2024 Sustainability Report Table of Contents

Cover designconcept

In the face of numerous uncertainties,Taiwan Steel Union has leveraged technology and intelligent solutions to overcome challenges, maintain its momentum, and continuously innovate in both development and environmental protection.

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About the Sustainability Report

To All Readers

This report has been prepared with reference to the GRI Standards issued by the Global Reporting Initiative (GRI) and in accordance with the GRI 2021 Universal Standards and the SASB Disclosure Guidelines issued by the Sustainability Accounting Standards Board (SASB). The report also follows additional international guidelines and standards, including the United Nations Sustainable Development Goals (SDGs), the Task Force on Climate-related Financial Disclosures (TCFD), and ISO 26000 Social Responsibility Guidelines. To ensure readers have access to reliable and transparent information, this report has undergone external verification by SGS Taiwan in compliance with the AA1000 Assurance Standard v3 Type 1 at a moderate assurance level.

Enhancing the sustainability performance and transparent disclosure of the industry's circular economy

To fulfill corporate social responsibility and meet the society's expectation, Taiwan Steel Union Co., Ltd. ("Taiwan Steel Union") enters on the enhancement of the industry's circular economy and sustainability performance in this report. The report is structured with a focus on stakeholder engagements and identification and concern of issues of materiality, in order to disclose sustainability performance in relation to Taiwan Steel Union.

The reporting period covers from January 1, 2024 to December 31, 2024. Corporate sustainability management and performance of Taiwan Steel Union and its subsidiary Taiwan Steel Resource is the primary scope of information in this report. The financial data is based on the consolidated financial statements that have been audited and publicly released. Some statistical data is drawn from annual reports, government agencies, and publicly available information on relevant websites. The data is presented using generally accepted language and numerical descriptions. Any exceptions are explained separately in the body of the report. This is the sixth issue of this report. The report is issued once a year. The prior issue was in June 2024. The next issue is scheduled for June 2026.

Report responsible unit and contact method

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Report Guide

To facilitate rapid and accurate reading, this report provides the following:

- Links on Table of Contents and Index for each chapter
- Links on each page of the electronic version so readers to quickly connect
- Report download (QR code)

Message from Management

In the face of increasingly severe global challenges such as climate change, energy transition, and resource depletion, the "circular economy" has become a core driver for sustainable business operations. TSU, upholding its commitment to environmental stewardship, continues to invest in technological innovation, cross-sector collaboration, and management optimization, striving toward the goal of "zero waste" and contributing to the sustainable environment of Taiwan's blue skies, green lands, and clean waters.

As a business operator, I deeply recognize that waste should not be regarded merely as a by-product of production, but as a valuable resource with regeneration potential. While the traditional approach of solidification and landfill provides short-term stability, it entails high treatment costs and potential environmental risks. TSU actively adopts waste-to-resource technologies to replace landfill, transforming waste into high-value products and reintegrating them into the industrial chain. This not only effectively reduces treatment costs and environmental impacts—revitalizing waste rather than ending its lifecycle—but also helps government agencies and industry save on treatment expenses, enabling funds to be redirected to more critical needs. This initiative pioneers TSU's green transformation pathway and creates multi-win benefits in economic performance, environmental protection, and sustainability.

E Environment: Building a New Benchmark for the Circular Economy

In 2024, TSU will continue to implement the goal of 100% recycling and reuse, properly treating over 140,000 metric tons of EAFD, fly ash, contaminated soil, high-zinc content waste, and waste with high calorific value. We also obtained several environmental certifications, including carbon footprint and carbon label certifications for electric furnace EAFD and contaminated soil treatment (heat treatment), carbon footprint certification for coarse oxidizing zinc products, and UL 2809 recycled material content verification for crude zinc oxide. This makes us the first hazardous waste recycling institution in Taiwan to obtain UL 2809 certification. In 2024, TSU received a B rating in its first application for the CDP Climate Change program, demonstrating its capability in managing climate change issues.

In response to the increasing diversity of waste sources and composition, we have collaborated with large incineration plants and technology companies to expand the permits for the reuse of high calorific value waste and water-washed fly ash. We anticipate conducting an environmental impact assessment in 2025 to broaden the types and total amount of reuse, injecting new momentum into the recycling industry. At the same time, we are actively expanding into new

Source	TSU Waste in the recent three years Acceptance (metric tons)	Fees for solidification and landfill (NT$100 million)	TSU reuse fee (NT$100 million) (Example of fees for ash washing and reuse)	TSU helps the government. Amount of savings (NT$100 million)
Derivative waste fees from the Ministry of Environment and the Industrial Development Administration	32,274	8.39	2.58	5.81
Expenses of waste generated by the industry (excluding the steel-making industry)	32,131	8.35	2.57	5.78

Message from Management

businesses. We have purchased land and plan to establish a water washing plant in Longjing, Taichung, by the end of 2024, with operations expected to commence in 2027. This will enable us to expand our post-combustion fly ash water washing and reuse services, establishing a platform that delivers both economic benefits and circular value, thereby enhancing the resource regeneration chain and solidifying TSU's leadership position in Taiwan's resource recycling industry.
In addition, the subsidiary, Taiwan Steel Resources Corporation, continues to promote stabilization processes. The treatment volume exceeded 170,000 metric tons in 2024, and stabilized products are being introduced into concrete applications, resulting in the launch of CLSM products with no cement and low carbon content. The goal is to create 100% green building materials from recycled resources, demonstrating TSU's innovative potential in high-value transformation.

S Social aspect: Enhance education participation and implement shared value

Sustainable development is not only a business issue, but also a journey forward with society. TSU actively interacts with academia, public associations, and government representatives, inviting over 100 people to visit the factory to learn about the implementation of the circular economy and promote public participation. We are also committed to building a safe, zero-accident workplace, promoting mental health, conducting human rights due diligence, and investing over NT$20 million in various public welfare and community activities to care for and give back to the local community, and to exert our positive influence as an enterprise.

G Economic aspect: Strengthening the system and expanding sustainable initiatives

In the face of rapidly changing market and environmental risks, TSU incorporates the circular economy and sustainable development into the core of its corporate governance through a sound governance mechanism. The Sustainable Development Committee is chaired by independent directors and is responsible for formulating ESG strategies and reviewing major issues. It promotes the business philosophy of "green environmental protection and resource recycling," implements management of key issues such as corporate governance, environmental protection, and social responsibility, and ensures goal promotion and information transparency.

