 7 Marketing and Labeling
- 8 Occupational Health and Safety
- 9 Uninterrupted Operation
- 10 Consumer Health/Customer Safety
- 11 Circular Economy

No new material issues were added.



Operating Aspects	Environmental Aspects	Social Aspects	Product Aspects
1. Operating Performance	10. Climate Change Response	16. Talent Attraction and Retention	23. Quality Management
2. Legal Compliance	11. Energy Management	17. Consumer Health/Customer Safety	24. Innovation and R&D
3. Risk Control	12. Circular Economy	18. Employee Development and Training	25. Information Security and Privacy Protection
4. Corporate Governance	13. Greenhouse Gas Emissions	19. Occupational Health and Safety	26. Marketing and Labeling
5. Supplier Sustainable Management	14. Water Resource Management	20. Social Participation and Public Policy	
6. Ethical Corporate Management	15. Raw Materials Management	21. Human Rights	
7. Market Presence		22. Sports Support	
8. Distributor Management			
9. Uninterrupted Operation			

Impact Significance Assessment

TTL analyzed the positive and negative impact levels of the four major aspects of material topics based on the statistical results of internal and external surveys. The impact levels are rated on a scale of 1 to 5. The results are shown in the table.

Operating Aspect's Material Topics	Level of Impact		Probability of Occurrence	
	Positive	Negative	Positive	Negative
Operating Aspect's Material Topics	2.7	2.2	3.6	3.0
Environmental Aspect's Material Topics	3.0	3.3	3.8	2.7
Social Aspect's Material Topics	2.5	2.1	3.2	2.5
Product Aspect's Material Topics	3.0	2.7	3.0	2.7

Differences in Material Topics

Topic Ranking	2022 Material Topics	Ranking Changes
1	Operating Performance	–
2	Quality Management	–
3	Market Presence	–
4	Information Security and Privacy Protection	▲ 5
5	Talent Attraction and Retention	–
6	Legal Compliance	▼ 2
7	Marketing and Labeling	–
8	Occupational Health and Safety	–
9	Uninterrupted Operation	▼ 3
10	Consumer Health/Customer Safety	–
11	Circular Economy	–

» Note 1 : – means the ranking of the issue has not changed compared to 2021.

» Note 2 : ▼ 1– means the ranking of the issue has been moved down by one compared to 2021.

» Note 3 : ▲ 1– means the ranking of the issue has been moved up by one compared to 2021.

TTL Material Topics and Sustainable Value Chain

● Direct impacts ○ Indirect impacts ▲ Commercial impacts

Material Topics	Significance to TTL	Sustainable value chain impact boundaries							GRI Standard headings	Corresponding chapter
		Competent authorities/Shareholders	Employees	Consumers	Distributors	Suppliers	Media	Non-Governmental organizations		
Operating Performance	Exerting further strengths and core profession to create another century of honor	●	○		○	○	○	○	GRI 2	2.1 Sustainable Business Operation
Quality Management	Committed to “Stay True for a Century, Be Reliable and Safe”. Every link between raw material sourcing, processing, production, distribution and product launch undergoes rigorous inspection over the supply chain to achieve the highest quality standards and ensure consumer safety.		●	●	▲	▲	○		Self established Topics	3.1 Product Liability
Market Presence	As a state-owned enterprise, TTL bears the responsibility of increasing the revenue for the national treasury and stabilizing the consumer price. To provide the public with safe products, TTL is constantly devoted to innovative R&D and product quality improvement; on the other hand, the Company endeavors to expand overseas markets with the expectation to become an international enterprise.	●	●	○	▲	▲	○		GRI 2	2.1 Sustainable Business Operation
Information Security and Privacy Protection	TTL values the privacy protection of its customers and employees. Thus, the Company pays high attention to information security by strengthening the information system and employee training to perfect information security and privacy protection.		○	●	●	▲			GRI 418 Customer Privacy	2.2 Corporate Governance and Business Integrity
Talent Attraction and Retention	Talents are the foundation and cornerstone of TTL moving towards sustainability operations. The Company regards its employees as important assets, which is committed to creating a friendly and happy workplace, providing a fair and diverse compensation and benefits as well as a safe and healthy working environment to boost talent attraction and retention.	●	●	○	○	○			GRI 404-1 Training and Education	4.1 Career Development
Legal Compliance	Abiding by the laws, regulations, and policies to ensure steady operations, the Company is moving towards long-term steady operations.	●	●	●	▲	▲	○		GRI 307 Environmental Compliance GRI 419 Socioeconomic Compliance	2.3 Risk Management and Regulatory Compliance
Marketing and Labeling	For over a century, TTL has been persistent in high standard for product quality and strictly abiding by the laws and regulations. Apart from providing consumers with diverse products, the Company pays close attention to the impact of its products on consumer health and safety by means of marketing and labeling control for the embodiment of “Responsible Consumption and Production.”		○	●	▲	▲	○	○	GRI 417 Marketing and Labeling	3.1 Product Liability
Occupational Health and Safety	Enhance employee awareness of health and safety to build up a safe and healthy work environment of zero harm culture.	○	●			○	○	○	GRI 403 Occupational Health and Safety	4.1 Career Development
Uninterrupted Operation	Through risk control mechanism to effectively avoid risks from occurring and to minimize damages, TTL maintains operation stability to effectively get hold of innovative opportunities for enhancing economic benefits.	●	●	○	●	●	○		Self established Topics	2.3 Risk Management and Regulatory Compliance
Consumer Health/Customer Safety	The Company produces quality products through high-standard food safety management systems, which not only ensures customers’ health and safety are guaranteed, but also provides consumers with safe selection through strict traceability control and information disclosure.	○	○	●	▲	○	○	○	GRI 416 Customer Health and Safety	3.1 Product Liability
Circular Economy	TTL realizes the spirit of circular economy in “Waste Reduction, Reuse, and Resource Recovery,” which is committed to resource recycling including taking back empty bottles, packaging materials improvements, reuse of scraps, and waste management. It has effectively reduced the environmental impacts and resource exhaustion.		○		▲	○	○	●	GRI 301 Materials GRI 306 Waste	1.1 Circular Economy

Stakeholder Engagement Channels and Results

Stakeholder Engagement Form

TTL has set up diverse communication channels for competent authorities/shareholders, employees, consumers, distributors, suppliers, media, NGOs, and communities. Feedback from various stakeholders is highly important. We continue to conduct two-way opinion exchanges to understand the issues concerned by the stakeholders and their expectations for the sustainable operations of the Company.



Stakeholders
Competent authorities/ Shareholders

Significance to TTL
TTL is a state-owned enterprise. Its competent authority is the Ministry of Finance. The Company abides by the directions from the Ministry of Finance, policies, laws, regulation and requirements.

Topics of Concerns

- Corporate governance and integrity
- Policy and legal compliance
- Labor-management communications
- Occupational health and safety
- Customer health and safety

Communication Channels	Communication Frequency
Corporate governance appraisal for affiliated units to the Ministry of Finance.	Once every year
Meeting on annual profit adjustment in compliance with policy factor by affiliated units to the Ministry of Finance.	Once every year
Mid-term onsite verification meeting for Performance Evaluation of State-Owned Enterprises.	Once every year
Meeting on the system and perspective of Performance Evaluation of State-Owned Enterprises.	From time to time
Business Review meetings of affiliated units to the Ministry of Finance.	Once every quarter
Official letters, meetings	From time to time
Shareholders meetings	Once every year
Board of Directors	Once every month
Market Observation Post System (MOPS) announcements	From time to time



Stakeholders
Employees

Significance to TTL
Regarding employees as important assets, the Company provides fair compensation and benefits as well as a safe and healthy environment to boost talent retention.

Topics of Concerns

- Employee compensation and benefits
- Policy and legal compliance
- Operating performance
- Labor-management communications

Communication Channels	Communication Frequency
Labor-management meeting for the entire company	Once every two months
Labor-management meetings between company headquarters and all affiliated establishments	Once every three months
Taiwan Federation of Labor Member Representatives Meeting.	Once every year
Taiwan Federation of Labor Directors and Supervisors Meeting.	Once every two months
Supervisors mailbox	Instantly
Annual labor education.	Once every year
Taiwan Federation of Labor Chairperson mailbox	Instantly
Educational training	From time to time
Face-to-face communications, written information, and telephone.	Instantly
Seminars and promulgation	From time to time



Stakeholders
Consumers

Significance to TTL
TTL revenue foundation

Topics of Concerns

- Customer health and safety
- Quality management
- Customer service
- Product labels and sales responsibilities

Communication Channels	Communication Frequency
Advertisements in newspapers and magazines.	From time to time
Tasting and Promotional Event.	From time to time
Large sponsorship co-branding events.	From time to time
Large exhibition events.	About once every quarter
Seminars	From time to time
0800 Hotline / 0800 Service mailbox	Instantly
Media	Once every month
Websites, FB fan pages	Instantly



Stakeholders
Distributors

Significance to TTL
TTL values the importance of consumer rights by ensuring the service quality of distributors and key account channel are satisfying to customers.

Topics of Concerns

- Customer health and safety
- Product labels and sales responsibilities
- Customer service
- Quality management

Communication Channels	Communication Frequency
Service satisfaction survey	Once every year
Product description, tasting and promotional event.	From time to time
Customer counters/Stores patrol visits and marketing/Telephone calls	From time to time
Incentive Tour for outstanding distributors with sales achievements	From time to time
Media	From time to time
Check-in meetings	From time to time




Stakeholders
Suppliers

Significance to TTL
Undertaking in the food industry, the suppliers are regarded as priority subjects for TTL in raw material quality management.

Topics of Concerns

- Corporate governance and integrity
- Customer health and safety
- Quality management
- Policy and legal compliance

Communication Channels	Communication Frequency
Tender procedures and procurement contracts	From time to time
Procurement seminars with vendors in contacts	From time to time
In-person interviews	From time to time
Telephone, letters, meetings	From time to time



Stakeholders
Media

Significance to TTL
The optimal platform for TTL to communicate and promulgate to the external.

Topics of Concerns

- Product labels and sales responsibilities
- Quality management
- Customer health and safety
- Customer service

Communication Channels	Communication Frequency
Product launch, press release, advertisements, media visits, face-to-face interviews, telephone, and other online communication applications.	From time to time



Stakeholders
Non-Governmental Organization (NGO)

Significance to TTL
TTL proactively discusses with external groups on specific issues and values from diverse perspectives.

Topics of Concerns

- Community development plan
- Customer health and safety
- Product labels and sales responsibilities

Communication Channels	Communication Frequency
For example, John Tung Foundation and environmental protection groups.	The appeals of related groups are now conveyed through the competent authority.



Stakeholders
Community residents

Significance to TTL
Carrying through corporate social responsibilities, TTL maintains good and virtuous relations with local communities as well as returns to society with real actions for improving local welfare.

Topics of Concerns

- Community development plan
- Customer health and safety
- Customer service

Communication Channels	Communication Frequency
Social participation events	From time to time
0800 Hotline / 0800 Service mailbox	Instantly from time to time
Seminars and promulgation	once per week on average

CHAPTER 01

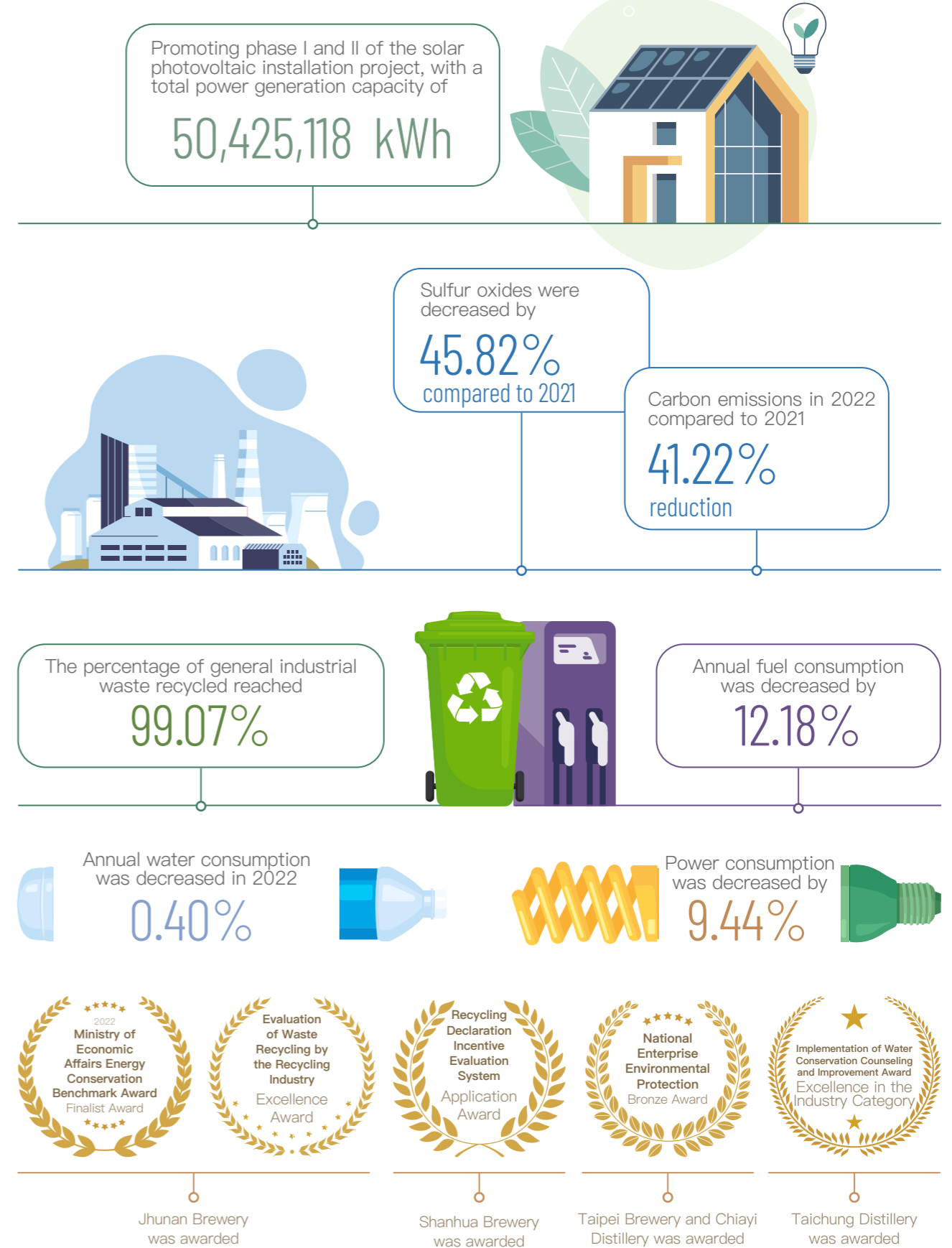
Green Economy

To achieve circular economy and environmental sustainability goals, TTL established a dedicated subcommittee under the sustainable development committee in charge of continuously monitoring environmental issues related to energy management, greenhouse gas emissions, etc. It reinforces the implementation of greenhouse gas inventory, energy management, process improvement, efficiency enhancement, environmental education, and so on. This task force also set up the annual action plan goals and management policies with the proper tactics of action plan execution and performance indicators ensuring the consistent implementation of low-carbon and green manufacturing practices across all operational locations. Meanwhile, the Company actively urges the development of solar photovoltaic systems to achieve green energy self-sufficiency in an attempt to fulfill the environmental sustainability objectives.

In March 2022, Taiwan officially announced the "Taiwan's Pathway to Net-Zero Emissions in 2050"; in response, TTL promptly formulated the "2050 Net Zero Emissions Plan and Pathway". Through initiatives such as greenhouse gas inventory, carbon footprint reduction, solar photovoltaic system deployment, and green economy promotion, the Company aims to achieve carbon emissions reductions. We have planned to assess the carbon footprint of our Kaoliang liquor products, obtain the Green Factory Certification for the Chiayi Distillery, and acquire carbon credits for the Wurih Brewery. By continuously promoting a low-carbon and clean production model within a circular economy framework, we are progressively working towards realizing our commitment to achieving net-zero carbon emissions by 2050.

1.1 Circular Economy	20
1.2 Sustainable Environment	22
1.3 Climate Change and Adaptations	26

CHAPTER HIGHLIGHTS 2022



1.1 Circular Economy

TTL adopts the "Three Rs": Reuse, Recycle, and Recovery as its action policy to develop various measures for dealing with the waste pollution issues originated from product design to manufacturing. It is not only effective to recycle resources and reduce the pollution by waste, but also brings opportunities for business transformation with the development of completely new business models. In 2022, the Jhunan Brewery was honored with the Evaluation of Waste Recycling by the Recycling Industry – Excellence Award.

Reuse

Cases of reuse of byproducts from alcohol making

Feasible Applications

- Processed spent grain:** In collaboration with National Chung-Shan Institute of Science and Technology, processed spent grains were used to develop biodegradable materials for eco-friendly tableware and flip flops.
- Rice distiller's grains:** The distiller's grains produced in the distillation process is recycled and sold as feed through bidding.
- Spent grain:** Used as raw material for animal feed or organic fertilizer.
- Kaoliang distiller's grains:** Used as animal feed.
- Sake lees and red wine lees:** The sake lees, red wine sediment, and activated carbon as by-products of sake and red yeast wine are used to produce handmade moisturizing soaps by adding various skincare ingredients.

TTL adheres to the resource maximization policy (reuse) based on its core tobacco and liquor business. By utilizing by-products such as distiller's grains and yeast during the brewing process of alcoholic beverages, TTL develops food products by manipulating its core techniques of fermentation and bacterial species cultivation. The by-products generated during the brewing process are sold to Taiwan Fertilizer and the agricultural and livestock industries used as organic fertilizers and feed, achieving a recycling rate of over 99% for raw materials. In the tobacco production process, the Company recycles tobacco waste to produce replica tobacco sheets, fully demonstrating TTL's commitment to economic circularity and green development.

Cases of reuse of tobacco leaf waste

Tobacco waste

Tobacco dust, tobacco scraps, and tobacco stems

Feasible Applications

Tobacco dust, tobacco scraps, and tobacco stems are recycled to produce replica tobacco sheets.