Future outlook

TSU will continue to deepen the "waste to resources" strategy to reduce the environmental burden and create a sustainable future for the industry and the next generation. TSU hope to work with all stakeholders to build a vision of resource circulation, environmental sustainability, and social inclusion.

2024 ESG Highlights

Environmental Highlights

- TSU obtained dual certification for "**ISO 14067:2018 Electric Arc Furnace Steelmaking EAFD and contaminated soil Treatment Service (Heat Treatment) Carbon Footprint**" and the Ministry of Environment's "Service-Type Carbon Label."
- TSU obtained "**ISO 14067:2018 Crude Zinc Oxide Product Carbon Footprint**" certification.
- Taiwan Steel Resources verified the carbon footprint of Controlled Low-Strength Material (CLSM) with compressive strength of 30–70 kgf/cm², and non-structural concrete with compressive strength of 30–280 kgf/cm², obtaining the "ISO 14067:2018 Statement."
- Obtained **UL 2809 recycled material content verification for crude zinc oxide — becoming the first** hazardous waste recycling institution in Taiwan to receive UL 2809 certification.
- Completed the installation of a solar power generation system. In 2024, renewable energy self-use totaled 1,638,866 kWh. Plans for 2025 include installing a second phase of solar power systems for TSU and Taiwan Steel Resources, with estimated installed capacities of 7,623 m² (approximately 1,100 kW) and 12,778 m² (approximately 2,300 kW), for a projected total generation of 3,910,384 kWh.
- Heating value savings in 2024 reached 6.12 TJ — the highest annual saving to date.
- The average annual electricity saving rate in 2024 was ***8.27***%, far exceeding the 1% target.
- Total annual NOx emissions in 2024 decreased significantly by ***14***% compared with 2023.
- Total annual SOx emissions in 2024 decreased significantly by ***11***% compared with 2023.
- The annual total dioxin emissions (grams) in 2024 dropped sharply by ***135***%.
- The water recycling rate in 2024 reached ***73***%, a significant increase of ***38***% over 2023.
- Environmental protection expenditure in 2024 totaled NT$115 million.
- Water consumption per unit of waste processed in 2024 was ***0.398*** metric tons/metric ton of waste, achieving the 2030 target of 0.49 ahead of schedule.
- From 2021 to 2024, total transport distance reached 10,255 million ton-kilometers, equivalent to circling Taiwan 109,000 times, with zero fatalities.

Social Highlights

- Completed human rights due diligence, with all identified human rights risks classified as low risk.
- In 2024, continued implementation of the on-site doctor and nurse system, with related education and training to promote worker health protection.
- In 2024, implemented the "Psychological Health Counseling Program" to support employees' mental well-being.
- In 2024, TSU promoted circular economy educational visits, including domestic and international customers, technical exchanges, public associations, and government agencies — with 124 visits to TSU and 75 to Taiwan Steel Resources, totaling 199 participants.
- Assisted the Industrial Development Administration, Ministry of Economic Affairs, in hosting the 2024 Low-Carbon Manufacturer Showcase.
- Total social expenditure in 2024 was NT$***20,037*** thousand, accounting for ***2.5***% of net income after tax.

Economic Highlights

- In 2024, TSU **achieved a "B" management level** in its first CDP Climate Change disclosure.
- Implemented TCFD and complied with SASB standards, in order to establish climate strategy and risk financial information.
- Deployment of climate change and water risk management policy and a comprehensive risk and opportunity management mechanism
- In 2024, operating revenue increased by 16.51% and net profit after tax rose by 64.55% compared with 2023.
- The dividend payout ratio in 2024 reached ***80***%, exceeding the policy target of 70%.
- 100% of the members of the Sustainable Development Committee, Remuneration Committee, and Audit Committee are independent directors.
- In 2024, 61 key suppliers signed the "Supplier Code of Conduct."
- In 2024, there were a total of 136 suppliers and contractors, with a Class A evaluation ratio of ***100***%.
- Customer satisfaction targets were achieved for EAFD, soil recycle, zinc oxide, zinc-containing products, electroplating sludge, high calorific value, and fly ash.
- In 2024, the proportion of local procurement reached ***73***%, exceeding the target of ***50***%.

Taiwan Steel Union's CSR Policy

Vision of TSU: To become Taiwan's leading example of a circular economy
Core value: contribution to the sustainability of blue skies, green lands, lush mountains and clean waters

Sustainability development strategy and principle:

Economic
Realization of a circular economy

Environmental
Development of a sustainable environment

Social
Protection of social interest

Implementation Guidelines

Economic

Completion of core competences in the circular economy, optimization of products and treat services, development of Taiwan Steel Union as a 100% circular economy company, creation of the best economic performance for shareholders and investors, and enhancement of sustainability performance for stakeholders

Environmental

Development of environmental sustainability management, 100% compliance with laws and regulations, drive for environmental-friendly and green manufacturing process and operating ecosystem efficiency, collaboration with suppliers and contractors in the creation of environmental sustainability performance, cooperation with stakeholders to respond to climate change challenges

Social

Maintenance of a happy workplace and protection of occupational safety and health for Taiwan Steel Union and its suppliers, human resources management to attract and retain talent, human right policy establishment and push, concern of disadvantaged groups in the community, care for social interest and creation of social benefits

Taiwan Steel Union and links with SDGs

SDGs	SDGs Goals	Taiwan Steel Union's Sustainability Goals for 2030	Taiwan Steel Union's Contributions in 2024	The Report
	13.2 Inclusion of climate change measures into national/ corporate policy, strategy and plan	TCFD introduction and implementation	Continuous implementation of climate change risk identification	2.5 TCFD Climate-related financial strategies and execution
	3.6 Halving of the number of injuries and deaths due to traffic accidents around the world	Zero injury or death due to transportation safety	Taiwan Steel Union has completed a total of 102.55 million ton-kilometers via vehicle transportation over the past nearly four years and reported zero injury or death due to traffic accidents.	4.3 Transportation safety laws and regulations
	12.5 Prevention, reduction, recycle and reuse to significantly reduce waste generations.	Reuse rate of 100% for hazardous industrial waste.	✓Obtaining of Resource sustainability product carbon footprint and service carbon label. ✓Slag circular economy project. ✓Obtained UL 2809 recycled crude zinc oxide content verification. (100% recycled zinc metal) ✓Inclusion of waste incineration fly ash reuse can replace more than 30% of naturally mined lime/slaked lime.	Chapter 3 Circular Economy
	7.a. Enhancement of energy infrastructure and investment in clean energy technology	Annual improvement of energy efficiency by 1%, up to 10%	✓Completed the installation of the solar power generation system, generating 1,638,866 kWh of renewable energy for self-use. ✓TSU plans to add a second phase of the solar power generation system, with an estimated installed capacity of 7,623 m^2 (approximately 1,100 kW). ✓Taiwan Steel Resources plans to add a solar power generation system, with an estimated installed capacity of 12,778 m^2 (approximately 2,300 kW).	5.3 Operational ecosystem efficiency
	6.4 Significant improvement of water consumption efficiency for different industries, to ensure the sustainability of fresh water supply and recycling	Water recycle and reuse rate 45% Water consumption per unit (ton/ton waste volume treatment) 0.49	✓Water recycle and reuse rate 73% ✓Water consumption per unit of 0.398	5.5 Water risk management
	8.8 Protection of labor interest, promotion of workplace safety	No major occupational disasters throughout the year	2 occupational accidents in 2024	6.4 Occupational safety and health
	4.7 Assurance that all students acquire necessary knowledge and skills to contribute to sustainability	Implementation of the circular economy and environmental education	In 2024, a total of 199 visitors came to our facilities to get a feel the circular economy practices and participate in technical exchanges.	7.3 Circular economy education

Short, Mid and Long Term ESG Targets

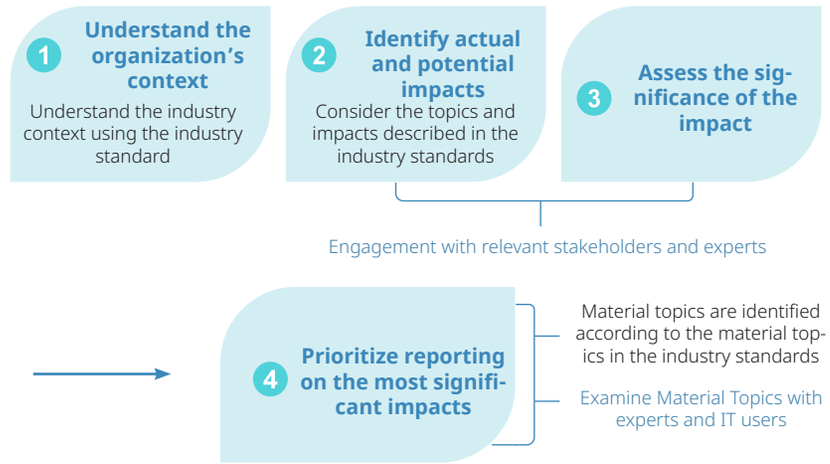
Material Topics	Key Performance Indicators	2024 Actual Performance	2024 Short-term target	2025 Mid-term target	2030 Long-term target
Climate strategy	Implementation of TCFD and SASB	1. Completed the identification of climate risks and opportunities, and introduced relevant indicators, target achieved 2. TSU achieved a B Management Grade on its first application to the CDP Climate Change program	Continued to implement disclosures in line with TCFD, SASB, and CDP standards		
Materials	100% recycle and reuse	100%, target achieved	100% materials circular recycled		
Energy	Deployment of renewable energy	1. Completed the installation of the solar power generation system, generating 1,638,866 kWh of renewable energy for self-use. 2. TSU plans to expand solar power generation (Phase 2) with an estimated installed capacity of 7,623 m^2 (approximately 1,100 kW). 3. Taiwan Steel Resources plans to add a solar power generation system with an estimated installed capacity of 12,778 m^2 (approximately 2,300 kW).	Completed the establishment of an intelligent energy management and monitoring system	Installed rooftop solar power generation systems for TSU and Taiwan Steel Resources	Planned solar power generation expansion (Phase 3)
	Introduced ISO 50001	Introduced ISO 50001, target achieved	Ongoing continuous improvement		
Emissions	National emissions target in phases (base year 2012) compared to the base year reduction %	27% reduction, not achieved	Reduction by 30%	Reduction by 31%	Reduction by 34%
	Scope 1 emission intensity (ton/ton waste treated)	0.569, target reached ahead of schedule	0.56	0.56	0.53
	Scope 2 emission intensity (ton/ton waste treated)	0.061, target achieved	0.064	0.064	0.062
	2015 to 2024 Average electricity saving rate	1.71%, target achieved	1%	--	--

Short, Mid and Long Term ESG Targets

Material Topics	Key Performance Indicators	2024 Actual Performance	2024 Short-term target	2025 Mid-term target	2030 Long-term target
Waste	Reuse rate of hazardous industrial waste	100%, target achieved	100%		
	Reuse rate of general industrial waste	100%, target achieved	99.98%		
Occupational Health and Safety	Zero occupational hazards throughout the year	2 occupational accidents, failing to meet the target.	0 major occupational hazards		
Procurement practices	% of local procurement	73%, target achieved	50%		
Circular Economy	Taiwan Steel Union's slag use rate	100% (95,425 metric tons), target achieved	100% reused		

01 Chapter Sustainability Management

Every year, TSU regularly conducts a materiality analysis to confirm and adjust its sustainability topics and to respond to stakeholder expectations and suggestions. TSU has adopted the GRI Standards 2021 process for determining material topics, including understanding the organization's context, identifying actual and potential impacts, assessing the significance of these impacts, and prioritizing the reporting of the most significant impacts. TSU has also incorporated the concept of double materiality to confirm stakeholders' level of concern for sustainability topics, **the level of impact of these topics on TSU, and their impact on the economy, environment, and people (including human rights)**. The goal is to identify material topics, formulate long-term sustainability goals, and establish key performance indicators. TSU reviews implementation actions and results every year and proactively communicates to stakeholders concerned about TSU our progress on sustainability strategies and 2030 long-term goals.



1.1 Understand the organization's context

A search of sustainability related topics domestic and abroad by including United Nations' Sustainable Development Goals (SDGs), Dow Jones Sustainability Indices (DJSI), ISO 26000 Guidance on Social Responsibility, Global Reporting Initiative (GRI) Standards, Sustainability Accounting Standards Committee (SASB) Industry Disclosure Standards, GRI industry sustainability topics, stakeholder communication and feedback, issues and laws stipulated by financial regulators, ESG awards in Taiwan and overseas

After the in-depth review of the sustainability issues domestic and overseas, the Sustainable Development Committee confirmed 30 ESG and sustainability issues that may be relevant to Taiwan Steel Union in economic, social, environmental and special topics.