Recycle

Recycling Liquor Bottles for a New Green Life

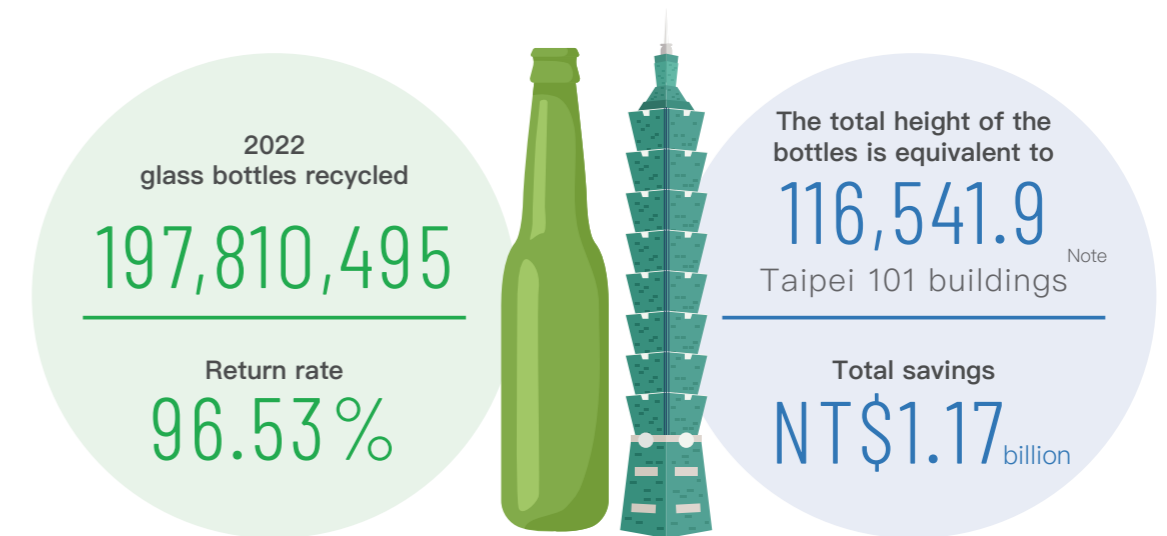
Taiwan Tobacco and Liquor Corporation ahead of other competitors has been involved in bottle recycling for over 50 years. Incarnating a recycling policy, a bottle return fee system and a reverse recycling system are operated by various channels such as convenience stores, supermarkets, traditional grocery stores, and its own business units, guiding consumers to participate in the circular economy network. In 2022, a total of 198 million glass liquor bottles were collected, achieving an impressive recycling rate of 96.53%. The economic benefits created by the recycling process is approximately NT\$1.17 billion for the cost reduction, contributing to mitigating environmental load and land degradation efficiently. The recycling of glass liquor bottles as primary containers decreases the carbon emissions in the bottle manufacturing process by over 20% equal to a reduction of around 100,000 metric tons. Simultaneously, this approach has spread the concept of the circular economy to the public through the mechanism of glass bottle recycling, encouraging retailers and consumers to participate in bottle recycling as well as fostering sustainable interrelationship between stakeholders. It elevates stakeholders' awareness of the circular economy, creating a mutually beneficial scenario that encompasses both environmental protection and economic benefits.

Each bottle can be reused up to 5 times!

Cases of recycling and reuse for bottles

Feasible Applications

- The circulated bottles are thoroughly washed and subsequently high-temperature sterilized to be reused as liquor bottles again.
- In combination with "Plan to Revitalize and Restore the Elegance and Glory of the Tourist Distillery and Brewery", the liquor bottle elements are presented in the installation art within the distilleries and breweries.



» Note: The estimation is based on the heights of 600ml Taiwan Beer glass bottles and brown square bottles, 30cm, and the corresponding sales figures, 204,922,962 bottles in 2022. It amounts to approximately 61,476,888.6 meters.

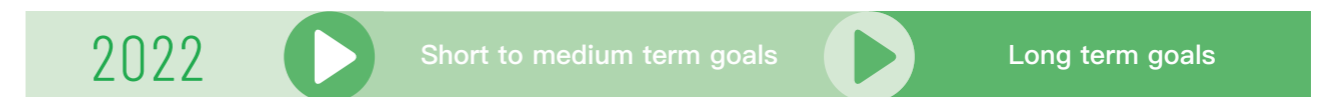
Increase of **NT\$22.05 million** in annual revenue from by-product reproduction + cost savings from reproduction **NT\$1.17 billion** = created **NT\$1.19 billion** circular economic value

» Note: On average, recycling one empty bottle can save approximately NT\$5.9. In 2022, the estimated cost savings from recycling the bottles was around NT\$1.17 billion.

Recovery

Solar Power Application

Having been implementing the energy recovery action plan for several years, TTL completed the solar photovoltaic installation projects Phase I (2017–2019) and Phase II (2020–2021). In line with Taiwan's green energy development goals and the Renewable Energy Development Act, the Company is actively responding to the green energy policy by accelerating the establishment of solar photovoltaic power generation systems by synchronously executing Phase III (2022–2023) and planning Phase IV (2024–2025) of the solar photovoltaic installation project. In order to reduce the Company's reliance on traditional energy sources, as of 2022, a total of 25 solar photovoltaic installations have been built. The estimated annual electricity generation from these installations is 15.3 million kilowatt-hours, contributing to approximately 10.2% of the total electricity consumption through renewable energy generation. As of 2022, Taiwan Tobacco and Liquor Corporation's solar energy installation program has cumulatively generated 50.42 million kilowatt-hours of electricity, resulting in an accumulated revenue of NT\$225.9 million from electricity sales.



Renewable energy → **Accelerate and expand the capacity of solar power generation systems** → **Maximizing renewable energy**

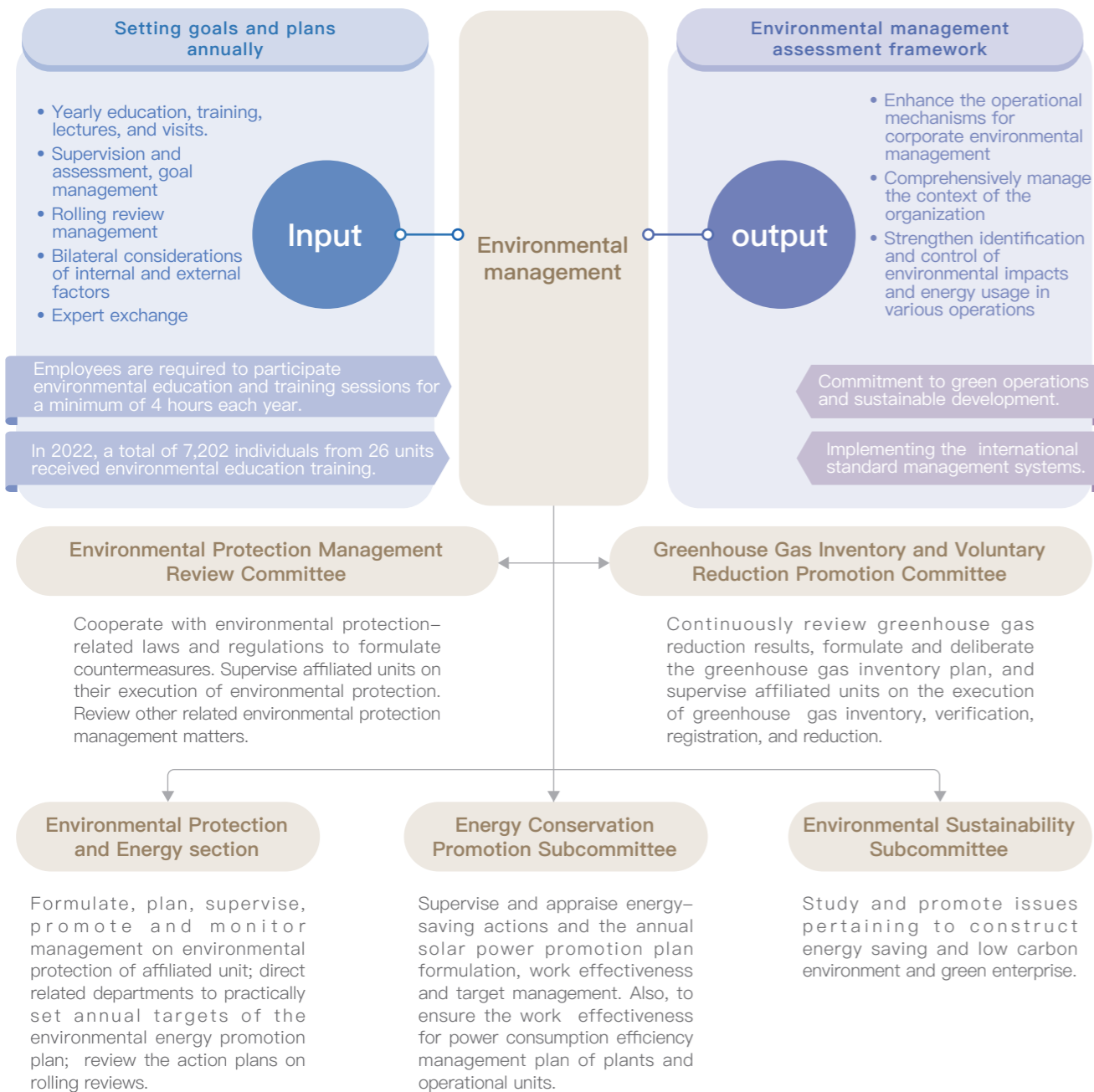
- Increase solar panels.
- Plan for self-consumption of green energy.
- Increase the proportion of renewable energy

1.2 Sustainable Environment

Environmental Sustainability Governance

With the regulations relevant to environmental sustainability formulated by various countries, the pending issues of the management have been increasing yearly. In 2022, the Company established an Environmental Sustainability Task Force aiming at sustainable issues such as greenhouse gas emissions, water resource management, circular economy, ecological conservation, and raw material management to draw up a blueprint of sustainable development for outstanding issues and indicators. Following those guidelines concretely, the daily operation of each sector minimizes the environmental impact on the Company accordingly.

The Dedicated Units of TTL Continue to Improve and Implement Environmental Policies

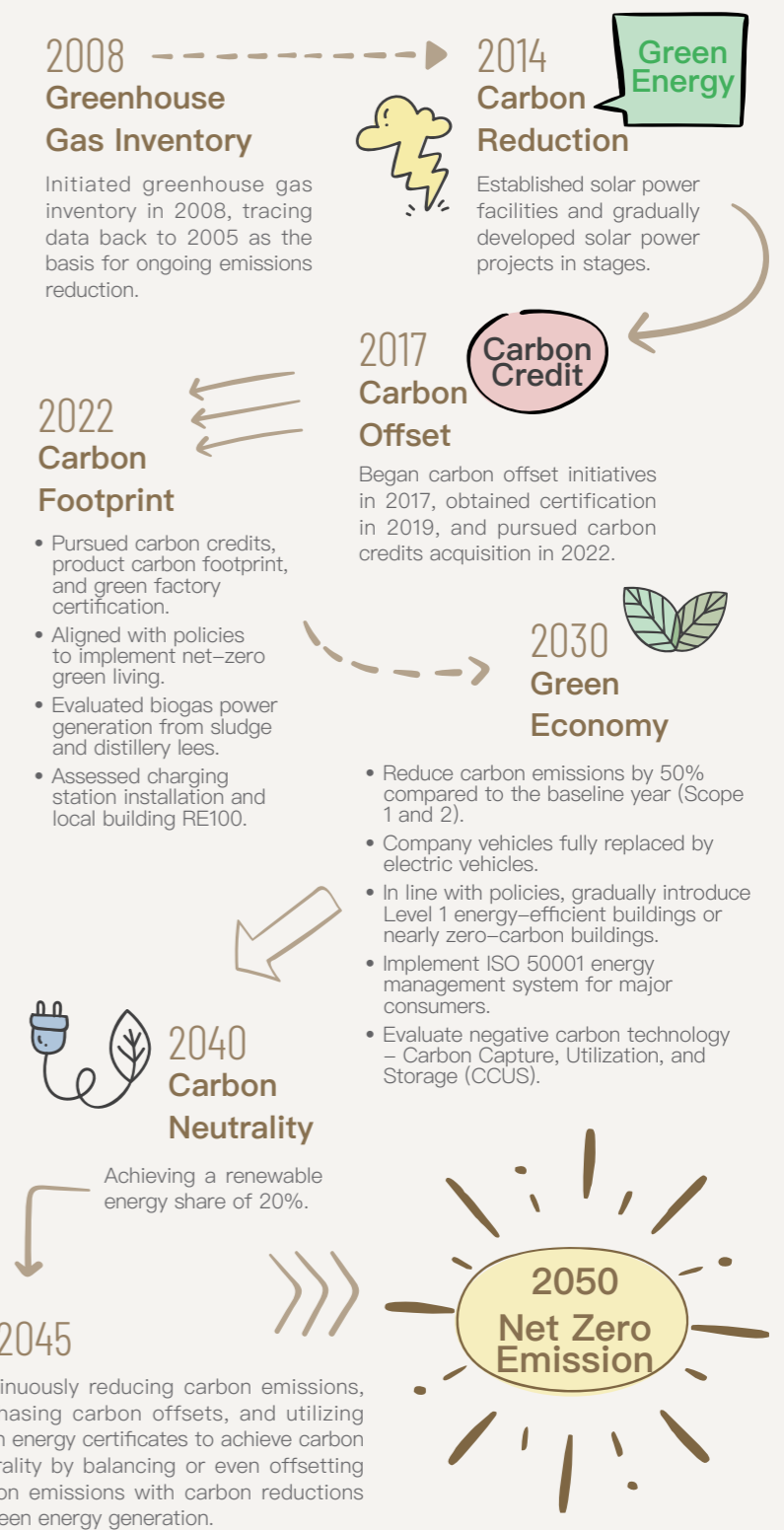


2050 Net-Zero Roadmap



TTL is actively promoting corporate sustainable development strategies. Apart from installing solar photovoltaic systems to reduce reliance on traditional energy sources, we are actively engaged in greenhouse gas inventory to assess the impact of our business activities on greenhouse gas emissions. This evaluation allows us to take corresponding emission reduction measures and improvement strategies. In accordance with national policies, we are driving towards the 2050 net-zero emissions pathway by enhancing energy efficiency, expanding resources circulation, locally procuring low-carbon footprint raw materials, and promoting carbon offset mechanisms. These actions constitute various green initiatives aiming for progressively achieving our net-zero emissions goals.

To reinforce the momentum of TTL's green energy transformation, we have linked the individual performance-based compensation of our senior managers to the annual execution of green energy objectives. This encourages the practical implementation of sustainable strategies and further ensures the Company's commitment and efforts toward sustainable development.



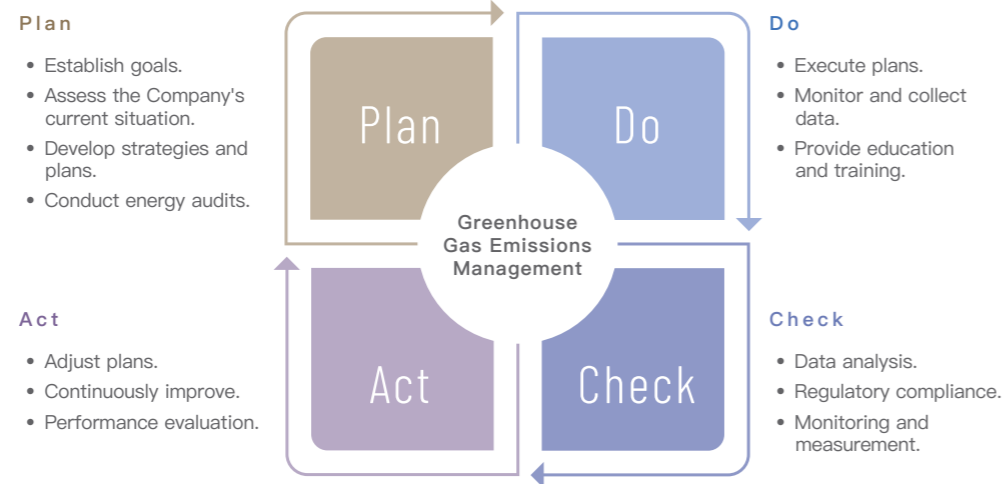
Greenhouse Gas Management

In response to global environmental trends and in alignment with Taiwan's environmental policy direction, Taiwan Tobacco and Liquor Corporation (TTL) has consistently allocated substantial resources to implement various energy-saving and carbon reduction measures. In 2022, the Company continued to inspect greenhouse gas inventory results to identify emission hotspots and trends, analyze controllable factors, and enhance the organizational capability for practical greenhouse gas reduction. TTL also participated in the "Greenhouse Gas Offset Project Administration" hosted by the Industrial Bureau of the Ministry of Economic Affairs. In 2019, the Company successfully obtained the verification statement for the offset project from the Environmental Protection Administration. It registered the "Steam Boiler Fuel Conversion from Oil to Gas" scheme and the sub-project of "Switching Fuel for Water-Tube Boilers from Heavy Oil to Natural Gas," with plans to acquire carbon credits for the Wurih Brewery boiler project and the carbon footprint of the Yushan Daqu sorghum liquor product at the Chiayi Distillery by 2023.

ISO 14064-1 standard for greenhouse gas inventory

In alignment with national carbon reduction policies and to address global climate risk trends, TTL adheres to the Environmental Protection Administration's guidelines for greenhouse gas inventory and registration announcements, as well as the international ISO 14064-1 standard for greenhouse gas inventory. We established a professional greenhouse gas inventory system and conducted annual greenhouse gas inventories at each facility to ensure the accuracy of emissions reporting. As of 2022, TTL has accumulated 18 annual greenhouse gas databases, with verification of each year's inventory data conducted by the impartial third-party verification entity, SGS TAIWAN LIMITED (SGS), resulting in ISO 14064-1 verification statements.

Leveraging the results of greenhouse gas inventories, we employ a PDCA (Plan-Do-Check-Act) cycle for iterative quality management, continuously adjust its greenhouse gas management strategies and measures, drive energy-saving and carbon reduction initiatives, and reduce emission intensity across production units.



Taiwan Tobacco and Liquor Corporation follows the five principles of ISO 14064-1 for greenhouse gas inventory: relevance, completeness, consistency, accuracy, and transparency. By adhering to these principles, the aim is to establish a continuous improvement standard within the organization, allowing all stakeholders to focus on the Company's energy-saving and carbon reduction performance.

Taiwan Tobacco and Liquor Energy Consumption Statistics for Recent 3 Years				
	2020	2021	2022	Compared with 2021
Oil	266,751,291	234,248,888	150,026,152	-35.95%
Electricity	577,374,136	559,460,616	506,654,717	-9.44%
Natural Gas	810,425,368	755,583,151	701,184,731	-7.20%
Total Energy Consumption	1,654,550,795	1,549,292,655	1,357,865,600	-12.36%

(Unit: Million Joules)

Water Resource Management

TTL Water Resource Management Strategies

Items	Project Goals	Description
Response to Water Resource Shortages and Collection of Water Pollution Fees	<ul style="list-style-type: none"> Lower the risks for water shortages and stopping work Reduce the water pollution Fees to lower the production cost Construct capabilities of water quality self-monitoring and testing for discharging wastewater 	<ul style="list-style-type: none"> Review the water usage for manufacturing processes of each production facility Replace old pipelines and repair leaking pipes Production organization to implement constructing water resources balance map Assess and calculate whether the water consumption of the manufacturing, boiling, cooling and domestic water as well as that of the semi-finished product and waste water is balanced or not Detail recording of water use information (use of underground water shall install water meter to record the tube diameter for water used; existing meter shall be calibrated on a regular basis) Promote water footprint inventory information collection in response to government policy.
Improve Water Resource Management and Operation	<ul style="list-style-type: none"> Reduce operation risks of water exhaustion fees collection and water resources dry up. Abide by the government's water saving Policy to reduce water use volume. 	<ul style="list-style-type: none"> Reduction in manufacturing and daily water use to avoid waste of water resources. Initiate reduction efforts from three aspects: process, engineering, and management. Formulate the countermeasures during water resource scarcity. Each production facility collaborates with the government to formulate water usage plans and measures to address water scarcity.

Taiwan's unique terrain and climate patterns result in scarce water resources, making the development, distribution, and management of water resources particularly crucial. TTL's product manufacturing heavily relies on a stable water supply. Issues such as rising water costs, water scarcity, and water restrictions pose potential risks to our company. Therefore, the Company has formulated a water resource management plan, requiring all facilities to carry out their operations and production activities according to the plan's guidelines.