Environmental (E)

- Environmental policy and management system
- Materials
- Energy
- Water and effluents
- Emissions
- Waste
- Supplier environmental assessment
- Transportation safety and regulations
- Biodiversity

Social (S)

- Human rights
- Employment
- Labor/Management Relations
- Occupational Health and Safety
- Training and education
- Talent attraction and retention
- Local communities and impacts
- Customer health and safety
- Marketing and labeling
- Social and economic laws and regulations

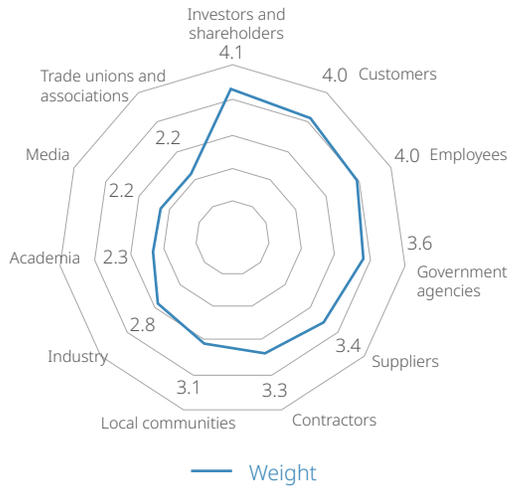
Economic (G)

- Climate strategy
- Corporate governance
- Business ethics
- Risk and opportunity management
- Tax strategy
- Economic performance
- Market presence
- Indirect economic impacts
- Procurement practices
- Circular Economy
- Succession

1.2 Identify actual and potential impacts

Stakeholder identification and assessment

According to the five dimensions scoped by the AA 1000 Stakeholder Engagement Standard 2015, Sustainability Committee identified, discussed and assessed stakeholders, to confirm the importance of stakeholders based on dependency, responsibility, tension, influence and diverse perspectives. 11 groups of stakeholders have been identified, including employees, shareholders and customers.



Stakeholder survey

According to the five-part materiality test prescribed in Account Ability Redefining Materiality The Sustainable Development Committee conducted a sustainability impact analysis on a total of 30 relevant topics. A questionnaire was designed for the survey. 112 effective questionnaires were recovered. Stakeholder weights were factored in to calculate the actions and attention from stakeholders.

Feedback from stakeholders Most of the feedback from stakeholders were positive as summarized in the following:

Employees Increase communication and discussion with academia, society, and the private sector to resolve policyformulation and responses to future climate change.

Suppliers The Company operates with strict systems and procedures, and employees at all levels are friendly and responsible.

Academia The Company's focus on resource recycling and reuse is commendable. We look forward to the Company's continued development of more diversified resource circulation initiatives in the future.

Media The Company has strong profitability, stable operations, and is a high-quality enterprise worth long-term investment.

Customers Related services are excellent.

Investors Shareholders Maintain the original intention and gradually increase the gross profit margin as planned! Creating value for the Company! Stable growth, persistent growth! Regarding solar panel recycling, let's see if we can give it a try – a problem for the future! The focus on good neighborly relations in the community feels somewhat excessive.

Contractors We appreciate the personnel and contacts from the Company for clearly explaining and answering questions about cooperation information and specifications.

Industry We aim to maintain a friendly environment and good community relations, increasing the use of RDF to promote energy and resource recycling within the park.

Government agencies

1. The factory is located near the coast; a climate change adaptation strategy should be planned early. This could serve as a benchmark for environmental companies and meet FSC requirements.
2. In recent years, the government has promoted carbon management on construction sites. As building materials account for a large share of the carbon footprint in such projects, it is advisable to gradually establish product carbon footprints.
3. Establish a "large enterprise leading smaller enterprises" mechanism to strengthen the industrial chain and improve ESG performance.
4. Keep track of the industrial resource circulation network to respond effectively and prevent potential violations.
5. Continue developing resource recycling technology to enhance future competitiveness.

Due Diligence Investigation

Through stakeholder engagement and consultation, TSU communicates with stakeholders on a regular or ad hoc basis via multiple platforms to conduct due diligence on environmental, social (including human rights), and economic issues. The purpose is to identify, prevent, mitigate, and explain actual or potential negative impacts and positive effects associated with these issues. During the reporting period, the scope of due diligence covered the value chain of TSU and its subsidiaries.

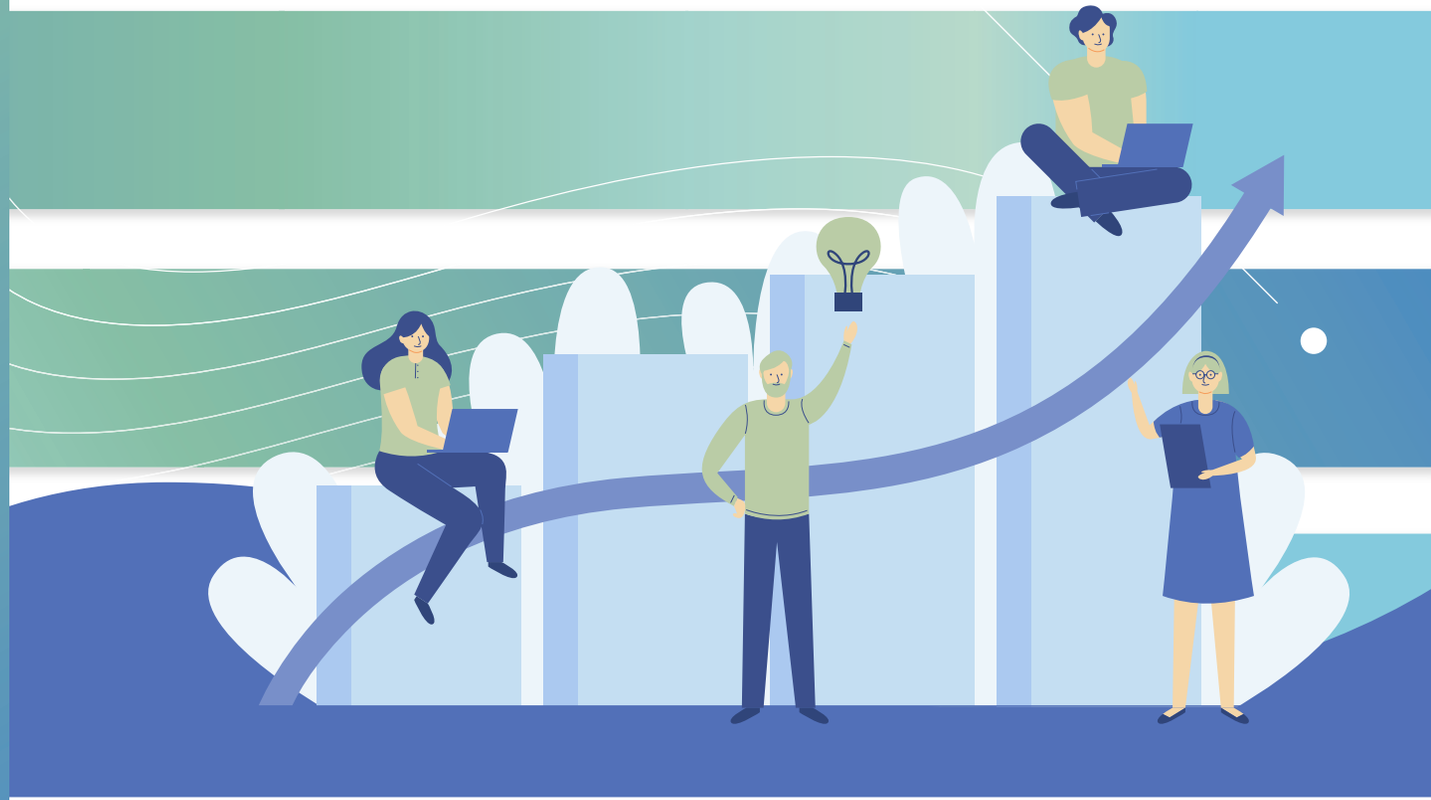
When TSU identifies that an impact has occurred, countermeasures are evaluated according to the nature of the negative impact, including remediation to address actual negative impacts and prevention or mitigation to address potential negative impacts.

TSU has established a Corporate Social Responsibility Policy whose commitments include implementing a circular economy, developing a sustainable environment, and safeguarding social welfare.

In line with the principle of materiality, the Corporate Social Responsibility Policy requires risk assessment and due diligence on economic, environmental, social, and corporate governance topics related to operations, and the establishment of relevant risk management policies or strategies to manage risks and impacts on the economy, environment, and society.

Pursuant to Corporate Governance Best Practice Principles 4.7, the Board of Directors has established a Sustainable Development Committee responsible for supervising the implementation of corporate sustainability policies, systems, and the management of material topics, and for reporting regularly to the Board. TSU has established a Sustainable Development Committee to implement matters related to corporate sustainability. Under its organizational charter, the Committee adopts a management philosophy of green environmental protection and resource recycling, actively promoting the management of material topics related to corporate governance, environmental protection, and corporate social responsibility. It also provides education and training to relevant personnel on fulfilling corporate sustainability.

The Sustainable Development Committee reviews the effectiveness of organizational procedures twice per year, once in the first half and once in the second half, specifically in April and July. A stakeholder review is conducted once per year.



Stakeholder engagements and responses

Types/implications	Concerned issues	Response status	Communication frequency and platforms	Response chapter
Employees Taiwan Steel Union's most important asset and cornerstone for sustainability	Social and economic laws and regulations Employment Occupational Health and Safety Labor/Management Relations Market presence	✓ Charters and systems in place for employees ✓ Continue to maintain the ISO 45001 system and provide employees with annual health check-ups and health checkup results tracking. ✓ Employer-employee meetings once every three months or on an ad-hoc basis, with representatives from the employer and the employees to negotiate labor relations ✓ The Occupational Safety and Health Committee meets every 3 months or as needed to review, coordinate, and recommend matters related to safety and health. ✓ Share the Union's production performance and year-end profit status with employees. ✓ The Company prioritizes hiring local employees, and all positions are open to all genders with equal pay.	✓ Annual interviews with supervisors ✓ Employer-employee meeting once every three months or as required ✓ Occupational Safety and Health Committee meets every 3 months or irregularly. ✓ Employees' Welfare Committee meetings from time to time ✓ Annual and ad-hoc employee training plans ✓ Employee inbox ✓ Weekly managers' meetings	6. Happy Workplace p.84~108

Stakeholder engagements and responses

Types/implications	Concerned issues	Response status	Communication frequency and platforms	Response chapter
Customers Taiwan Steel Union's most important source of economic performance	Succession and inheritance Transportation safety and regulations Waste Energy Occupational Health and Safety	✓ Enhancement of personnel development and implementation of the succession plan ✓ Signing of transportation contracts. Adherence to the Regulations Governing Contractors' Environmental Safety and Health Management ✓ Continue to develop production ratios, optimize manufacturing process equipment, and reduce carbon emissions from production; continue to evaluate investments in green energy equipment and contribute to a sustainable environment.	✓ Annual surveys on customers' satisfaction ✓ Customer visits from time to time ✓ Telephone calls from time to time ✓ Emails from time to time	4.2 Customer relation management p.60
Investors Shareholders Supporters of Taiwan Steel Union's sustainability	Waste Energy Occupational Health and Safety Labor/Management Relations Water and effluents	✓ Disclosure of the Union's financial performance via Stock Exchange and annual reports, to provide examination of operations and analysis of data. ✓ Continue to develop production ratios, optimize manufacturing process equipment, and reduce carbon emissions from production; continue to evaluate investments in green energy equipment and contribute to a sustainable environment. ✓ A wastewater recycling system has been installed to increase the proportion of water reuse and make more efficient use of the company's wastewater.	✓ Annual shareholders' meetings ✓ Annual investor conference ✓ Company website ✓ Quarterly financial reports ✓ Spokesperson and Deputy Spokesperson, as required ✓ Inquiries from shareholders via phone calls or emails, as required	2.1 Corporate governance overview p.26~29 3.1 Circular Economy Promoter p.42–44

Stakeholder engagements and responses

Types/implications	Concerned issues	Response status	Communication frequency and platforms	Response chapter
Government agencies According to government laws and regulations	Succession and inheritance Energy Waste Transportation safety and regulations Materials	With the rolling review of social, economic, and environmental changes, the Company also integrates private resources to provide diversified services. Waste produced are all collected by qualified treatment companies. Signing of transportation contracts. Adherence to the Regulations Governing Contractors' Environmental Safety and Health Management	Execute regulatory audits and identify newly amended regulations on the government authority website's regulatory inquiry system every quarter. Monthly reporting to Environmental Protection Administration about waste ; management information system Real-time participation in the interactive sections and consultation letterbox on government agencies' websites Participation in public hearings, seminars and workshops regarding policies and regulations from time to time Official documents, meetings, telephones, faxes, emails, e-newsletters and public information from time to time Informal visits and face-to-face communication from time to time Environmental protection audits and labor inspections from time to time	1.2 Stakeholder assessments and engagements p.13