The primary source of water for our company is tap water, followed by groundwater and raw water. To enhance water efficiency, we continuously promote environmental energy audits and water-saving education and training. Through regular monitoring of water usage at various production facilities, we conduct water meter calibration to review production process water usage and reduce water consumption through measures like replacing outdated pipelines. In 2022, we completed water-saving audits at four facilities: Shanhua Brewery, Wurih Brewery, Jhunan Brewery, and Nantou Winery & Distillery. Based on audit results, improvement recommendations were provided. The water usage in 2022 was 3,665 thousand cubic meters.

In the future, we will progressively conduct water resource inventories at each facility, establish water balance charts, implement water-saving strategies and measures to enhance water resource utilization efficiency, and mitigate risks. We emphasize on ensuring sustainable water supply, reducing wastage, and seeking more effective ways to use and manage water resources.

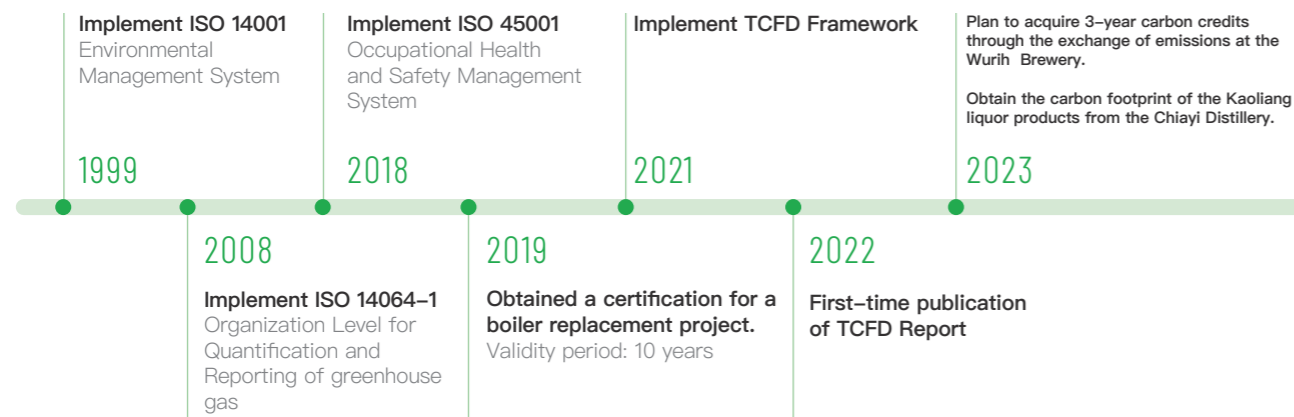
Taiwan Tobacco and Liquor Water Resource Usage for Recent 3 Years

Year	2020	2021	2022
Water Withdrawal (Million Liter)			
Surface Water	886	711	791
Ground Water	1,360	1,119	1,032
Seawater	0	0	0
Produced Water	0	0	0
Third-Party Water	2,201	1,853	1,842
Total Water Withdrawal	4,447	3,683	3,665
Wastewater Discharge (Million Liter)			
Total Wastewater Discharge	3,035.8	2,780.4	3,040
Water Consumption (Million Liter)			
Total Water Consumption	1,411.2	902.6	625

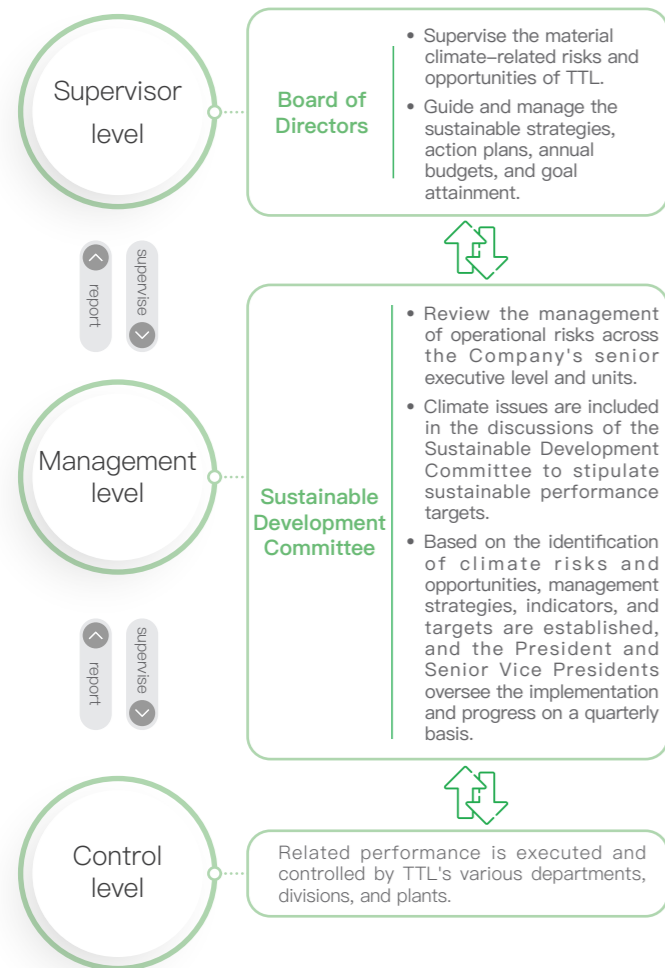
1.3 Climate Change and Adaptations

As a tobacco and liquor manufacturing company, our production materials are highly related to climate change factors. Therefore, we have referred to the UK Climate Impacts Programme (UKCIP) Climate Change Risk Assessment Procedure, adopted external consultant tools for climate change risk and opportunity assessment, analyzed the risks and opportunities by the competent authorities from aspects of policy, laws and regulations, market changes, reputational risk and technology risk to develop the mitigation and adaptation strategies, and ultimately disclosed the climate resilience of TTL using the TCFD framework. This ensures our commitment to sustainable business practices.

TTL Climate Transformation Milestones

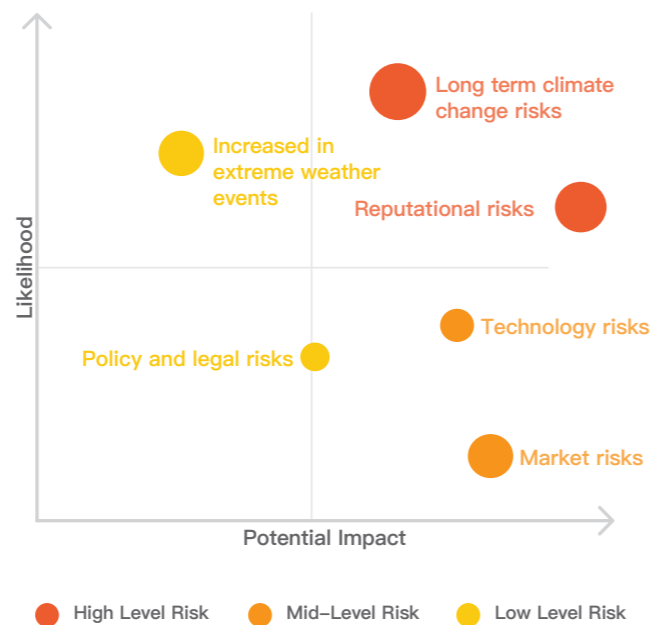


Climate Governance Framework



TTL Climate Change Risks Matrix

Climate Change Risk and Opportunity Identification by TTL



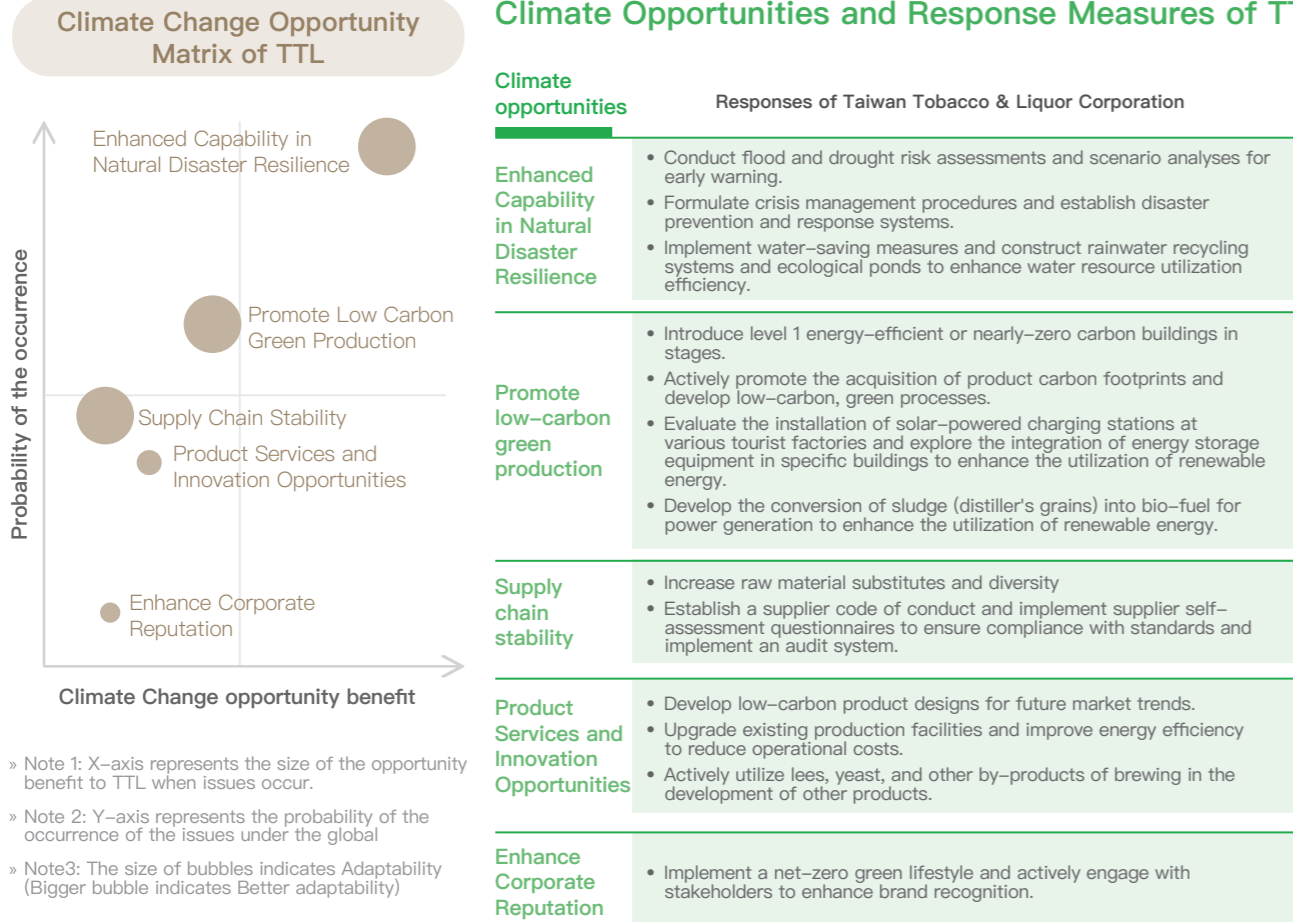
» Note 1: The size of bubbles indicates Potential Vulnerability (Bigger bubble indicates poor adaptability)
 » Note 2: X-axis represents the level of impact to TTL when issues occur.
 » Note 3: Y-axis represents the probability of the occurrence of the issues under the global

We conducted a quantitative questionnaire survey to analyze key climate change risk factors and rank them based on their significance. The climate change risk factors were assessed based on the three parameters of vulnerability, impact, and likelihood. Through the quantitative analysis of climate change risk values, a risk matrix was created when 2 physical risks and 4 transition risks were identified. These risks were categorized into high, medium, and low risk levels.

Climate Risks and Response Measures of TTL

Physical risk	Possible risks/potential financial impacts	Responses of Taiwan Tobacco & Liquor Corporation
Long-term climate change risks Risk level: High	Water scarcity or short-term drought can lead to production facility shutdowns, resulting in production delays or shortages of raw materials, causing operational disruptions.	<ul style="list-style-type: none"> Set proactive carbon reduction goals and continue to implement various carbon reduction projects. Evaluate flood/drought risks of production plants and promote risk mitigation measures. Promote the comprehensive electrification of company vehicles and gradually introduce level 1 energy-efficient or Nearly-zero carbon buildings to conserve energy usage in line with government policies.
Increased extreme weather events Risk level: Low	Extreme weather events can damage production equipment, result in impairment of company assets, create emergency response costs, and impact production conditions, leading to financial losses and decreased revenue.	<ul style="list-style-type: none"> Promote the acquisition of carbon rights, carbon footprint of products, and green factory label, and comply with policies to introduce net-zero green living. Promote water-saving measures to reduce overall water consumption. Establish water monitoring mechanisms and emergency response procedures.
Transition risk	Possible risks/potential financial impacts	Responses of Taiwan Tobacco & Liquor Corporation
Reputational risks Risk level: High	Poor energy-saving and carbon reduction performance or negative environmental events can diminish corporate image and brand value.	<ul style="list-style-type: none"> Continue tracking and evaluating the performance of carbon reduction plans. Provide explanations or clarifications regarding the reports and take concrete actions to comply with policies, regulations, and international initiatives.
Technology risks Risk level: Medium	The introduction of new equipment and production technologies causes uncertainty and increased costs.	<ul style="list-style-type: none"> Study and analyze the feasibility and cost evaluation of new production technologies Actively participate in industry or industry-academia exchanges to stay informed of advanced technology applications.
Market Risks Risk level: Medium	The inability to respond promptly to market demands or changes in consumer preferences results in a decline in revenue.	<ul style="list-style-type: none"> Study and analyze the latest market trends to expand consumer groups. Continue to develop new products in response to consumer demands.
Policy and legal risks Risk level: Low	The collection of domestic and overseas carbon taxes/fees increases operating costs.	<ul style="list-style-type: none"> Proactively stipulate greenhouse gas emissions reduction targets. Continue to promote carbon reduction projects in the plants and operating locations.

Climate Opportunities and Response Measures of TTL



Climate Change Scenario Analysis

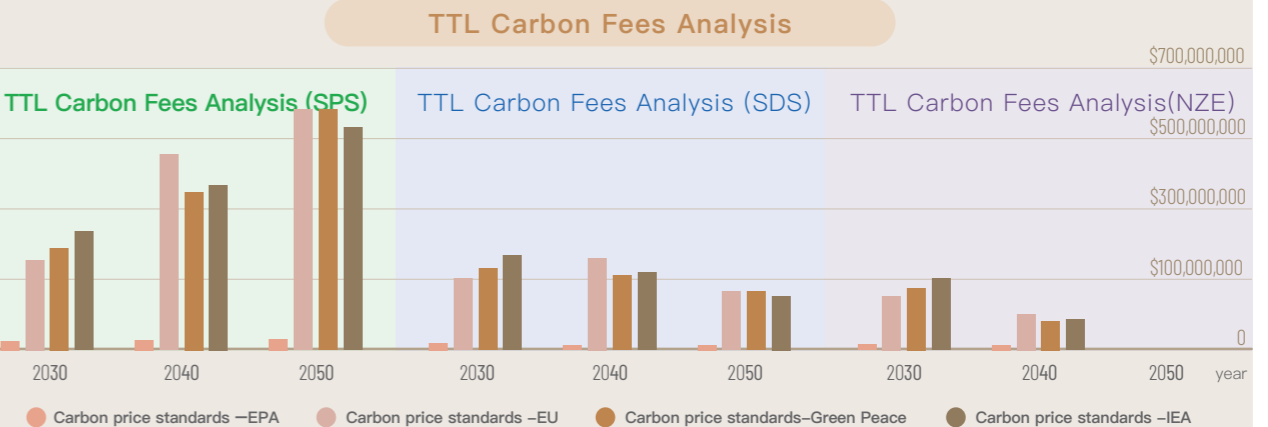
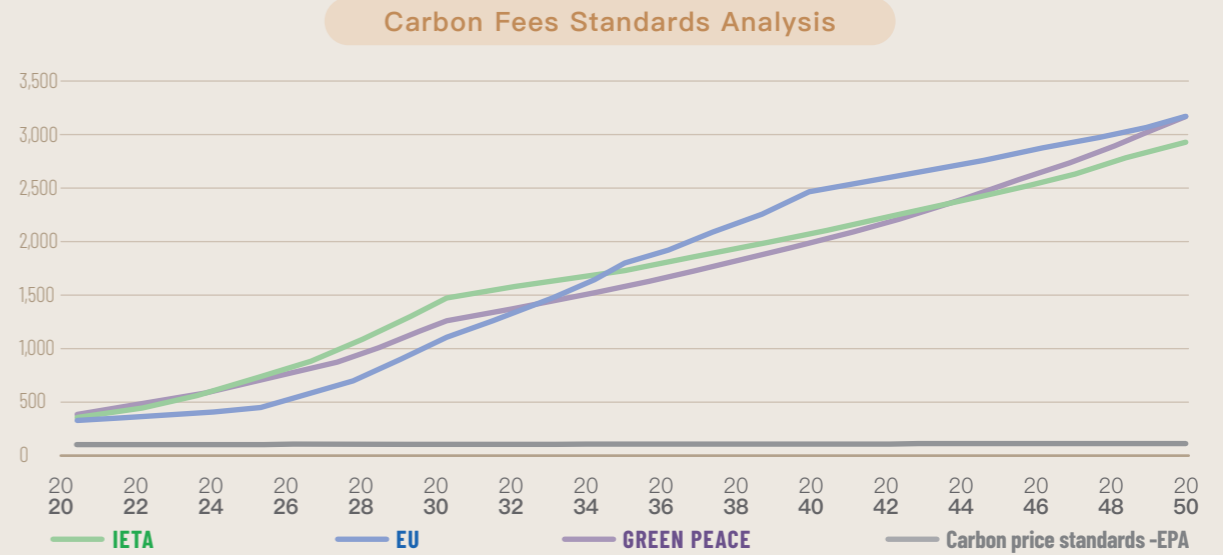
The Biggest Transition Risks and Physical Risks Under the RCP 8.5 Scenario

To enhance our capabilities in managing climate change risks, TTL refers to the recommendations of the TCFD, as well as the climate scenarios released by the International Energy Agency (IEA) and the Intergovernmental Panel on Climate Change (IPCC), to conduct scenario analyses, assess operational and financial impacts, and develop corresponding mitigation measures.

	Assumptions	Potential impact	Operational and financial impacts
Transition risk Net Zero Emissions	Assessed according to the three 2020-2050 carbon emission scenarios released by the International Energy Agency (IEA).	<ul style="list-style-type: none"> Carbon fee collection 	<ul style="list-style-type: none"> Increased carbon fee costs
Physical risk Floods	Greenhouse gas emissions remain unchanged. It is estimated that the global average temperature will increase by around 3.5°C by the middle of the century.	<ul style="list-style-type: none"> Increased flooding in plants Increased industrial safety incidents 	<ul style="list-style-type: none"> Suspension of operations and production Construction delays
Physical risk Drought	Greenhouse gas emissions remain unchanged. It is estimated that the global average temperature will increase by around 4°C by the end of the century.	<ul style="list-style-type: none"> Water shortages and restrictions affect operations 	<ul style="list-style-type: none"> Suspension of operations and production Insufficient raw materials

Transition Risk

Analysis of Carbon Fees and Financial Impacts



Analysis Results

Regardless of the scenarios, TTL will incur a certain level of carbon costs. In particular, under established policy scenarios, the future carbon costs of TTL are expected to increase annually regardless of the carbon pricing level. The highest estimated amount is approximately NT\$570 million, accounting for around 1.01% of TTL's annual revenue in 2022 and about 9.67% of its net profit after tax. Although this cost does not pose a significant impact on the Company's operations, it is still a risk that cannot be ignored.