Stakeholder engagements and responses

Types/implications	Concerned issues	Response status	Communication frequency and platforms	Response chapter
Suppliers Taiwan Steel Union's key partners in the pursuit of corporate sustainability via cooperation and collaboration	Business ethics Occupational Health and Safety Circular Economy Materials Procurement practices and supply chain management	✓ Formulation of "Code of Conduct", "Principles of Ethical Business" and "Standards of Employees' Behaviors", to our colleagues to follow ✓ Promote the reuse of other difficult-to-process waste to increase the Company's profit and promote effective resource recycling. ✓ The ISO 45001 system is continuously maintained, and no major occupational accidents occurred throughout the year. ✓ Regular supply assessments and tiered management based on assessment results ✓ UL2809 renewable material content verification to continue expanding the proportion of waste reuse.	✓ Ad-hoc communication ✓ Non-periodic contracts	4.1 Supply Chain Management p.54~59 6.4 Occupational safety and health p.96~105
Contractors Assist partners in the assurance of smooth operation and product quality of the steel making process.	Occupational Health and Safety Waste Training and education Talent attraction and retention Employment	✓ The ISO 45001 system is continuously maintained, and no major occupational accidents occurred throughout the year. ✓ Before the annual maintenance, all contractors were convened for a coordination meeting and training session to prevent occupational hazards. ✓ Implement tests for all internal trainings to ensure that personnel understand the content of the training.	✓ Regular training education and communication with drivers ✓ Non-periodic contracts ✓ Meetings of agreement organizations and pre-construction toolbox meetings	4.1 Supply chain management p.57~59

Stakeholder engagements and responses

Types/implications	Concerned issues	Response status	Communication frequency and platforms	Response chapter
Academia Sharing of technologies and literature on circular and reuse.	Materials Water and effluents Occupational Health and Safety Succession and inheritance Climate strategy	✓ Enhancement of personnel development and implementation of the succession plan ✓ Execute ISO 14064-1 GHG emissions verification annually, ISO 14067 product carbon footprint verification every three years, and register for the CDP climate change questionnaire every year.	✓ Participation of academic seminars from time to time ✓ Industry-academia cooperation	7.3 Circular economy education p.114
Local communities Outreach to communities and neighborhoods as part of corporate social responsibility	Waste Indirect economic impacts Employment Occupational Health and Safety Market presence	✓ Implement local community employee health care. ✓ Irregularly participate in neighborhood resident activities, and assist the organization of local community activities. ✓ The Company prioritizes hiring local employees, and all positions are open to all genders with equal pay. ✓ Sponsor funds for student transportation to improve pick-up and drop-off services.	✓ Establishment of good communication channels with local residents from time to time ✓ Assistance to local community events from time to time ✓ Assistance to local disadvantaged groups from time to time ✓ Employment of local residents from time to time	7.2 Community concerns p.112~113

Stakeholder engagements and responses

Types/implications	Concerned issues	Response status	Communication frequency and platforms	Response chapter
 Staying informed of the regulations and knowledge on the circular economy industry	Waste Occupational Health and Safety Emissions Energy Succession and inheritance	✓ Recycle of difficult-to-treat waste to boost the Union's profits ✓ Participation in public hearings, seminars and workshops from time to time ✓ Deployment of a wastewater recycling system to prioritize and improve the efficiency of wastewater utilization.	✓ Official documents as required ✓ Participation in seminars organized by trade associations from time to time ✓ Regular meetings with directors and supervisors	1.2 Stakeholder assessments and engagements p.13
 Taiwan Steel Union's important partner in communicating and engagement with stakeholders	Economic performance Waste Energy Risk and opportunity management Corporate governance	✓ Disclosure of the Union's financial performance via Stock Exchange and annual reports, to provide examination of operations and analysis of data. ✓ Formulation of comprehensive regulations in corporate governance and disclosure of relevant management guidelines in Stock Exchange and the official website ✓ Formulation of risk management regulations, annual assessments of risks and opportunities and periodical reporting of assessment results to the Board of Directors	✓ Spokesperson and Deputy Spokesperson, as required ✓ Press releases as required ✓ Company website ✓ The company's official emails from time to time	2. Sustainability Corporate Governance p.23~38