Responses

TTL actively promotes a circular economy model through low-carbon and clean production. We extensively deploy solar photovoltaic systems as a source of low-carbon energy. As of 2022, a total of 25 installations have been built. Through mechanisms involving greenhouse gas inventories and energy audits, the Company achieves reductions and practices circular economy production. Apart from promoting the recycling of glass bottles and the processed spent grains, the feasibility of utilizing the processed spent grains and brewing sludge for biogas generation is being assessed.

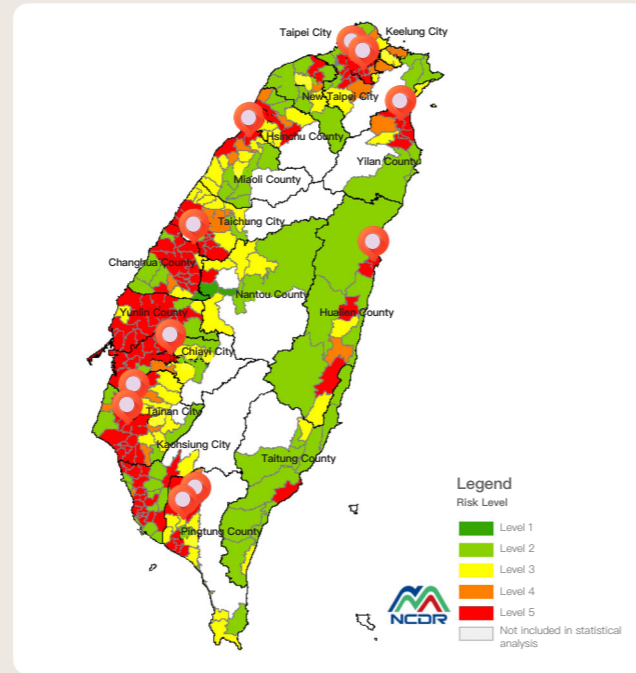
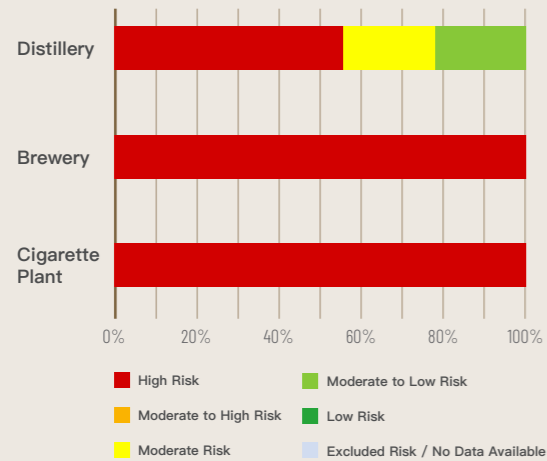
TTL also advances carbon offset projects, which obtained a 10-year certification for a boiler replacement project in 2019, and plans to secure 3-year carbon credits for the Wurih Brewery's boiler by 2023. Aiming at mitigating future impacts of carbon costs, ongoing evaluations include recovering fermentation CO2 from distilleries or capturing CO2 emissions from factory chimneys, supplying the captured carbon benefits to breweries and cigarette plants for their processes, and assessing the feasibility of obtaining carbon credits.

Physical Risk

Flooding Risk Analysis

Flooding Disaster Risk Analysis

Percentage of Flood Risk Levels across Various Production Facilities



Analysis Results

The production facilities of TTL are located throughout various regions of Taiwan. According to the analysis results, out of the 8 distilleries and breweries, 5 of them are situated in the class 5 high-risk areas. These include the Chiayi Distillery, Longtian Distillery, Pintung Distillery, Yilan Brewery, and Hualien Distillery. Moreover, all 4 breweries and 2 cigarette plants are also located in class 5 high-risk areas. This indicates that, apart from the central region, most of the manufacturing sites are exposed to extremely high flood risks.

- » Note 1: The flood risk is assessed based on the three indicators of hazard intensity, vulnerability, and exposure. The level of disaster risk is evaluated for the base period (1976–2005) and multiple GCM models (2036–2065) under the RCP8.5 scenario.
- » Note 2: Disaster risk is classified based on the base period as a standard. The future estimated disaster risk map is derived from the mode analysis of 33 future estimation models.
- » Note 3: Flood disaster risk level 5 indicates that the area has the "relatively" highest risk of flooding. Flood risk level 1 indicates that the disaster risk is relatively lower, but it does not mean there is no risk of disaster or that no disasters will occur.
- » Note 4: RCP8.5 High Emissions Scenario – The radiative forcing per square meter increases to 8.5 watts by 2100. Carbon reduction policies remain unchanged, and greenhouse gas emissions continue to rise at their current pace, leading to a continuous increase in atmospheric greenhouse gas concentrations. This results in a temperature rise of approximately 3.5° C, causing unavoidable damage to the global environment.

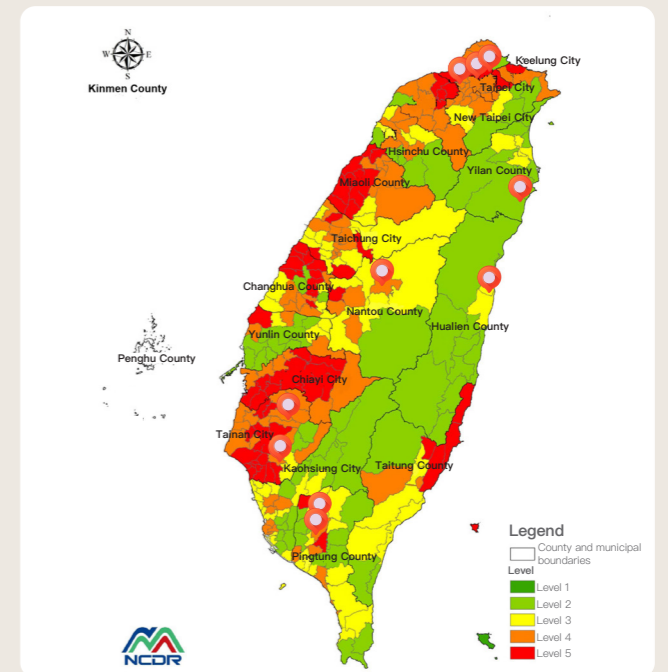
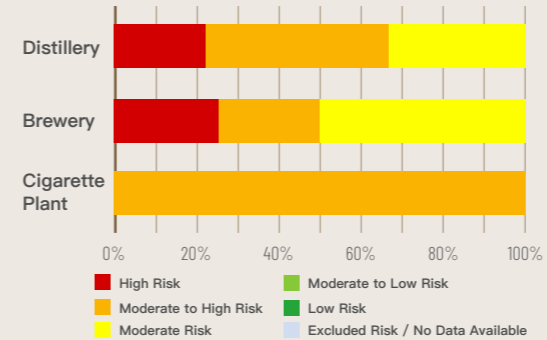
Responses

In the face of future increased rainfall and the flat terrain where the factories are located, there are concerns of potential flood risks in TTL's manufacturing sites. To prevent operational disruptions, the Company will carefully assess potential hazards and develop flood response policies. This includes measures for flood prevention, emergency response during disasters, and post-disaster recovery and reconstruction. Concrete management and action plans will be formulated to enhance TTL's resilience and mitigate the impact of disasters.

Drought Risk Analysis

Drought Disaster Risk Analysis

Percentage of Drought Risk Levels across Various Production Facilities



Analysis Results

Taiwan's annual maximum consecutive rainless days are projected to substantially increase with rising temperatures, and the associated risk is particularly pronounced in the northern and central-southern regions' industrial zones. All of our company's facilities are anticipated to face at least a moderate level of drought risk in the future. Among these, 10 facilities are classified as experiencing a moderately high level of risk. This classification includes our northern facilities: Taipei Cigarette Plant, Taipei Brewery, Yilan Brewery, and Taoyuan Sake Brewery, all situated in regions designated as level four with elevated risk. Similarly, in the central-southern regions, Puli Shaohsing Brewery, Longtian Distillery, Pingtung Distillery, and Neipu Cigarette Plant are located within level four, which denotes a higher risk level. Furthermore, Shanhua Brewery and Nantou Winery & Distillery fall within the level five category, characterized as having a high-risk environment.

- » Note 1: The drought risk is assessed based on the three indicators of hazard intensity, vulnerability, and exposure. The level of disaster risk is evaluated for the base period (1979–2003) and multiple GCM models (2075–2099) under the RCP8.5 scenario.
- » Note 2: The disaster risk is classified based on a reference period, assuming the current situation remains unchanged. Using this approach, the hotspots of climate change-induced public water scarcity and drought risks are identified among the 352 townships in Taiwan for both the reference period and the end of the 21st century.
- » Note 3: Drought disaster risk level 5 indicates that the area has the "relatively" highest risk of flooding. Drought risk level 1 indicates that the disaster risk is relatively lower, but it does not mean there is no risk of disaster or that no disasters will occur.
- » Note 4: RCP8.5 High Emissions Scenario – The radiative forcing per square meter increases to 8.5 watts by 2100. Carbon reduction policies remain unchanged, and greenhouse gas emissions continue to rise at their current pace, leading to a continuous increase in atmospheric greenhouse gas concentrations. This results in a temperature rise of approximately 4° C, causing unavoidable damage to the global environment.

Responses

Water is a critical ingredient in the production of alcoholic beverages. With the increasing frequency of droughts, water shortages can lead to production disruptions, affecting output and delivery schedules. In order to mitigate the risk of water shortages and production stoppages, TTL is actively implementing water conservation measures. TTL encourages its production facilities to reduce water usage in production processes and daily activities. Efforts are also made to replace old pipelines and equipment, and some factory sites are piloting rainwater harvesting systems. Additionally, TTL has established contingency measures to address water scarcity, aiming to enhance the Company's water resource utilization and management capabilities.

Future Prospects and Plans

TTL adheres to the TCFD framework for comprehensive climate change risk and opportunity management. Based on the climate change risk and opportunity matrix analysis, TTL's most significant risks lie in carbon pricing trends under net-zero ambitions and extreme climate events (such as flooding and droughts). In order to proactively enhance climate governance capabilities, the Company established the Environmental Sustainability Subcommittee under the Sustainable Development Committee. This subcommittee serves as the planning and execution entity, integrating functional aspects across departments to identify climate issues. It drives TTL's sustainability efforts across the supply, usage, manufacturing, and environmental dimensions.

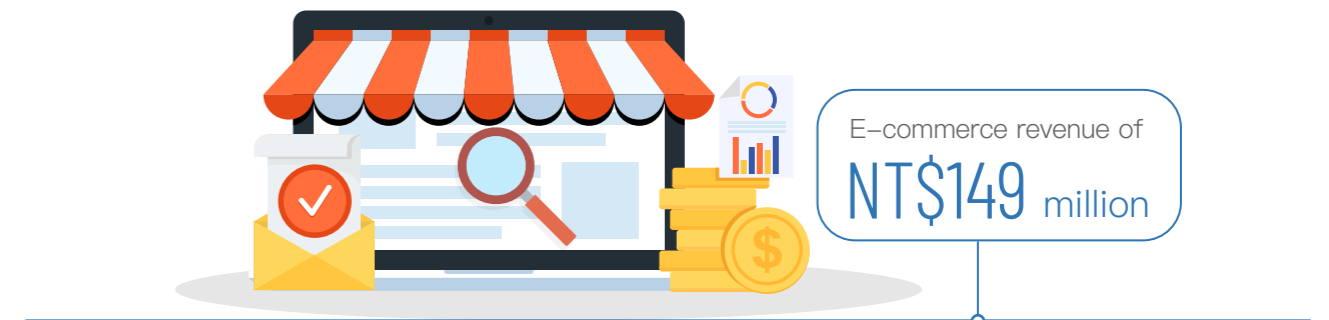
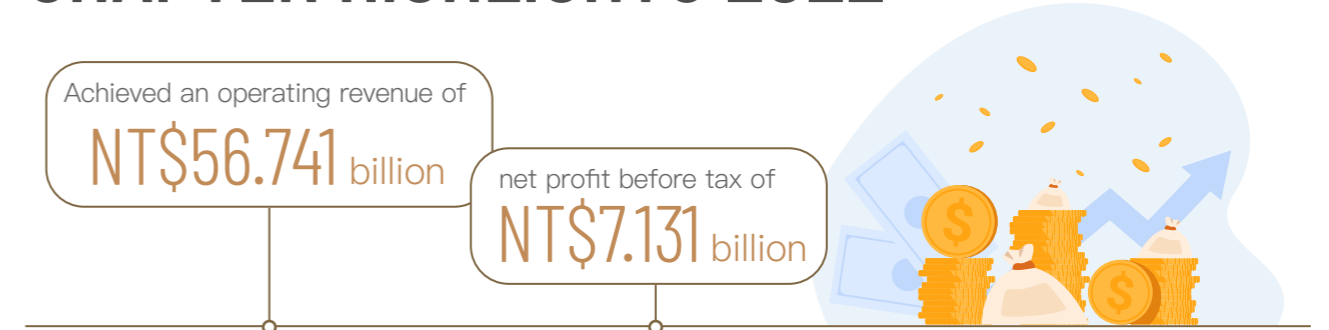
Simultaneously, the Company has formulated the "TTL 2050 Net-Zero Carbon Emission Plan" to address potential operational impacts stemming from global warming and extreme climate conditions. This plan outlines four strategic directions: low-carbon energy deployment, energy management optimization, promotion of low-carbon processes, and environmental technology research and development. Through these directions, we aim to achieve energy efficiency benefits and sustainable competitiveness. Moving forward, TTL will continuously monitor and supervise key indicators across various dimensions through its Sustainable Development Committee, with the aim to facilitate the implementation of relevant initiatives and action plans, ensuring TTL's strong adaptive capacity to climate change impacts and agility to seize opportunities and guides the Company towards its net-zero objectives, strengthening its overall sustainability.

CHAPTER
02
Corporate Governance

Transparency and integrity in governance have always been regarded as core values of TTL. As a state-owned enterprise, TTL upholds these values by implementing robust regulations, standards, and procedures, establishing a sound governance framework, and implementing risk management and internal control systems. These efforts strengthen the resilience of the Company and contribute to our long-term sustainable operations. In addition, TTL attaches great importance to the disclosure of both financial and non-financial performance information. We have established policies and principles for conducting business with integrity, ensuring the protection of stakeholders' rights and interests.

2.1 Sustainable Business Operation	34
2.2 Corporate Governance and Business Integrity	35
2.3 Risk Management and Regulatory Compliance	36

CHAPTER HIGHLIGHTS 2022



The TTL shopping website, server rooms, and network continue to pass ISO27001 international standard verification.



Three Courses on Information Security Education and Training in Digital Learning

- Cybersecurity Threats and Protection
- Communication Software Security Education and Training
- Social Engineering Attack Techniques

completed the courses

2,558
Employees

The average passing rate of employee information security training

98%



TTL has a total of **9** official and business websites

all of which have adopted the **Web Accessibility Label 2.0 (AA level)**

2.1 Sustainable Business Operation

For over 120 years, TTL has been deeply rooted in the local market. Despite rapid changes in the external environment and constant market challenges, the Company remains steadfast in our commitment to integrity and solid corporate governance. By strengthening research and development capabilities, improving product quality, shaping brand value, accelerating diversification, and expanding business scope, TTL effectively navigates through various challenges and strives for continuous growth. As Taiwan's largest and most reputable tobacco and liquor manufacturing and distribution company, we bear the responsibility of promoting national policy development and contribute to the fiscal and economic well-being of Taiwan. Our mission is to "deepen the domestic market, enhance market competitiveness, and establish a foundation for sustainable development" while also "strengthening the international market, establishing overseas business presence, and becoming an internationalized enterprise." To achieve these two goals, we continuously provide consumers with high-quality products and services that adhere to the highest standards of food safety, ensuring their peace of mind. Striving to implement ESG (Environmental, Social, and Governance) goals, we aim to become a sustainable and environmentally friendly enterprise towards our goal of becoming an internationalized company progressively.

Management strategy direction

Strengthening our industry capabilities to enhance our market competitiveness, TTL actively implements six business strategies: "Product Differentiation", "Brand Rejuvenation", "Production and Sales Digitization", "Business Diversification", "Market Internationalization", and "Human Resources Optimization" (see Table 1 for details). We are committed to research and development to meet consumer demands, improve product quality and service excellence, enhance brand value, expand international markets, and promote sustainable development steadily towards achieving our short, mid, and long-term corporate goals (see Table 2 for details).

Six major business approaches of TTL (Table 1)



Product differentiation

Strengthen research and development innovation, leverage core materials and technologies, and collaborate with local Taiwanese agricultural products to develop unique and distinctive products that cater to diverse consumer needs.



Brand rejuvenation

Establish the core values of our brand, create brand stories, and reshape the brand image. Through various marketing strategies, we communicate with target audiences to enhance brand affinity and identity.



Market internationalization

We actively participate in international spirits and food competitions to enhance our brand's international visibility. We focus on niche products with "Taiwanese characteristics" to expand our presence in overseas markets and increase our revenue from exports.



Human resources optimization

In response to the wave of retirements, we continue to recruit new talents and provide talent development and training programs. We also implement mentorship programs to cultivate our human capital and enhance the value of our workforce.



Production and sales digitization

Integrate the production, warehousing, distribution, and sales channels of our supply chain. Provide financial, commercial, information, and logistics services by utilizing information and communication technology. Through consumer data collection and analysis, we strengthen the coordination between production and sales, enhancing customer satisfaction and operational efficiency.



Business diversification

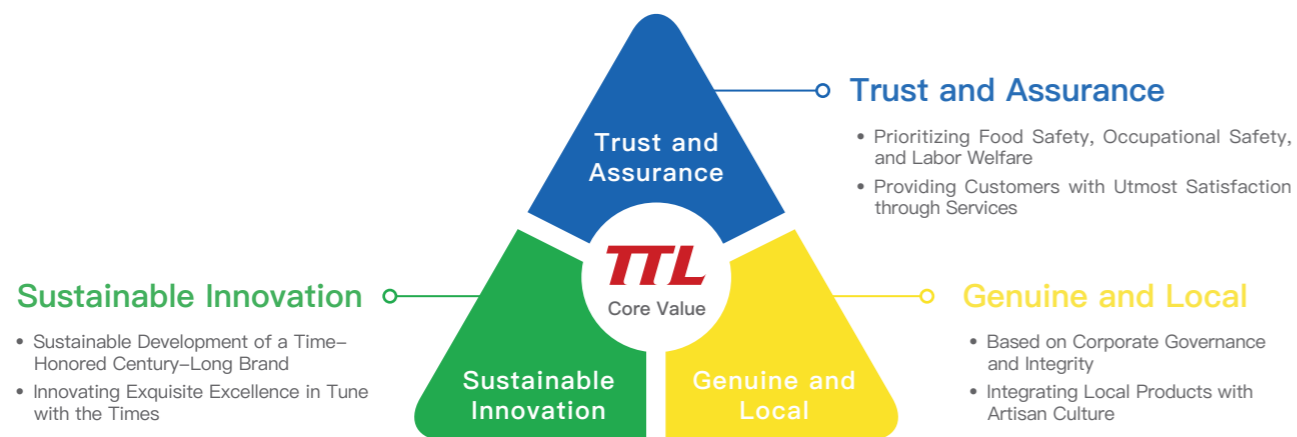
Revitalization of tourist distilleries:

Continuously promote the concept of "One Distillery, One Specialty" for the tourist distilleries, incorporating local characteristics and cultural creativity to create highlights in cultural tourism, thereby enhancing the value and brand image of the distilleries.

Food and biotechnology product factories:

Utilize core by-products and technologies from the alcohol production process, develop food and biotechnology products, and expand the scale of our in-house production lines to adapt flexibly to market demands and create business opportunities.

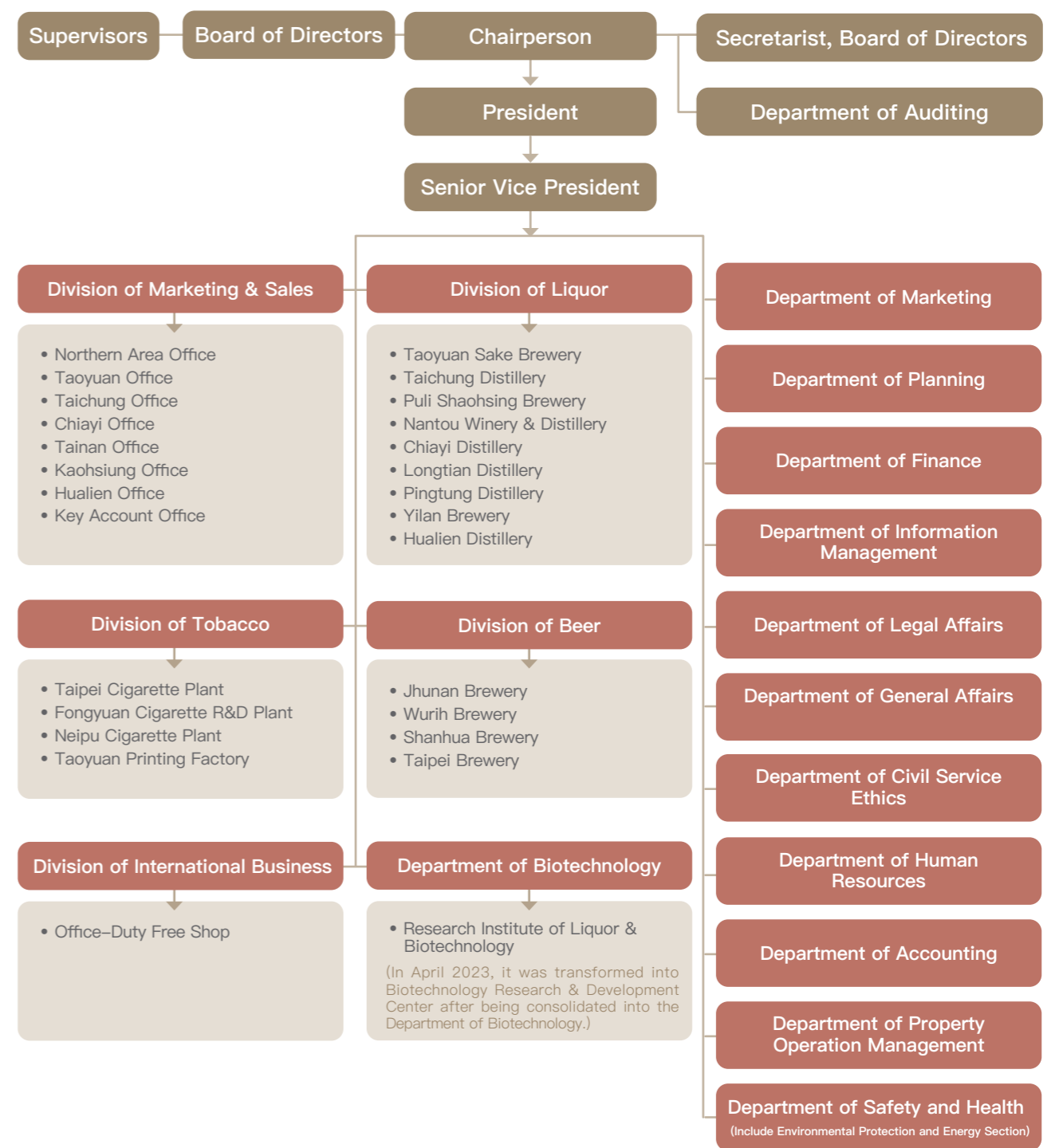
Short, mid, and long-term goals of TTL (Table 2)



2.2 Corporate Governance and Business Integrity

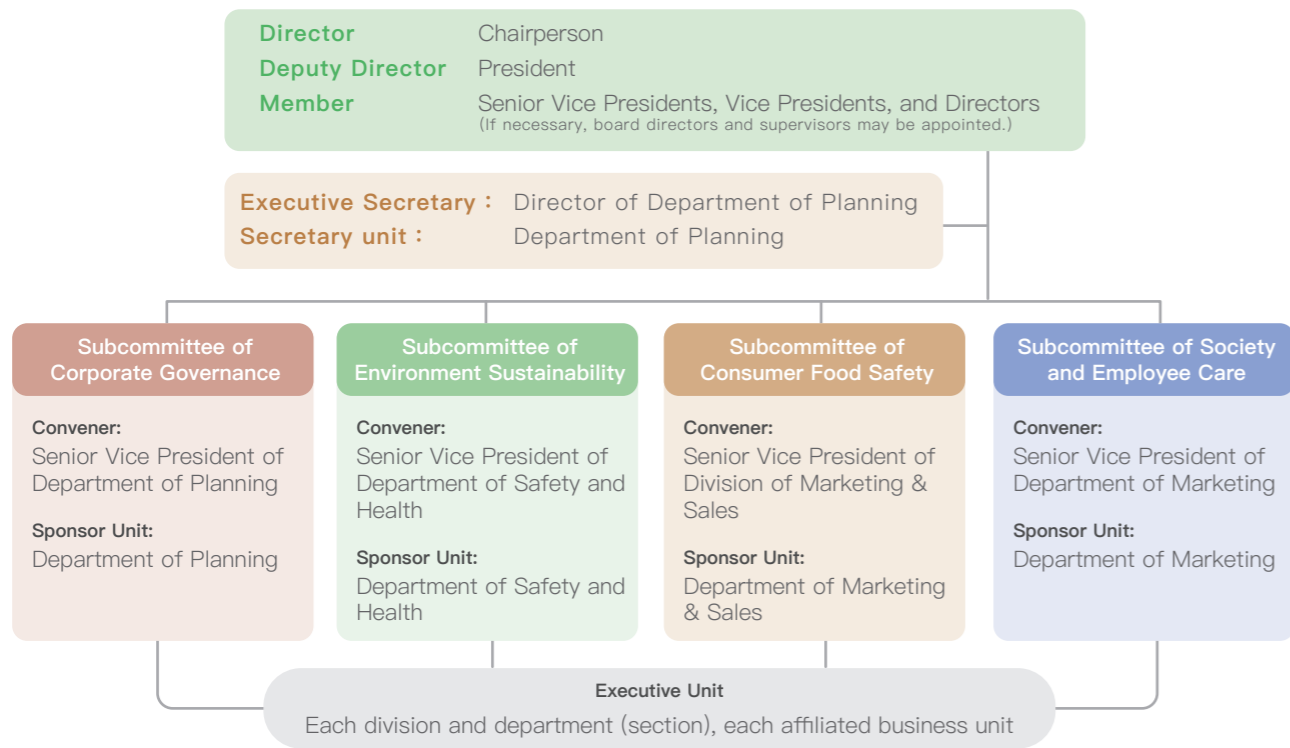
TTL adheres to the principles of integrity and corporate governance, continuously promotes a culture of good governance, and enhances the Company's business continuity capabilities. In terms of management principles, the Company establishes a foundation for sustainable operations through transparent and honest governance. In practical implementation, the Company has established corporate governance guidelines, risk management execution principles, internal control systems, and internal audit procedures. Additionally, we have formulated policies and principles for ethical business conduct, regulating the disclosure of all financial and non-financial performance information. These disclosures are made publicly available on the Company's website in compliance with relevant regulations, ensuring the protection of stakeholders' rights and interests.

TTL Organization Structure Chart



In line with TTL commitment to sustainable business practices, bolstering management capabilities, and fulfilling corporate social responsibility, Taiwan Tobacco and Liquor Corporation formulated "Directions of the Establishment of the Sustainable Development Committee" in accordance with our "Corporate Governance Best Practices" to establish the Sustainable Development Committee in April 2022. This committee comprises four subcommittees: "Corporate Governance," "Environmental Sustainability," "Consumer Food Safety," and "Social and Employee Care", that are responsible for devising, promoting, and reviewing improvements on critical company issues, effectively implementing sustainable development policies and plans, and advancing the Company's overall sustainability efforts.

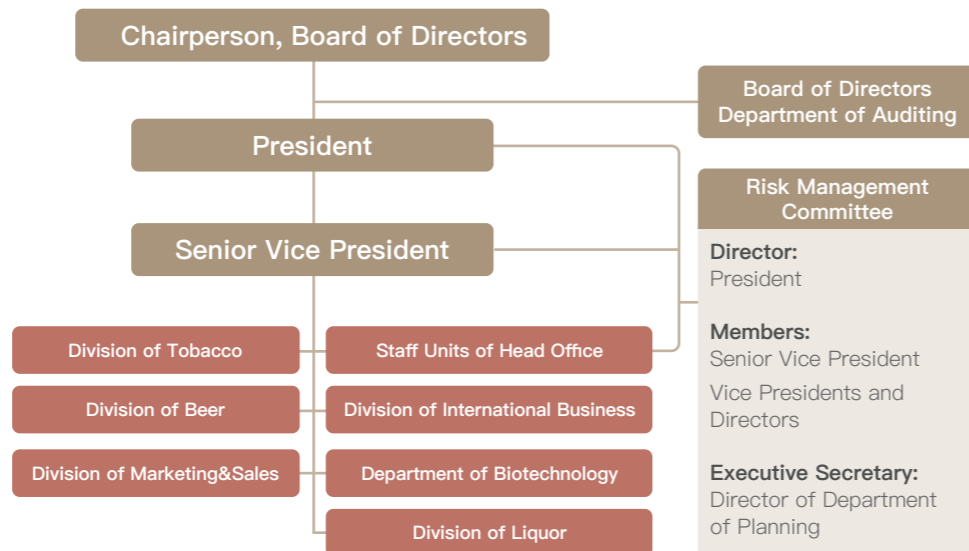
Corporate Sustainable Development Committee Organization Chart



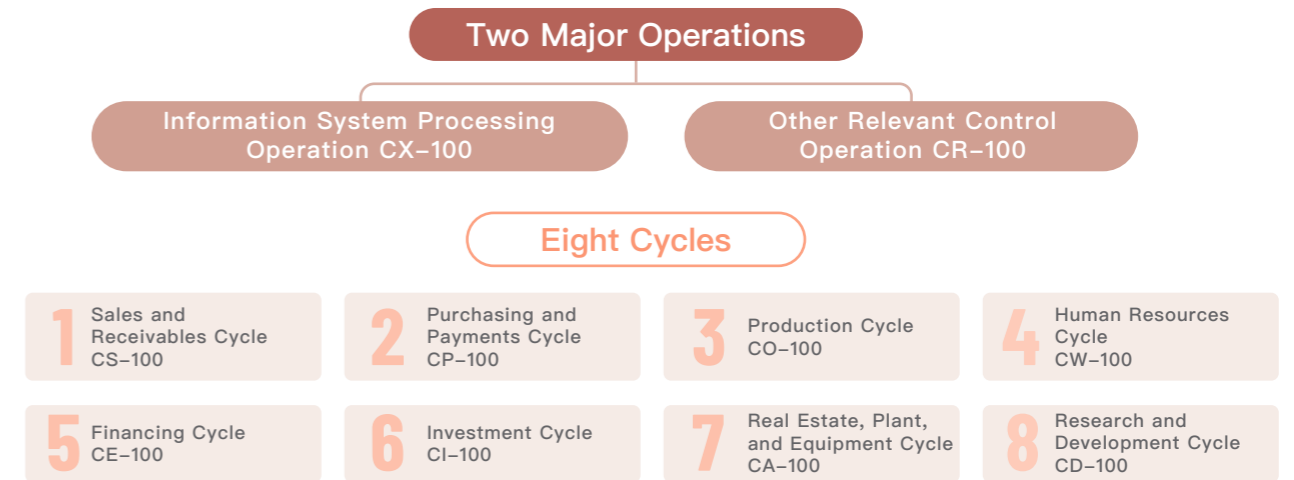
2.3 Risk Management and Regulatory Compliance

Taiwan Tobacco and Liquor Corporation actively integrates risk management into its corporate culture by implementing risk management mechanisms. The Risk Management Committee, along with the board of directors and its audit department, forms a risk audit framework. They supervise risk events, promote risk management execution, and ensure the Company's sustained development. In 2022, 76.12% of risks were from external factors, mainly political and regulatory, while 23.88% originated internally from operational activities. Prior to control implementation, the inherent risk index averaged 8.72, which was reduced to 4.17 after control mechanisms were proposed, effectively lowering the probability and impact of risk occurrences.

TTL Risk Management Organization Structure Chart



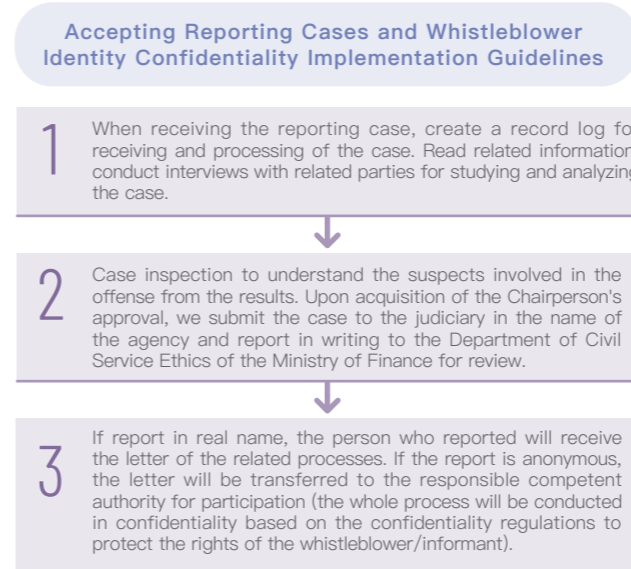
In addition to establishing a Risk Management Committee, TTL has also formulated internal control systems in accordance with the "Regulations Governing Establishment of Internal Control Systems by Public Companies." These systems cover all operational activities of the Company, aiming to achieve three main objectives: "enhancing operational efficiency and effectiveness," "reporting reliability, timeliness, transparency, and compliance with relevant standards," and "compliance with relevant laws and regulations." Apart from conducting annual assessments of internal control deficiencies and anomalies, TTL also carries out self-assessments of internal controls each year to enhance employees' understanding of control operations. This is done to improve the effectiveness of the Company's internal control operations. In 2022, a total of 172 internal audits were conducted, achieving a 100% improvement rate. Taiwan Tobacco and Liquor Corporation's internal control system comprises eight cycles and two major operations.



Taiwan Tobacco and Liquor Corporation places significant emphasis on regulatory compliance as a key business aspect. We've established internal regulations to ensure strict adherence to crucial legal requirements by our staff. The legality in the Company is always being inspected by continuously monitoring and identifying the latest updates in legislation to assure the internal guidelines are always in conformity with the current laws and regulations. This enhances the performance of corporate governance and fosters a positive company culture.

To prevent improper influence or solicitation, our employees are required to proactively report cases involving requests, entertainment, or gifts are handled in accordance with the "Guidelines for Registration and Inspection of Solicitation by the Ministry of Finance and Its Affiliated Organizations." To facilitate a clear channel for internal complaints, we implemented an employee feedback platform in 2021, ensuring timely responses.

Investigation Procedures and Case Closure



In 2022, there were no violations of ethical standards among our staff.

Statistics on Lawsuits and Penalties Related to Taiwan Tobacco and Liquor Due to Products and Labeling in Recent 3 Years

	2020	2021	2022
Number of Cases of Products and Services Violating Regulations	5	0	0
Number of Cases of Non-compliance with Labeling Regulations	0	0	0

In 2022, TTL had accepted for processing 15 complaint cases on corruptions, 0 corruption cases, and 15 non-corruption cases.

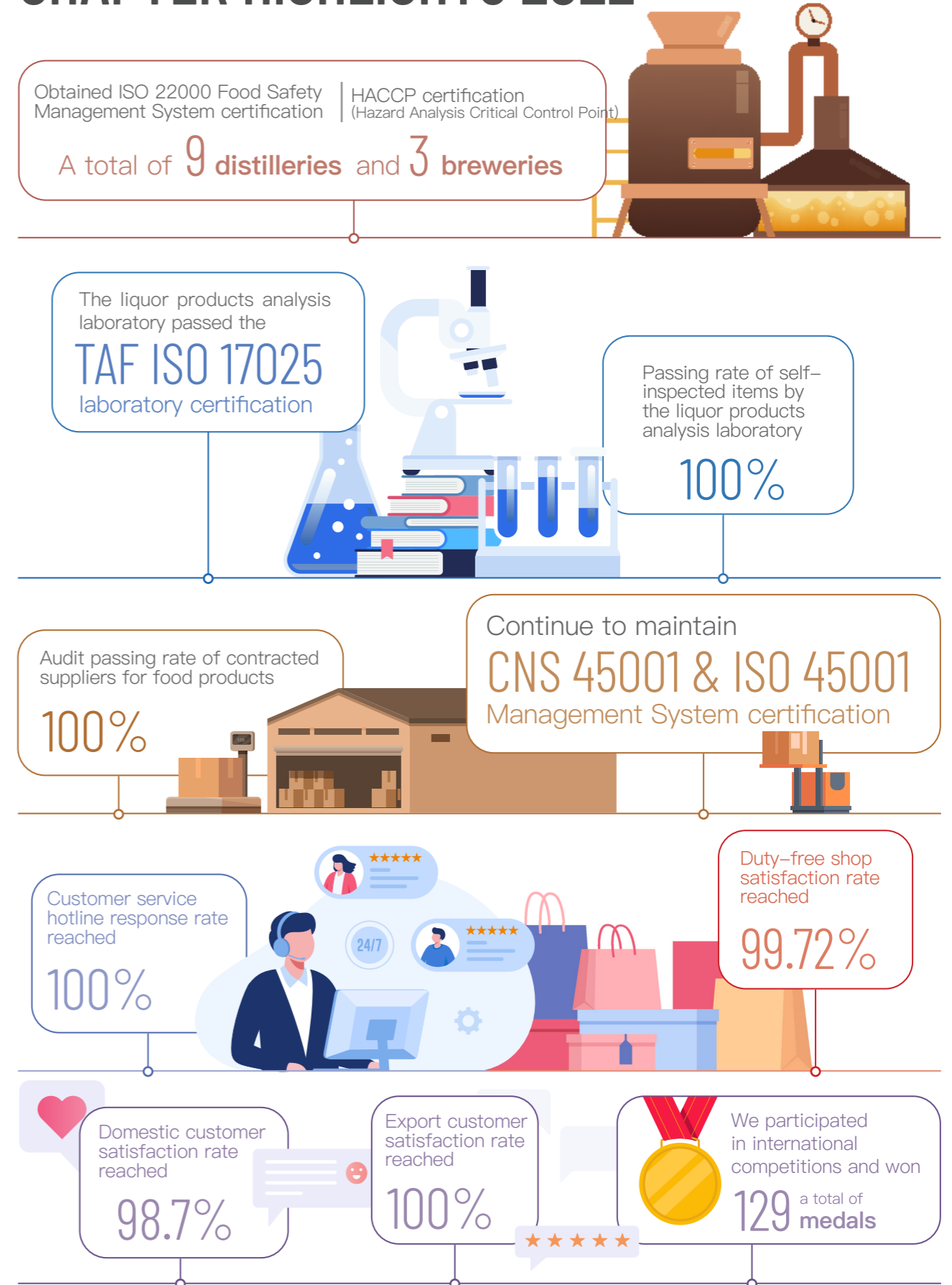
CHAPTER 03

Quality Management

Adhering to our commitment of " Stay True for a Century, Be Reliable and Safe ", the Company upholds stringent quality management processes to ensure food safety for consumers. In 2022, we introduced sustainable supply chain management procedures, aiming to encourage our suppliers to adopt the same standards and fulfill their corporate social responsibilities alongside us. We actively infuse innovation into our products and services, striving for diversification and expanding our domestic and international market channels. Our goal is to provide high-quality products and services to consumers worldwide.