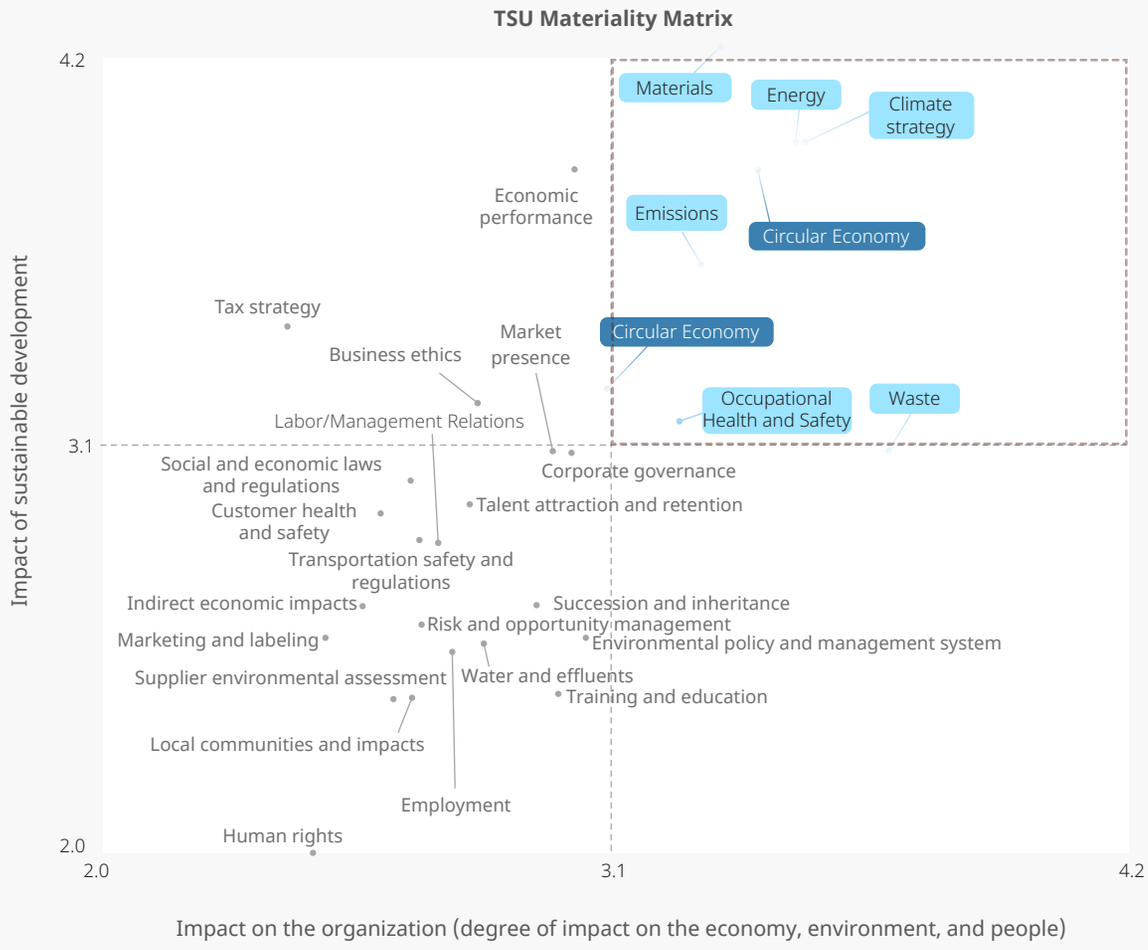
Stakeholder engagements and responses

Types/implications	Concerned issues	Response status	Communication frequency and platforms	Response chapter
Industry (Including slag) Partnerships in shared engineering, technology and laws and regulations for the industry	Occupational Health and Safety Talent attraction and retention Employment Indirect economic impacts Market presence	Participation in public hearings, seminars and workshops from time to time Cooperation with competent authorities in onsite inspections or improvement of audited deficiencies Continue to develop parameters for production ratios, optimize process equipment, and implement AI system management to reduce carbon emissions from production. Continue to evaluate investments in green energy equipment to contribute to a sustainable environment. Implement tests for all internal trainings to ensure that personnel understand the content of the training. Share the Union's production performance and year-end profit status with employees.	Ad-hoc meetings Participation in public hearings, seminars and workshops regarding policies and regulations from time to time Official documents, meetings, telephones, faxes, emails, e-newsletters and public information from time to time Informal visits and face-to-face communication from time to time Environmental protection audits and labor inspections from time to time Slag reuse contracts signed annually; onsite visits once every quarter	3. Circular Economy p.39~53

1.3 Assess the significance of the impact

Assessment of Material Topics

Based on the principle of double materiality, the assessment covers both the organization's impact (the effects of its activities on the world) and the impact of sustainable development issues on the organization (the financial effects on the organization). For the "organization impact" assessment, each issue is evaluated in terms of its influence on the economy (revenue), the environment, people (including human rights), and stakeholders. For the "sustainable development impact" assessment, each issue is evaluated for the direct financial impact it may have on the organization. Material topics are defined as those with both an organization impact score and a sustainable development impact score of 3.1 points or higher.



Note: The deep blue color indicates a positive impact, while the light blue color indicates a negative impact.

There are two positive and six negative material topics for TSU, ranked as follows.

ESG	ESG Topics	Priority sequence
G	Circular Economy	Actual positive 1
G	Procurement practices	Actual positive 2
E	Waste	Potential negative 1
G	Climate strategy	Potential negative 2
E	Energy	Potential negative 3
E	Materials	Actual negative 4
E	Emissions	Actual negative 5
S	Occupational Health and Safety	Potential negative 6

Compared to 2023, after assessing the significance of impacts and determining that certain topics were not of significant concern to stakeholders, the list of Material Topics for this year was reduced. The removed topics include environmental policy and management systems, corporate governance, talent attraction and retention, economic performance, transportation safety and regulations, and the Company's code of conduct.

Confirmation and connection with material topics

Since the completion of the United Steel Union's material topic identification process occurred after the current year's Board of Directors meeting, the Sustainable Development Committee reviewed and confirmed the related process and results to ensure all topics were covered. Going forward, the Company plans to complete the identification of material topics each year and, depending on the timing, submit them for the Board of Directors approval in the following year to strengthen the Board's oversight function.

ESG category	Material Topics	Report chapters	Page number
Environmental (E)	Materials	5.1 Environmental-friendly green manufacturing process	66
	Energy	5.2 Environmental policy and management system	70
	Emissions	5.3 Operational ecosystem efficiency	71
	Waste	Chapter 3 Circular Economy	39
Social (S)	Occupational Health and Safety	6.4 Occupational safety and health	96
Economic (G)	Procurement practices	4.2 Supply chain management	60
	Circular Economy	Chapter 3 Circular Economy	39
	Climate strategy	2.5 TCFD Climate-related Financial Strategy and Implementation	36

Note: Custom material topics include: Circular economy, climate strategy.

Compliance with laws and regulations

In 2024, TSU and Taiwan Steel Resources committed a total of three violations of laws and regulations. There were no major violations during the 2024 year. A major violation is defined as an infraction resulting in a fine of US $10,000 or higher.

Company name	Type of violation	Description	Corrective measures
Taiwan Steel Union Co., Ltd.	Occupational Safety and Health Act (Disposal date: 2024/06/04)	When working with a contractor, the Company fails to take necessary measures to coordinate and adjust work, inspect the workplace, or provide guidance and assistance with safety and health education among the relevant contractors.	Formulate the "Project Launch Meeting Minutes", requiring the contracting unit to implement supervision, guidance, and communication with the contractor.
Taiwan Steel Union Co., Ltd.	Occupational Safety and Health Act (Disposal date: 2024/01/24)	The transportation of items weighing over 40 kg was not performed using manual vehicles or tools.	The Company has completed instructions for handling items weighing over 40 kg, and personnel should work together to transport them using hand trucks or other tools.
Taiwan Steel Resources Co., Ltd.	Labor Standards Act (Date of disposal: 2024/01/09)	The wages are not fully paid directly to the employees.	The defect has been improved, and late arrivals will now result in deductions from the year-end attendance score.

Meanings of material topics to Taiwan Steel Union

The topics identified as material are considered the most important sustainability issues for TSU. For each material topic, TSU establishes management guidelines, key performance indicators, and short-, medium-, and long-term goals, along with action plans. The implementation status is disclosed in a transparent manner.