3.1 Product Liability	40
3.2 Safety Guarantee for Raw Materials	40
3.3 Sustainable Supply Chain	41

CHAPTER HIGHLIGHTS 2022



3.1 Product Liability

Quality Management Policy

The Taiwan Tobacco and Liquor Corporation's 'Quality Assurance Committee' actively urges the Company to continuously improve the hygiene and safety of its products. It strengthens management systems and implements mechanisms for tracking and improvement, aiming to provide consumers with high-quality and safe products. The Company oversees 9 distilleries and 3 breweries, all of which have received comprehensive certifications including ISO 9001 Quality Management System certification, ISO 22000 Food Safety Management System certification, and HACCP Hazard Analysis and Critical Control Points system certification. The cigarette plants have been fully certified with ISO 9001 Quality Management System certification. The liquor product analysis laboratory under Research Institute of Liquor & Biotechnology has also obtained ISO 17025 laboratory certification in its latest version. Through the implementation of various management systems, the Company continues to enhance product quality, safeguarding the health and safety interests of consumers.

TTL Total Quality Management (TQM) Operating Procedures



3.2 Safety Guarantee for Raw Materials

Establish Food Safety History Tracking and Tracing

Placing a high level of importance on product quality, TTL designates the Research Institute of Liquor & Biotechnology for coordinating core raw materials and conducting technical research. Additionally, the Company has established a rigorous inspection mechanism that covers both finished products and semi-finished products. This comprehensive inspection process ensures that all products produced by TTL meet stringent safety and quality standards, aiming at protecting consumer rights and interests.

TTL strives to improve our food safety management measures by integrating various systems, including the ISO 9001 quality management system, SAP system, factory food safety tracking system, and business premises food flow tracking system to ensure food safety. The "Food Safety Tracking and Tracing Inquiry Platform" was established in 2019, allowing consumers to access product records through a web browser. This does not only enhance the efficiency of food safety management but also safeguard consumer rights.

TTL employs a systematic analysis and strict control approach to ensure compliance with its 9 distilleries and 3 breweries. Starting from product research and design, this approach extends throughout the entire supply chain, encompassing raw material procurement, product manufacturing, packaging, storage, transportation, sales, and even consumer consumption. Every link in the supply chain is evaluated to eliminate potential hazards or contamination issues. This process is supported by certifications including ISO 9001 Quality Management System, ISO 22000 Food Safety Management System, and HACCP Hazard Analysis and Critical Control Points system. These certifications cover 100% of all operational sites, hygiene management systems, and food quality management systems within Taiwan Tobacco and Liquor Corporation.

Product Traceability and Tracking Management Situation of Taiwan Tobacco and Liquor in 2022

Total Number of Food Items Produced (Number of items)	56
Registered and uploaded to Food Traceability Management Information System (Ftracebook)	56
Percentage (%)	100%

Internal Inspection

In 2022, NT\$23,385,726 was disbursed on internal inspections, accounting for 0.04% of the overall company's net operating income. The table shows the total expenditures for internal and external inspections carried out by Taiwan Tobacco and Liquor Corporation's Research Institute of Liquor & Biotechnology in 2022.

Unit: NT\$	2022
Internal Inspection Expenditure	23,385,726
Percentage of Total Net Operating Income (%)	0.04%
External Inspection Expenditure	1,483,634

» Note: The total expenditure on external inspections primarily includes costs for outsourcing adjustments of instruments and related expenses by the Research Institute of Liquor & Biotechnology.

Transparent and open food history information

[Link food safety information on the official website](#)

To ensure food safety, TTL has implemented the "Food Safety Tracking and Tracing System" in each of its production factories. Additionally, a dedicated section called "Product Food Safety History" has been added to the Company's official website, which includes product QR codes. Consumers simply need to scan the QR code to be redirected to the relevant product information page on the Food Traceability Management Information System (Ftracebook) of the Ministry of Health and Welfare's website, where they can access product safety-related information.

Product information

Product name :
TTL Noodle Stall-Shaoxing Wine Minced Pork Instant Noodle

Specifications :
111 grams (g)/pack

Product categorization :
Noodle and vermicelli products

Company name :
Taiwan Tobacco & Liquor Corporation

Testing reports

Sample delivery or testing date :
2022/08/23

Testing report information :
Self-testing

Testing target :
Noodle and vermicelli products

Inspection item :

- Other health management projects
- Total polar compounds

The liquor product analysis laboratory within the Research Institute of Liquor & Biotechnology has obtained ISO 17025 new version laboratory certification from the Taiwan Acceptance Foundation (TAF), confirming its testing capability and quality alignment with international standards. To ensure the food consumed by consumers does not contain harmful chemicals affecting human health, in 2022, the liquor product analysis laboratory of the Research Institute of Liquor & Biotechnology conducted independent inspections on the following items as listed:

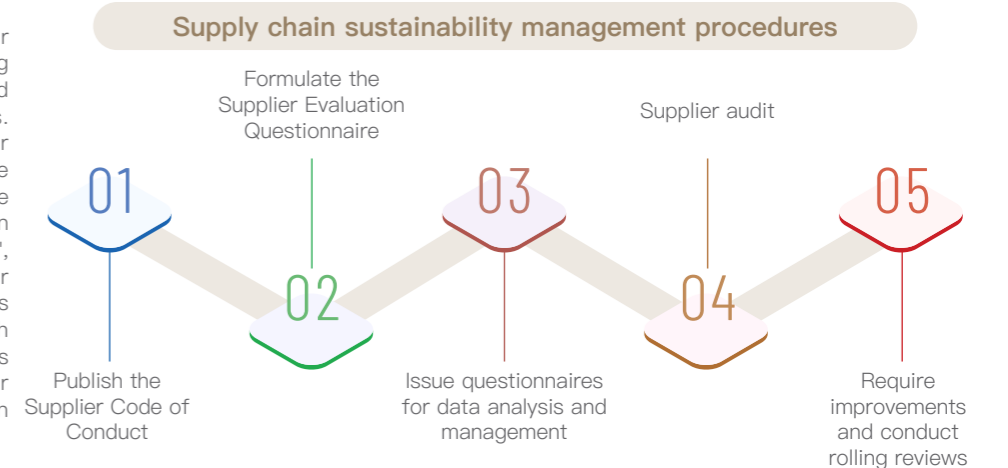
Inspection Item	Number of Samples Tested	Number of Failures	Failure Rate
Methanol	621	0	0%
Heavy Metal Lead	570	0	0%
Sulfur Dioxide	571	0	0%
Preservative – Sorbic Acid	331	0	0%
Preservative – Benzoic Acid	315	0	0%
9 Types of Plasticizers	350	0	0%
Coloring Agents	299	0	0%
Citrinin	20	0	0%

» Food safety information : <https://www.ttl.com.tw/newStyle/newStyle.aspx?sn=336>

3.3 Sustainable Supply Chain

Sustainable Supplier Management

TTL is committed to fulfilling our social responsibilities, promoting environmental sustainability, and upholding basic human rights. The Company also expects our suppliers to adhere to the same standards and fulfill their corporate social responsibilities. Based on TTL's "Code of Ethical Conduct", we have developed a "Supplier Code of Conduct" that requires our suppliers to comply with applicable laws and regulations in their respective countries or regions and adhere to this code in all their business activities.



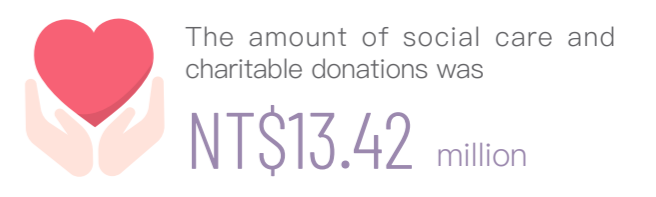
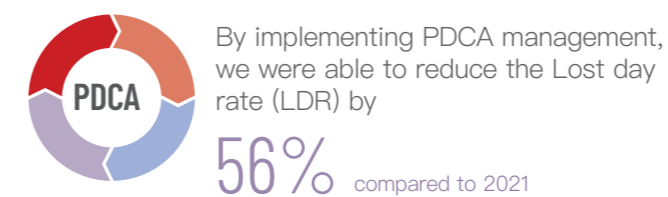
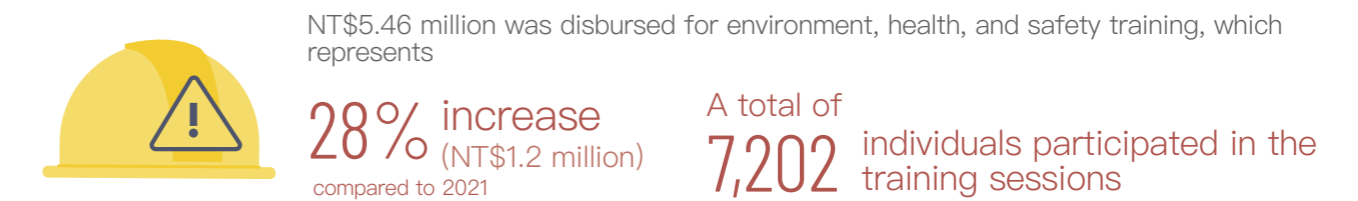
CHAPTER 04

Happy Workplace and Social Welfare

TTL has established a diverse and inclusive corporate culture with a commitment to creating a friendly and interactive workplace environment to strengthen our human capital. We adhere to the principles of equality and non-discrimination, providing our employees with a fair and comprehensive compensation and rewards system, as well as clear promotion pathways, diverse training and development, and a healthy and safe workplace. In 2022, the Company focused on "Innovative Business Models" as a key aspect of human resource development. We continued to promote the "Technical Succession Training Program" by incorporating mentorship programs and diverse training courses. These efforts aimed to enhance the transfer of knowledge and expertise within TTL and foster talent alignment. Furthermore, we are actively committed to social care, with a focus on four main areas: "Education and Cultural Promotion", "Assistance to the Disadvantaged", "Social Inclusion", and "Promoting Sports and Health". These pillars form the foundation of our corporate social responsibility efforts, aligning with our values of caring for our employees and giving back to society.

4.1 Career Development	46
4.2 Social Care	48

CHAPTER HIGHLIGHTS 2022



4.1 Career Development

Talent cultivation and development have always been a focus for TTL. Attracting and employing outstanding talents who align with our company's organizational culture forms the foundation of our competitive edge. TTL is committed to creating a diverse and interactive workplace environment that respects the unique value demonstrated by each employee. In order to enhance employees' professional knowledge and cultivate specialized skills, TTL encourages employees to improve themselves for better service performance. Each year, training programs are planned for different levels and departments based on the business needs of each unit. We actively provide talent development and continuing education courses for employees.



Core Competency

Continuously provide training and the passing down of important core skills.

Data
2,604 Course enrollments
95 Number of classes

Content
Training programs such as Retail Trends and Digital Transformation, Packaging Machine and Cigarette Rolling Machine Training, Saccharification and Fermentation Production Practical Training, Advanced Tasting Panelist Training, Elite Sales Training Camp, Brewing and Sensory Evaluation Techniques Workshop, and New Cosmetics Product Design and Development Seminar.

Professional Competency



Profession-related courses are planned according to business needs.

Data
7,708 Course enrollments
167 Number of classes

Content
Training programs such as Channel Audit Workshop, Warehouse and Transportation Management Workshop, Craft Beer and Equipment Operation Workshop, Filter Cigarette Manufacturing Professional Training Course, Wine Knowledge and Marketing Techniques Workshop, Business Legal Compliance Workshop, ERP Module Education and Training, Business Aesthetics Lecture, and Human Resources Practices Workshop.

Planning of the Four Major Occupational Training Courses



General Competency

Provides the general knowledge and basic skills required by employees for their work.

Data
11,436 Course enrollments
117 Number of classes

Content
New Employee Pre-employment Workshop, New Employee Basic Training Workshop, Official Document Writing Workshop, Employee Health Lecture, General Occupational Safety and Health Training for In-service Workers, and On-the-Job Fire Safety Education and Training.

Management Competency



Cultivates the various management skills required at all levels.

Data
553 Course enrollments
4 Number of classes

Content
Advanced Elite Seminar, Senior Manager Leadership Workshop, Mid-level Manager Workshop, and special lectures.

In 2022, a total of 65 case teaching sessions were conducted, and a total of 159 mentor-mentee pairs completed the apprenticeship training. The achievements of each department's case teaching were uploaded to the TTL Learning Management System for business-related employees to access and learn from. Selected mentor-mentee learning experiences were also uploaded for employees to conduct exchanges and sharing with each other. We aim to utilize mechanisms such as the mentorship programs and case teaching to facilitate the transfer of knowledge and skills, allowing employees to fully apply what they have learned and assist the Company in addressing workforce aging and bridging talent gaps.

Occupational Safety

TTL is committed to creating a high-quality, safe, and secure working environment while reducing occupational accidents. The Company established an "Occupational Health and Safety Management Plan" that focuses on three key management aspects: compliance with regulations, participation of all employees, and the goal of a zero-accident environment. By implementing these management approaches, the Company aims to enhance occupational health and safety performance systematically. We also comply with relevant labor laws and regulations, and conduct training courses on labor rights, occupational safety along with disaster prevention to protect the rights and interests of employees, ensure workplace hygiene and safety along with the enhancement of employees' awareness of safety and health. Together, we strive towards the goal of "zero occupational accidents".

Employee Health Management and Health Promotion

To ensure the physical and mental health of employees and reduce occupational hazards, TTL conducts "Environmental and Safety Education Training" and "Disease Prevention and Health Promotion Campaigns". These initiatives aim to strengthen the safety and health awareness of all employees. The Company also recognizes and rewards employees who demonstrate outstanding achievements in occupational safety and health.

In terms of employee health promotion, TTL implements general health check-ups and special health examinations for employees on an annual basis. In 2022, a total of 4,853 employees underwent general health check-ups, with the amount invested totaling NT\$7,387,882. Additionally, employees exposed to occupational hazards such as noise, dust, ionizing radiation, high temperatures, benzene, and hexane, received counseling, health management, and follow-up for abnormal health examination reports.



Safe Environment Management Mechanisms

TTL adheres to the "Occupational Safety and Health Act", "Work Guidelines for Occupational Safety and Health", and "Standards for Occupational Safety and Health Operations" to prevent occupational accidents and protect the safety of employees' lives. The Company continuously supervises relevant institutions to comply with labor safety and health laws and regulations, in order to implement environmental safety and facility improvement measures.

In 2022, there were 3 occupational accidents in Jhunan Brewery and 1 occupational accident in the Kaohsiung Office. The types of accidents involved falling objects, entanglement, pinching injuries, and falls. In response to the occupational accidents that occurred in 2022, TTL will strengthen safety measures in the work environment and place greater emphasis on employee-driven safety management and education to enhance safety awareness. These efforts aim to prevent similar incidents from happening in the future.

Labor-Management Communications

TTL remains committed to a harmonious labor-management relationship, emphasizing employee communication and promoting feedback. By strengthening employee engagement and fostering a sense of well-being, we aim to create mutually beneficial conditions. By establishing accessible channels for complaints, labor-management meetings, sexual harassment complaints, and suggestion boxes, TTL aims to facilitate diverse channels for communication and feedback through vertical communication mechanisms and regular labor-management meetings, seeking to promote harmonious relations between labor and management, and safeguard the rights and interests of both parties.



4.2 Social Care

TTL upholds the spirit of "Taking from society and giving back to society" and leverages the influence of its headquarters and operating locations to engage in initiatives focused on "Education and Culture Promotion", "Supporting the Disadvantages", "Community Inclusion", and "Promoting Sports and Health". By implementing these actions, the Company aims to contribute to society and achieve mutual prosperity between the Company and society. In 2022, TTL continued the commitment to social responsibility by harnessing internal and external resources to support domestic sports and channels, the Company actively engaged with local organizations and the public, fostering positive interactions and promoting the unique aspects of each region. By doing so, TTL strives to realize its vision of social care and sustainable co-prosperity with local communities.



Support for Athletic Talent

TTL recognizes the importance of a sustainable society and talent development. It has been actively involved in nurturing outstanding athletic talents and fulfilling its corporate social responsibility. The Company has been supporting the Taiwan Beer Basketball Team established in 1968, and Taiwan Beer baseball team in cooperation with the National Taiwan Sport University for over 20 years, supporting the cultivation of elite basketball and baseball athletes in Taiwan. Furthermore, TTL actively organizes sports events and competitions to promote the development of sports. In 2022, the Company held the "Taiwan Beer Fun Baseball Camp", which aimed to introduce elementary school children to the sport of baseball, contributing to the preservation of baseball culture in Taiwan.

Notes on the Development of Taiwan Beer Baseball

- 1968**
 - The Taiwan Beer basketball team was established, initially known as the "Public Sales Golden Dragon Team," later renamed as the "Taiwan Tobacco and Liquor Golden Dragon Team." It nurtured a generation of renowned players such as Cheng Chih-Lung, Chu Chih-Ching, and Tsan Chia-Hsiang.
- 1999**
 - Renamed to "Taiwan Beer Basketball Team"
- 2003**
 - Became one of the founding teams of the Super Basketball League (SBL)
 - During the SBL era, the Taiwan Beer Basketball Team won six championships, becoming one of the teams with the most championships in history.
- 2021**
 - Joined Taiwan's highest basketball league, T1 League, as the "Taiwan Beer Hero Bears".



Highlights of Taiwan Beer Basketball in 2022

TaiwanBeer T1 Hero Bears won the "2022 Cross-League Basketball Invitational Tournament"

In the 2022 Cross-League Basketball Invitational Tournament, the championship game featured a showdown between the New Taipei CTBC DEA from the T1 League and the Taiwan Beer Hero Bears. The Taiwan Beer Hero Bears emerged as the champions of the inaugural Cross-League Invitational Tournament, and player Chiang Yu-An was honored with the MVP award.



Taiwan Beer's SBL and T1 players represented Taiwan in overseas competitions

Taiwan Beer SBL players Wang Zi-Gang and Chen Zhao-Hao were selected for the Chinese Taipei national team to compete in the World Cup qualifiers. Taiwan Beer T1 players Huang Cong-Han and Zhou Bo-Xun were selected for the Chinese Taipei national team to compete in the FIBA Asia Cup.



Taiwan Beer shows strong support for sustainability and grassroots baseball teams by calling on alumni of the Taiwan Beer baseball team to return to their homes and pass on the torch

As a century-long beer brand of a state-owned enterprise, Taiwan Beer has long been committed to ESG sustainability actions. In addition to the Taiwan Beer basketball team established in 1968, Taiwan Beer has also established the Taiwan Beer baseball team in cooperation with the National Taiwan Sport University for over 20 years, cultivating numerous talented baseball players. Taiwan Beer called upon the alumni of the Taiwan Beer baseball team to return to their homes to pass on the torch. Even former baseball star Chen Wei-Yin, who has been playing overseas for many years, made an appearance to show his support.



The 2022 Taiwan Beer Fun Baseball Camp planted roots of the foundation for national baseball

Every summer, the players of the Taiwan Beer baseball team become coaches for the "Fun Baseball Summer Camp". They embody the spirit of guiding and supporting the younger generation, leading elementary school children to experience and learn the game of baseball, fostering their passion for the sport and nurturing their team spirit.

Community Care

Realizing Social Care – Easy Clean x Sheltered Workshop

Bright-feather Laundry Career is a specialized facility that provides laundry services and care for individuals with severe disabilities. In addition to offering laundry services to the public, the facility also provides professional skills training for people with disabilities, enabling them to become competent and skilled laundry workers. The goal is to empower each trainee and build their self-confidence through the process of laundering clothes. When the chairman learned that Bright-feather Laundry Career exclusively uses our laundry detergent, Easy Clean, he decided to personally visit the facility. During the visit, the chairman donated a total of 30 large boxes of Easy Clean laundry detergent products. Through face-to-face interactions and conversations, he expressed genuine concern and empathy, seeking to understand the challenges faced by the shelter in their daily work. This gesture reflects the Company's commitment to social care and a compassionate approach. In the future, TTL will uphold our spirit of caring for society and continue to care for disadvantaged groups. We will establish long-term partnerships with related organizations to fulfill our goal of "taking from society and using it for society".



Enter the Mountains, Clean the Mountains, Respect the Mountains

TTL has long been focused on environmental protection and ecological preservation issues. In 2022, in collaboration with the Cheng Chen Foundation and the Taiwan Native Plant Society, we engaged our employees in environmental education activities focused on removing invasive alien species. Through hands-on experiences, our employees gained a deeper understanding of the ecological impact of invasive alien species and developed a sense of environmental conservation. This initiative not only fostered a sense of belonging and unity among our employees but also showcased our commitment to ecological preservation at TTL.



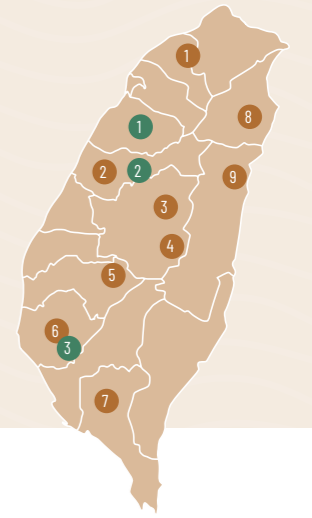
Local Prosperity

Specialty Distilleries with Local Features

In response to the transformation of domestic tourism patterns, TTL has initiated the " Plan to Revitalize and Restore the Elegance and Glory of the Tourist Distillery and Brewery", which is scheduled to last for 5 years. As of now, 12 distilleries and breweries have been successfully transformed. TTL actively collaborates with local governments to infuse local cultural creativity into its distilleries and breweries. We aim to create themed tourist distilleries that embody the unique characteristics of each region. In addition, interactive facilities are added to provide innovative experiences for the public.

Distillery ① Taoyuan Sake Brewery / ② Taichung Distillery / ③ Puli Shaohsing Brewery
④ Nantou Winery & Distillery / ⑤ Chiayi Distillery / ⑥ Longtian Distillery
⑦ Pingtung Distillery / ⑧ Yilan Brewery / ⑨ Hualien Distillery

Brewery ① Jhunan Brewery / ② Wurih Brewery / ③ Shanhua Brewery



① Taoyuan Sake Brewery



② Taichung Distillery



③ Puli Shaohsing Brewery



⑦ Pingtung Distillery



⑧ Yilan Brewery



⑨ Hualien Distillery



④ Nantou Winery & Distillery



⑤ Chiayi Distillery



⑥ Longtian Distillery



① Jhunan Brewery



② Wurih Brewery



③ Shanhua Brewery

To be safe,  don't drink and drive. To be safe,  don't drink and drive.

SUMMARY OF ESG PERFORMANCE

CH1 Green economy

Primary Indicator	Performance in 2022
Total energy consumption (megajoules)	1,357,865,600
Direct greenhouse gas emissions (t-CO ₂ e)	94,421.49
Indirect greenhouse gas emissions (t-CO ₂ e)	70,023.02
Annual carbon reduction (t-CO ₂ e)	13,400.39
Total water intake (million liters)	3,665
Water Discharge Volume (million liters)	3,040
Total water consumption (million liters)	625
Glass bottle recycling (bottles)	197,810,495
Replica tobacco sheet recycling (kg)	8,670
Cumulative amount of solar power generated (kWh)	50,425,118
Cumulative income from solar power sales (NT\$)	225,960,155
Solar photovoltaic equipment (sites)	25
Overall environmental protection expenditures (NT\$)	312,620,000
Total amount of waste in the year (tons)	119,545.8

CH2 Corporate Governance

Primary Indicator	Performance in 2022
Operating revenue (NT\$ hundred million)	567.41
Operating Costs (NT\$ hundred million)	458.31
Gross profit (NT\$ hundred million)	109.10
Operating Expenses (NT\$ hundred million)	50.94
Operating profits (NT\$ hundred million)	58.16
Non-operating profit (loss) (NT\$ hundred million)	13.15
Net profit before tax (NT\$ hundred million)	71.31
EPS (pre-tax) NT\$/share	1.63
ROA (annualized; pre-tax; %)	6.06%
ROE (annualized; pre-tax; %)	6.92%
Total assets (NT\$ hundred million)	1,176.24
Total equity (NT\$ hundred million)	1,033.35
Average attendance rate of board meetings (%)	92.8
Corporate governance evaluation (points)	97.6
Annual continuing education for board directors (hours)	144
Integrity education and promotion (hours)	70.5
Internal audits (items)	172
Internal audit improvement rate (%)	100
Integrity and ethics of civil servants (cases)	0
Legal violations of products and services (cases)	0
Incidents of non-compliance with labeling regulations (cases)	0

CH3 Quality Management

Primary Indicator	Performance in 2022
Internal inspection expenses for raw materials (NT\$)	23,385,726
Internal inspection expenses for raw materials as a percentage of total net revenue (%)	0.04
Outsourced inspection expenses for raw materials (NT\$)	1,483,634
The brewery passed ISO 22000 Food Safety Management System certification. (plants)	9
The distillery passed ISO 22000 Food Safety Management System certification. (plants)	3
All food items produced (cases)	56
Items registered and uploaded to Food Traceability Management Information System (Ftracebook) (cases)	56
Uploaded Percentage of Food Traceability Management Information System (Ftracebook) (%)	100
Passing rate of self-inspected items (%)	100
The audit passing rate of contracted suppliers for food products (%)	100
Domestic customer satisfaction (%)	98.7
Overseas customer satisfaction (%)	100
Duty free shop customer satisfaction (%)	99.72
Number of cases received by the service hotline (cases)	7,661
Number of cases processed by the service hotline (cases)	7,661
Customer complaint response rate (%)	100

CH4 Happy Workplace and Social Welfare

Primary Indicator	Performance in 2022
Official employees (people)	4,822
Female employees (people)	1,354
Male employees (people)	3,468
Average age (years old)	49.7
Percentage of White-collar workers (%)	30%
Percentage of Gray-collar workers (%)	70%
Resigned employee (people)	538
Resignation rate (%)	10.9
Number of people with disabilities hired (people)	165
Number of indigenous employees hired (people)	86
Ratio of the starting salary for new employees to the minimum wage in Taiwan – White-collar workers (%)	157%
Ratio of the starting salary for new employees to the minimum wage in Taiwan – Gray-collar workers (%)	135%
Amount in the Labor Retirement Reserve (NT\$)	8,480,272,107
TTL Retirement Fund account (NT\$)	250,342,886
Number of people retired (people)	441
Number of employees who are eligible to apply for parental leave (people)	272
Number of employees who applied for parental leaves (people)	9
Number of employees reinstated after parental leave (people)	37
Actual number of employees reinstated after parental leave (people)	35
Reinstatement rate after parental leave (people)	94.60%
Number of employees reinstated after leave in the previous year (people)	29
Number of people who have been reinstated for one year in the previous year (people)	28
Retention rate after leave in the previous year (%)	96.55%
Average employee training hours – male of the White-collar workers (hours)	45
Average employee training hours – female of the White-collar workers (hours)	42
Average employee training hours – male of the Gray-collar workers (hours)	23
Average employee training hours – female of the Gray-collar workers (hours)	22
Ratio of employees on the Occupational Safety and Health Committee (%)	36
Number of people who received general health check-ups (people)	4,853
Number of people who received special health check-ups (people)	1,235
Number of people who participated in occupational health and safety training (people)	7,202
Occupational health and safety training expenses (NT\$)	5,460,582
Work injury rate – males (IR)	0.062
Work injury rate – females (IR)	0.021
Occupational disease rate – males (ODR)	0
Occupational disease rate – females (ODR)	0
Lost day rate – males (LDR)	6.359
Lost day rate – females (LDR)	3.813
Absence rate – males (AR)	0.002
Absence rate – females (AR)	0.001
Number of fatalities (people)	0
Number of employees in labor unions and the percentage of total employees covered by collective bargaining agreements (%)	98
Number of labor-management meetings convened (times)	6
Amount donated (subsidized) to charitable activities, community activities, and the government (NT\$)	13,422,658

Appendix

Appendix 1 : Global Reporting Initiative (GRI) Standards Content Index

Statement of use	TTL has reported the information from January 1, 2022, to December 31, 2022, according to the GRI 2022 Standards.
GRI 1 used	GRI 1: Infrastructure 2021
Applicable GRI Industry Standards	N/A

GRI Standards	Disclosure items	Corresponding chapter	Page No.	Remark	
GRI 2: General Disclosures 2021	Organizational and reporting practices				
	2-1	Detailed organizational information	About the report	7	
	2-2	Entities included in the Organization's Sustainability Report	About the report	6	
	2-3	Reporting period, frequency, and contact person	About the report	6	
	2-4	Restatements of information			not apply
	2-5	External assurance	Assurance Report of Independent Auditors	58	
	Activities and workers				
	2-6	Activities, Value Chain, and Other Business Relationships	3.3 Sustainable Supply Chain	41	
	2-7	Employees	4.1 Career Development	46	
	2-8	Non-employee workers	4.1 Career Development	46	
	Governance				
	2-9	Governance structure and composition	2.2 Corporate Governance and Business Integrity	35	
	2-10	Nominating and selecting the highest governance body	2.2 Corporate Governance and Business Integrity	35	
	2-11	Chair of the highest governance body	2.2 Corporate Governance and Business Integrity	35	
	2-12	Highest governance body's role in monitoring impact management	2.2 Corporate Governance and Business Integrity	35	
	2-13	Head of Impact Management	2.2 Corporate Governance and Business Integrity	35	
	2-14	Highest governance body's role in sustainability reporting	2.2 Corporate Governance and Business Integrity	35	
	2-15	Conflicts of Interest	2.2 Corporate Governance and Business Integrity	35	
	2-16	Communicate key material events	2.2 Corporate Governance and Business Integrity	35	
	2-17	Collective knowledge of highest governance body	2.2 Corporate Governance and Business Integrity	35	
	2-18	Evaluating the highest governance body's performance	2.2 Corporate Governance and Business Integrity	35	
	2-19	Remuneration policy	4.1 Career Development	46	
	2-20	Process for determining remuneration	4.1 Career Development	46	
	2-21	Total annual remuneration ratio	Summary of ESG Performance	52	
	Strategies, policies, and practices				
	2-22	Sustainable Development Strategy Statement	About Taiwan Tobacco & Liquor Corporation	7	
	2-23	Policy commitments	About Taiwan Tobacco & Liquor Corporation	7	
	2-24	Introduce policy commitments	Sustainable Business Operation	34	
	2-25	Procedures for Remediating Negative Impacts	Identifying Material Topics and Communication with Stakeholders	12	
	2-26	Mechanisms for Seeking Advice and Raising Concerns	Identifying Material Topics and Communication with Stakeholders	12	
2-27	Regulatory compliance	Risk Management and Regulatory Compliance	36		
2-28	Membership of associations	Summary of ESG Performance	53		
Stakeholder Engagement					
2-29	Stakeholder engagement approach	Identifying Material Topics and Communication with Stakeholders	12		
2-30	Collective bargaining agreements	Identifying Material Topics and Communication with Stakeholders	12		

Appendix 2 : Sustainability Accounting Standards Board (SASB)

The Sustainability Accounting Standards Board (SASB) Indicators Comparative Table

There are 77 industries under 11 sectors of the SASB Materiality Map by the SASB Standards according to the search results for industry categories on the SASB official website. TTL has selected two applicable indicators to conduct the disclosure:

Sector: Food & Beverage

Industry: Alcoholic Beverage, Tobacco

Alcoholic Beverage

Disclosure Topics	Indicator Code	Disclosure Indicator	Nature	Description
Energy Management	FB-AB-130a.1	① Total energy consumption (GJ)	Quantification	① In 2022, TTL's energy consumption volume was 1,357,865,600 megajoule
		② Percentage of electricity used (%)		② TTL's electric grid electricity usage was 100%
		③ Percentage of renewable energy usage volume (%)		③ Refer to 1.2 Sustainable Management
Water Resource Management	FB-AB-140a.1	① Total water withdrawal volume (m ³)	Quantification	① The 2022 total water withdrawal volume was 3,665 million liters
		② Percentage (%) of total water usage volume of the total water usage volume and high or extreme high water resource pressure regions		② 0%. TTL did not use water resources from high water resource pressure areas
	FB-AB-140a.2	Describe water resource management risks and strategies for reducing risks	Qualitative	Refer to 1.2 Sustainable Management on TTL's water resources management risks and strategies

Disclosure Topics	Indicator Code	Disclosure Indicator	Nature	Description
Responsible Drinking and Marketing	FB-AB-270a.1	Percentage (%) of alcohol drinking age reminders in advertisements	Quantification	100% of the TTL's publications for alcohol drinks related advertisements and promotional materials include alcohol drinking age reminders
	FB-AB-270a.2	Number of cases for unqualified labeling	Quantification	0 cases. There had been no incidents of unqualified labeling in 2022
	FB-AB-270a.3	Marketing or labeling related lawsuits damages amount	Quantification	NT\$ 0. There had been no monetary losses that arise from marketing or labeling related lawsuits in 2022
	FB-AB-270a.4	Describe execution situation for promoting responsible drinking	Qualitative	TTL continues to promote Gold Medal Free Non-Alcoholic Beer Flavored Drink, while being committed to promoting responsible drinking through various warnings and wine tasting events Beer Type products • Beer drinks The growth for domestic non-alcohol drinks market is not as expected. It is necessary to expand the drinking group, combining the advantages of non-alcohol and promote drinking non-alcohol drinks products • Segment and Word of Mouth Marketing Focus on word of mouth by segment instead of mass promotion. Expand product experience through KOL, digital advertorial, event product reviews Liquor type products • Promote Responsible Drinking Consumers to sign agreement on responsible drinking • Designated Driving Services (DDS) In line with the MOF's promotion of getting designated driving services (DDS) after drinking, TTL has established uniform warning labeling guidelines. Display the warning sign clearly and add the related warnings on getting DDS after drinking
Packaging Lifecycle Management	FB-AB-410a.1	① Total weight of packaging materials (t)	Quantification	Refer to details in Summary of ESG Performance
		② Percentage (%) of recycled or reclaimed materials for packaging materials		The Taiwan laws and regulations regulate that the Post-Consumer Recycled Plastics or recycled plastics cannot be used in food product packaging materials
	FB-AB-410a.2	③ Percentage (%) of packaging materials that can be recycled, reused or biodegradable	Quantification	
	FB-AB-410a.2	Describe strategies to reduce environmental impacts from the packaging materials lifecycle	Qualitative	Refer to details in Summary of ESG Performance
Environment and Social Impacts of Raw Materials Supply Chain	FB-AB-430a.1	Evaluate the social and environmental responsibilities of the suppliers based on the below aspects	Quantification	In 2022, there were no unqualified cases for social and environmental responsibilities of the Tier One suppliers of TTL
		① Unqualified rate		
		② The corrections measures for (a) materials and (b) not material unqualified products		

Disclosure Topics	Indicator Code	Disclosure Indicator	Nature	Description												
Raw Material Traceability	FB-AB-440a.1	Percentage(%of beverage ingredients that are sourced from high or extreme high water pressure areas	Quantification	0%. TTL did not use water resources from high water resource pressure areas												
	FB-AB-440a.2	List the beverage ingredients ranking and describe the traceability risks of the raw materials	Qualitative	Main Ingredients	Environmental and Social Risks											
				Malted barley	Droughts or climate change that result in raw materials price volatility											
				Hops	Droughts or climate change that result in raw materials price volatility											
				Edible ethanol	Droughts or climate change that result in raw materials price volatility											
Rice	Droughts or climate change that result in raw materials price volatility															
Activity Indicators	FB-AB-000.A	Total volume of sales products (Mhl)	Quantification	<table border="1"> <thead> <tr> <th>Division of Beer</th> <th>Total quantity of products sold (Million Hectoliters)</th> <th>Quantity of production equipment</th> </tr> </thead> <tbody> <tr> <td>Division of Beer</td> <td>2.749731 Mhl</td> <td>Jhunan Brewery, Wurih Brewery, Shanhua Brewery, and Taipei Brewery</td> </tr> <tr> <td>Division of Liquor</td> <td>0.77676 Mhl</td> <td>Taoyuan Sake Brewery, Taichung Distillery, Puli Shaohsing Brewery, Nantou Winery & Distillery, Chiayi Distillery, Longtian Distillery, Pintung Distillery, Yilan Brewery, Hualien Distillery</td> </tr> <tr> <td>Total</td> <td>3.526Mhl</td> <td>13</td> </tr> </tbody> </table>	Division of Beer	Total quantity of products sold (Million Hectoliters)	Quantity of production equipment	Division of Beer	2.749731 Mhl	Jhunan Brewery, Wurih Brewery, Shanhua Brewery, and Taipei Brewery	Division of Liquor	0.77676 Mhl	Taoyuan Sake Brewery, Taichung Distillery, Puli Shaohsing Brewery, Nantou Winery & Distillery, Chiayi Distillery, Longtian Distillery, Pintung Distillery, Yilan Brewery, Hualien Distillery	Total	3.526Mhl	13
	Division of Beer	Total quantity of products sold (Million Hectoliters)		Quantity of production equipment												
	Division of Beer	2.749731 Mhl		Jhunan Brewery, Wurih Brewery, Shanhua Brewery, and Taipei Brewery												
	Division of Liquor	0.77676 Mhl		Taoyuan Sake Brewery, Taichung Distillery, Puli Shaohsing Brewery, Nantou Winery & Distillery, Chiayi Distillery, Longtian Distillery, Pintung Distillery, Yilan Brewery, Hualien Distillery												
Total	3.526Mhl	13														
FB-AB-000.B	Quantity of production equipment	Division of Liquor	0.77676 Mhl													
FB-AB-000.C	Total mileage for the fleet (km)	Quantification	The estimation of the mileage for the fleet was extensive. Refer to Summary of ESG Performance													

Tobacco

Disclosure Topics	Indicator Code	Disclosure Indicator	Nature	Description									
Public Health	FB-TB-260a.1	① Gross profit and ② Net Sales for the manufactured products listed below: (a) Non-tobacco products containing nicotine (b) Heated Tobacco Products	Quantification	TTL does not have related products to the sales indicator's requirements. The gross profit and net sales are NT\$ 0									
	FB-TB-260a.2	Describe the risks and opportunities evaluation procedures for tobacco harm reduction	Qualitative	TTL strictly abides by the Tobacco Hazards Prevention Act and related laws and regulations to conduct products sales and risks evaluation									
Marketing Strategies	FB-TB-270a.1	Marketing, labeling, or advertisements related lawsuits damages amount	Quantification	In 2022, the damages amount arising from marketing, labeling or advertisements related lawsuits for TTL was NT\$ 0									
	FB-TB-270a.2	Describe the Company's marketing strategies and position relating to Article 11 and 13 of the WHO Framework Convention on Tobacco Control (WHO FCTC)	Qualitative	TTL abides by and fulfils the related position of the WHO FCTC completely									
Marketing Strategies	FB-TB-000.A	Sales volume for the combustible tobacco products: ① Cigarettes ② Cigar ③ Other tobacco products for smoking	Quantification	Cigarettes: 1,772 (million pieces). Cigar: 0 piece. Other tobacco products for smoking: 0 piece									
	FB-TB-000.B	Sales volume for the combustible tobacco products: ① Traditional smokeless tobacco ② Non-tobacco products containing nicotine ③ Heated Tobacco Products ④ Nicotine replacement therapy (NRP)	Quantification	<table border="1"> <thead> <tr> <th>Non-combustible Products</th> <th>2022 Sales Volume</th> </tr> </thead> <tbody> <tr> <td>Traditional smokeless tobacco</td> <td>0</td> </tr> <tr> <td>Non-tobacco containing nicotine</td> <td>0</td> </tr> <tr> <td>Heated Tobacco Products</td> <td>0</td> </tr> <tr> <td>Nicotine replacement therapy (NRP)</td> <td>0</td> </tr> </tbody> </table>	Non-combustible Products	2022 Sales Volume	Traditional smokeless tobacco	0	Non-tobacco containing nicotine	0	Heated Tobacco Products	0	Nicotine replacement therapy (NRP)
Non-combustible Products	2022 Sales Volume												
Traditional smokeless tobacco	0												
Non-tobacco containing nicotine	0												
Heated Tobacco Products	0												
Nicotine replacement therapy (NRP)	0												

» SASB Materiality Map : <https://materiality.sasb.org/>
 » SASB Official Website. Please refer to <https://www.sasb.org>

Appendix 3 : TCFD Index

Aspect	Recommended disclosures	Page
Governance	Describe the board's oversight of climate-related risks and opportunities	26
	Describe management's role in assessing and managing climate-related risks and opportunities	26
Strategy	Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term	27
	Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning	27
	Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios	27
Risk Management	Describe the organization's processes for identifying and assessing climate-related risks	27
	Describe the organization's processes for managing climate-related risks	27
	Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management	27
Metrics and Targets	Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process	28
	Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas (GHG) emissions and the related risks	28
	Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets	28

Appendix 4 : Independent Assurance Statement Report



安永聯合會計師事務所

11012 台北市基隆路一段333號9樓
9F, No. 333, Sec. 1, Keelung Road
Taipei City, Taiwan, R.O.C.

Tel: 886 2 2757 8888
Fax: 886 2 2757 6050
www.ey.com/tw

English Translation of a Report Originally Issued in Chinese

Assurance Report of Independent Auditors

To Taiwan Tobacco & Liquor Corporation

1. Scope

We have been engaged by Taiwan Tobacco & Liquor Corporation. to perform a limited assurance engagement in relation to and report on selected sustainability performance indicators included in Taiwan Tobacco & Liquor Corporation 2022 Sustainability Report.

Regarding the sustainability performance indicators selected by Taiwan Tobacco & Liquor Corporation and their applicable criteria, please refer to appendix A.

Management responsibility

Taiwan Tobacco & Liquor Corporation is responsible for the preparation of 2022 Sustainability Report in accordance with adequate criteria, including referencing to Global Reporting Initiatives ("GRI") GRI Standards, and for the design, execution and maintenance of internal controls in regard with report preparation to support the collection and presentation of the Report.

Independent Auditor's Responsibility

Our responsibility is to plan and perform limited assurance engagement in accordance with the TWSAE3000 "Assurance Engagements other than Audits or Reviews of Historical Financial Information", issued by Taiwan Accounting Research and Development Foundation.

2. Assurance

The procedures performed in limited assurance engagement vary in nature and timing, and are less in extent than for a reasonable assurance engagement so that the level of assurance is substantially lower than reasonable assurance engagement. While we considered the effectiveness of Taiwan Tobacco & Liquor Corporation internal controls when determining the nature and extent of procedures, our review was not designed to provide assurance on internal controls.

To conclude for limited assurance, our procedures performed included:

- Interviewing with Taiwan Tobacco & Liquor Corporation management and personnel to understand the Taiwan Tobacco & Liquor Corporation implementation of overall sustainability and reporting process;
- Understanding the main stakeholders of Taiwan Tobacco & Liquor Corporation and their expectations and needs as well as interaction protocols by interview or examination of



documentation and how Taiwan Tobacco & Liquor Corporation responded to those expectations and needs;

- Performing analytical procedures on selected sustainability performance indicators, gathering and checking other supporting documentation and management information obtained, testing on sample basis if necessary;
- Reading Taiwan Tobacco & Liquor Corporation Sustainability Report to ensure the implementation of overall sustainability and reporting process is consistent with our understanding.

3. Limitations

Non-financial information contained within sustainability reports are subject to measurement uncertainties. The selection of different measurement techniques can result in materially different measurement. Also assurance engagements are based on selective testing of information being examined, and it is not possible to detect all of the existing material misstatements whether resulting from fraud or error.

4. Quality and Independence

We are in conformity with TWSQC1 "Quality Control for Public Accounting Firms" to establish and maintain a sound system of quality control, including code of professional ethics, professional standards and those written policies and procedures in applicable regulations. We are also in conformity with related independence and other ethics requirements in Taiwan's Norm of Professional Ethics, which basic principles are integrity, objectivity, professional competence and due care and professional behavior.

5. Conclusion

Based on our procedures and obtained evidence, nothing has come to our attention that causes us to believe that any material modifications or adjustments should be made to the selected sustainability indicators in accordance with applicable criteria.

Lu, Chian Uen
Ernst & Young
July 20th, 2023
Taipei, Taiwan, Republic of China

Notice to Readers

The reader is advised that the sustainability report has been prepared originally in Chinese. In the event of a conflict between the assurance report and the original Chinese version or difference in interpretation between the two versions, the Chinese language assurance report shall prevail.



Appendix A

No.	Section	Article Title	Subject matter information	Benchmarking Description	Applicable Benchmarking						
1	3.2	Safety Guarantee for Raw Materials	TTL employs a systematic analysis and strict control approach to ensure compliance with its 9 distilleries and 3 breweries. Starting from product research and design, this approach extends throughout the entire supply chain, encompassing raw material procurement, product manufacturing, packaging, storage, transportation, sales, and even consumer consumption. Every link in the supply chain is evaluated to eliminate potential hazards or contamination issues. This process is supported by certifications including ISO 9001 Quality Management System, ISO 22000 Food Safety Management System, and HACCP Hazard Analysis and Critical Control Points system. These certifications cover 100% of all operational sites, hygiene management systems, and food quality management systems within Taiwan Tobacco and Liquor Corporation.	To enhance food hygiene, safety, and quality, assessments and improvements are conducted on aspects including personnel, operational premises, facility hygiene management, and quality assurance systems. This affects the primary product and service categories, along with the corresponding percentages.	In accordance with Article 4, Appendix 1-1 of the 'Operating Guidelines for Preparation and Disclosure of Sustainability Reports by Listed Companies,' Performance Indicator One requires enhanced disclosure of performance indicators.						
2	2.3	Risk Management and Regulatory Compliance	<p>Statistics on Lawsuits and Penalties Related to Taiwan Tobacco and Liquor Due to Products and Labeling in 2022</p> <table border="1"> <thead> <tr> <th>Year</th> <th>2022</th> </tr> </thead> <tbody> <tr> <td>Number of Cases of Products and Services Violating Regulations</td> <td>0</td> </tr> <tr> <td>Number of Cases of Non-compliance with Labeling Regulations</td> <td>0</td> </tr> </tbody> </table>	Year	2022	Number of Cases of Products and Services Violating Regulations	0	Number of Cases of Non-compliance with Labeling Regulations	0	The categories and frequency of incidents involving violations of health and safety regulations related to products and services, as well as instances of non-compliance with regulations regarding information and labeling of products and services. Additionally, the number of product recalls and the total weight of recalled products.	In accordance with Article 4, Appendix 1-1 of the 'Operating Guidelines for Preparation and Disclosure of Sustainability Reports by Listed Companies,' Performance Indicator Two requires enhanced disclosure of performance indicators.
Year	2022										
Number of Cases of Products and Services Violating Regulations	0										
Number of Cases of Non-compliance with Labeling Regulations	0										



No.	Section	Article Title	Subject matter information	Benchmarking Description	Applicable Benchmarking
3	3.1	Product Liability	The Taiwan Tobacco and Liquor Corporation's 'Quality Assurance Committee' actively urges the Company to continuously improve the hygiene and safety of its products. It strengthens management systems and implements mechanisms for tracking and improvement, aiming to provide consumers with high-quality and safe products. The Company oversees 9 distilleries and 3 breweries, all of which have received comprehensive certifications including ISO 9001 Quality Management System certification, ISO 22000 Food Safety Management System certification, and HACCP Hazard Analysis and Critical Control Points system certification. The tobacco factories have been fully certified with ISO 9001 Quality Management System certification. The Alcohol and Biotechnology Research Institute's Alcohol Analysis Laboratory has also obtained ISO 17025 laboratory certification in its latest version. Through the implementation of various management systems, the company continues to enhance product quality, safeguarding the health and safety interests of consumers.	The percentage of products manufactured in facilities that have been independently verified to comply with internationally recognized food safety management system standards.	In accordance with Article 4, Appendix 1-1 of the 'Operating Guidelines for Preparation and Disclosure of Sustainability Reports by Listed Companies,' Performance Indicator Four requires enhanced disclosure of performance indicators.
	3.2	Safety Guarantee for Raw Materials	TTL employs a systematic analysis and strict control approach to ensure compliance with its 9 distilleries and 3 breweries. Starting from product research and design, this approach extends throughout the entire supply chain, encompassing raw material procurement, product manufacturing, packaging, storage, transportation, sales, and even consumer consumption. Every link in the supply chain is evaluated to eliminate potential hazards or contamination issues. This process is supported by certifications including ISO 9001 Quality Management System, ISO 22000 Food Safety Management System, and HACCP Hazard Analysis and Critical Control Points system. These certifications cover 100% of all operational sites, hygiene management systems, and food quality management systems within Taiwan Tobacco and Liquor Corporation.		



No.	Section	Article Title	Subject matter information					Benchmarking Description	Applicable Benchmarking
4	3.3	Sustainable Supply Chain	Supplier Audit Status in 2022					The number and percentage of supplier audits conducted, along with audit items and outcomes.	In accordance with Article 4, Appendix 1-1 of the 'Operating Guidelines for Preparation and Disclosure of Sustainability Reports by Listed Companies,' Performance Indicator Five requires enhanced disclosure of performance indicators.
			Year	Total Number of Audited Suppliers	Audit Ratio	Qualification Ratio	Audit Subjects		
			2022	49	98%	100%	Product Quality, Process Specifications, Production Line, Environmental Equipment Safety and Hygiene, Quality Control Records, Comprehensive Assessment, Performance and Delivery Status		
5	3.2	Safety Guarantee for Raw Materials	Product Traceability and Tracking Management Situation of Taiwan Tobacco and Liquor in 2022					The situation of mandatory or voluntary product traceability and tracking management in accordance with regulations, along with the percentage of related products among the total products.	In accordance with Article 4, Appendix 1-1 of the 'Operating Guidelines for Preparation and Disclosure of Sustainability Reports by Listed Companies,' Performance Indicator Six requires enhanced disclosure of performance indicators.
			Year		2022				
			Total Number of Food Items Produced (Number of items)		56				
			Registered and Uploaded to Food Traceability Management Information System (Ftracebook)		56				
			Percentage (%)		100%				



No.	Section	Article Title	Subject matter information		Benchmarking Description	Applicable Benchmarking
6	3.2	Safety Guarantee for Raw Materials	In 2022, NT\$23,385,726 was disbursed on internal inspections, accounting for 0.04% of the overall company's net operating income. The table shows the total expenditures for internal and external inspections carried out by Taiwan Tobacco and Liquor Corporation's Research Institute of Liquor & Biotechnology in 2022. (Unit: NTD)		The situation of mandatory or voluntary establishment of food safety laboratories in accordance with regulations, testing items, test results, related expenditures, and the percentage of such expenditures to net operating revenue.	In accordance with Article 4, Appendix 1-1 of the 'Operating Guidelines for Preparation and Disclosure of Sustainability Reports by Listed Companies,' Performance Indicator Seven requires enhanced disclosure of performance indicators.
				2022		
			Internal Inspection Expenditure (Amount in NTD)	23,385,726		
			Percentage of Total Net Operating Income (%)	0.04%		
			External Inspection Expenditure (Amount in NTD)	1,483,634		
			Note: The total expenditure on external inspections primarily includes costs for outsourcing adjustments of instruments and related expenses by the Research Institute of Liquor & Biotechnology.			
			The Research Institute of Liquor & Biotechnology's liquor products analysis laboratory has obtained ISO 17025 new version laboratory certification from the Taiwan Acceptance Foundation (TAF), confirming its testing capability and quality alignment with international standards. To ensure the food consumed by consumers does not contain harmful chemicals affecting human health, in 2022, the liquor product analysis laboratory of the Research Institute of Liquor & Biotechnology conducted independent inspections on the following items as listed:			
			Inspection Item	Number of Samples Tested	Number of Failures	Failure Rate
			Methanol	621	0	0%
			Heavy Metal Lead	570	0	0%
			Sulfur Dioxide	571	0	0%
			Preservative - Sorbic Acid	331	0	0%
			Preservative - Benzoic Acid	315	0	0%
			9 Types of Plasticizers	350	0	0%
			Coloring Agents	299	0	0%
			Citrinin	20	0	0%



No.	Section	Article Title	Subject matter information	Benchmarking Description	Applicable Benchmarking										
7	1.2	Sustainable Environment	<table border="1"> <thead> <tr> <th></th> <th>2022</th> </tr> </thead> <tbody> <tr> <td>Oil</td> <td>150,026,152</td> </tr> <tr> <td>Electricity</td> <td>506,654,717</td> </tr> <tr> <td>Natural Gas</td> <td>701,184,731</td> </tr> <tr> <td>Total Energy Consumption</td> <td>1,357,865,600</td> </tr> </tbody> </table>		2022	Oil	150,026,152	Electricity	506,654,717	Natural Gas	701,184,731	Total Energy Consumption	1,357,865,600	Total energy consumption, percentage of purchased electricity, and renewable energy utilization rate	"In accordance with Article 4, Appendix 1-1 of the 'Operating Guidelines for Preparation and Disclosure of Sustainability Reports by Listed Companies,' Performance Indicator Eight requires enhanced disclosure of performance indicators."
				2022											
			Oil	150,026,152											
			Electricity	506,654,717											
			Natural Gas	701,184,731											
Total Energy Consumption	1,357,865,600														
Year	2022														
Water Withdrawal (Million Liter)															
Surface Water	791														
Ground Water	1,032														
Seawater	0														
Produced Water	0														
Third-Party Water	1,842														
Total Water Withdrawal	3,665														
Water Withdrawal (Millions Liter)															
Total Wastewater Discharge	3,040														
Water Withdrawal (Millions Liter)															
Total Water Consumption	625														



No.	Section	Article Title	Subject matter information	Benchmarking Description	Applicable Benchmarking				
9	AP PE-NDI X	SASB	Division of Beer <table border="1"> <tr> <td>Total quantity of products sold (Million Hectoliters)</td> <td>2.749731 Mhl</td> </tr> <tr> <td>Quantity of production equipment</td> <td>Jhunan Brewery, Wurih Brewery, Shanhu Brewery, and Taipei Brewery</td> </tr> </table>	Total quantity of products sold (Million Hectoliters)	2.749731 Mhl	Quantity of production equipment	Jhunan Brewery, Wurih Brewery, Shanhu Brewery, and Taipei Brewery	Sold product weight and number of production facility locations.	In accordance with Article 4, Appendix 1-1 of the 'Operating Guidelines for Preparation and Disclosure of Sustainability Reports by Listed Companies,' Performance Indicator Ten, along with its associated Q&A, requires enhanced disclosure of performance indicators for the restaurant industry.
			Total quantity of products sold (Million Hectoliters)	2.749731 Mhl					
			Quantity of production equipment	Jhunan Brewery, Wurih Brewery, Shanhu Brewery, and Taipei Brewery					
			Division of Liquor <table border="1"> <tr> <td>Total quantity of products sold (Million Hectoliters)</td> <td>0.77676 Mhl</td> </tr> <tr> <td>Quantity of production equipment</td> <td>Taoyuan Sake Brewery, Taichung Distillery, Puli Shaohsing Brewery, Nantou Winery & Distillery, Chiayi Distillery, Longtian Distillery, Pintung Distillery, Yilan Brewery, Hualien Distillery</td> </tr> </table>	Total quantity of products sold (Million Hectoliters)	0.77676 Mhl	Quantity of production equipment	Taoyuan Sake Brewery, Taichung Distillery, Puli Shaohsing Brewery, Nantou Winery & Distillery, Chiayi Distillery, Longtian Distillery, Pintung Distillery, Yilan Brewery, Hualien Distillery		
			Total quantity of products sold (Million Hectoliters)	0.77676 Mhl					
			Quantity of production equipment	Taoyuan Sake Brewery, Taichung Distillery, Puli Shaohsing Brewery, Nantou Winery & Distillery, Chiayi Distillery, Longtian Distillery, Pintung Distillery, Yilan Brewery, Hualien Distillery					
			Total <table border="1"> <tr> <td>Total quantity of products sold (Million Hectoliters)</td> <td>3.526Mhl</td> </tr> <tr> <td>Quantity of production equipment</td> <td>13</td> </tr> </table>	Total quantity of products sold (Million Hectoliters)	3.526Mhl	Quantity of production equipment	13		
			Total quantity of products sold (Million Hectoliters)	3.526Mhl					
			Quantity of production equipment	13					



TTL

臺灣菸酒股份有限公司
Taiwan Tobacco & Liquor Corporation



This report is printed using environmentally friendly ink and recycled paper

No.4, Sec. 1, Nanchang Rd., Zongzheng District., Taipei City | ttl.com.tw | 02-23214567