Material Topics	Significance to Taiwan Steel Union (main reasons)	Impact boundary Note 1	Degrees of impact Note 2
Materials	Construction of 100% recycle and reuse model for basic materials required for Taiwan Steel Union's operation	L1, L2, L4, L5, L7, L9	D1, D2, D3
Energy	Establish renewable energy equipment to reduce carbon reductions	L4	D1
Emissions	GHG and air pollutant emissions comply with the environmental assessment commitment and legal requirements, and are disclosed transparently.	L4, L8	D1
Waste	Establishment of key performance indicators for waste management. 100% recycle and reuse	L4, L8	D1
Occupational Health and Safety	Creation of a safe work environment. Targeting at zero occupational disaster throughout the year	L4	D1
Climate strategy	Taiwan Steel Union emphasizes climate change issues and introduce the TCFD framework, to respond to risks and opportunities associated with climate change.	L4, L3	D1
Procurement practices	Promote local procurement, implement supplier and contractor evaluations, and foster economic development.	L1, L2, L4, L5, L7, L9	D1, D2, D3
Circular Economy	Most important issue for Taiwan Steel Union's sustainability, for the creation of the circular economy with ESG win-win-wins	L2, L4, L5, L9	D1, D2, D3

Note 1: Impact Boundary, L1 Raw materials excavation, L2 Upstream steel mills and contaminated soil, L3 Transportation, L4 Manufacturing (Taiwan Steel Union), L5 Customers, L6 Product utilization, L7 End products, L8 Neighboring community environment, L9 Subsidiaries.

Note 2: **Degrees of Impact**, D1 Directly causing the impact, D2 Contributing to impact, D3 Directly related to the impact via business relations.

1.4 Report management

Internal and external audit mechanisms for the report

The reporting period of the report is from January 1, 2024, to December 31, 2024. To further enhance the content and quality of the report, an annual audit mechanism is planned, consisting of both internal audits and external verification.

Internal audit

The internal audit of the 2024 report was conducted on April 25, 2025, following a cross-check by internal departments.

External verification

In order to enhance the report's credibility, SGS Taiwan was commissioned for external verification, ensuring compliance with AA1000 standards. The external audit for the 2024 report took place on May 19 and June 3, 2025. The verification of the 2024 greenhouse gas emissions is expected to be completed in May 2025, and ISO14064-1 certification is expected to be obtained in July.

Report review and confirmation

After report is confirmed via the internal and external audit mechanisms, it is submitted to the Sustainable Development Committee for review, following which it is reported during the Board of Directors' meeting.

02 Chapter Sustainability Corporate Governance

To promote the concept of a circular economy, TSU has established an environmentally friendly industrial process in line with Best Available Control Technology (BACT) and stable production quality, in accordance with the United Nations Sustainable Development Goals. The Company aims to generate continuous profits, distribute surplus to benefit shareholders, and pursue sustainable governance and development.

Management of Material Topics of Corporate Governance

Material Topics: Climate Strategy

Impact influence

- Through a sound corporate governance structure and risk and opportunity management, TSU fulfills its corporate responsibility for sustainable operations. The quality of the Board of Directors' supervision and decision-making is enhanced through the establishment of various committees, thereby reducing the negative impacts of emerging issues.
- In response to the risks and opportunities presented by climate change, TSU assesses and manages various risks in accordance with the "Corporate Sustainable Development Best Practice Principles," and formulates, identifies, evaluates, and implements strategic action plans to address the negative impacts associated with climate change.

Actions

TSU and its subsidiaries continue to implement relevant management systems and procedures to address various topics, preventing or mitigating potential negative impacts through specific actions or initiatives. If actual negative impacts occur, TSU promptly undertakes corrective measures, including revising operating procedures, improving equipment, or strengthening employee training, to reduce the likelihood of recurrence.

Policy

- Formulated TSU's TCFD climate strategy.
- The Company's Sustainable Development Code of Conduct is aimed at maximizing shareholder value.
- Established a risk and opportunity assessment and management mechanism.
- Implemented circular economy practices, low-carbon transformation, and energy conservation and carbon reduction initiatives.

Management system

- The corporate governance structure of TSU includes a Board of Directors, a Sustainable Development Committee, an Audit Committee, and a Remuneration Committee.
- Established the ISO 9001:2015 Quality Management System.
- Established the ISO 14001:2015 Environmental Management System.
- Established the ISO 14064:2018 Greenhouse Gas Inventory System.
- Established the ISO 45001:2018 Occupational Safety and Health Management System.
- Established the ISO 50001:2018 Energy Management System.
- In accordance with the TCFD framework for climate-related financial disclosures.
- Formulated the Sustainable Development Best Practice Principles.

Stakeholder engagements

- Regular or irregular communication and interaction are conducted through the stakeholder engagement mechanism, and the information is disclosed in the sustainability report, on relevant platforms, or on the Company website.

Specific actions or initiatives

- Maintain a sound corporate governance structure to fulfill corporate sustainable operation responsibilities.
- Formulate risk management and control measures under the Corporate Sustainable Development Best Practice Principles and identify the impacts faced.
- Establish climate change management and relevant information disclosure.
- Registers for the CDP Climate Change Questionnaire.
- Applies for UL2809 verification of recycled material content in zinc oxide products.
- Applies for the Carbon Footprint Reduction Label for electric furnace EAFD and contaminated soil treatment (heat treatment) services from the Ministry of Environment.

Effectiveness assessment

- Through the annual reporting of sustainability report, the effectiveness and result are tracked and assessed continuously.
- The Sustainable Development Committee holds regular meetings to oversee corporate sustainability policies and economic performance management, establish key performance indicators, and report on the implementation status.
- Annual dividend payout 70% in the absence of major investments
- The Audit Division executes the annual internal audit plan and reviews the risk and opportunity assessment management mechanism.

13 ACCIÓN POR EL CLIMA

13.2 Inclusion of climate change measures into national/corporate policy, strategy and plan

Sustainability corporate governance highlights

Climate change strategy

- Implement TCFD to identify, assess and manage climate change risks and opportunities.
- Comply with Sustainability Accounting Standards Board SASB - Disclosure Guidelines for the Metals and Mining Industry
- CDP Climate Change received a B Management Grade

Economic performance

- Operating revenue compared to 2023 year increased *by 16.51%*.
- After-tax earnings increased *by 64.55%*.

Expansion of green investment

- Establishment of Taiwan Steel Resource Slag 100% reuse
- Innovative new waste resource recycle and reuse
- The solar power generation system was installed, covering an area of over 7,000 m2, and connected to the grid in 2024.

Annual distribution rate of 70%

Dividend distribution rate in 2024 was 80%, demonstrating outstanding outcome. The Company has reached the goal of 70% for 8 consecutive years.

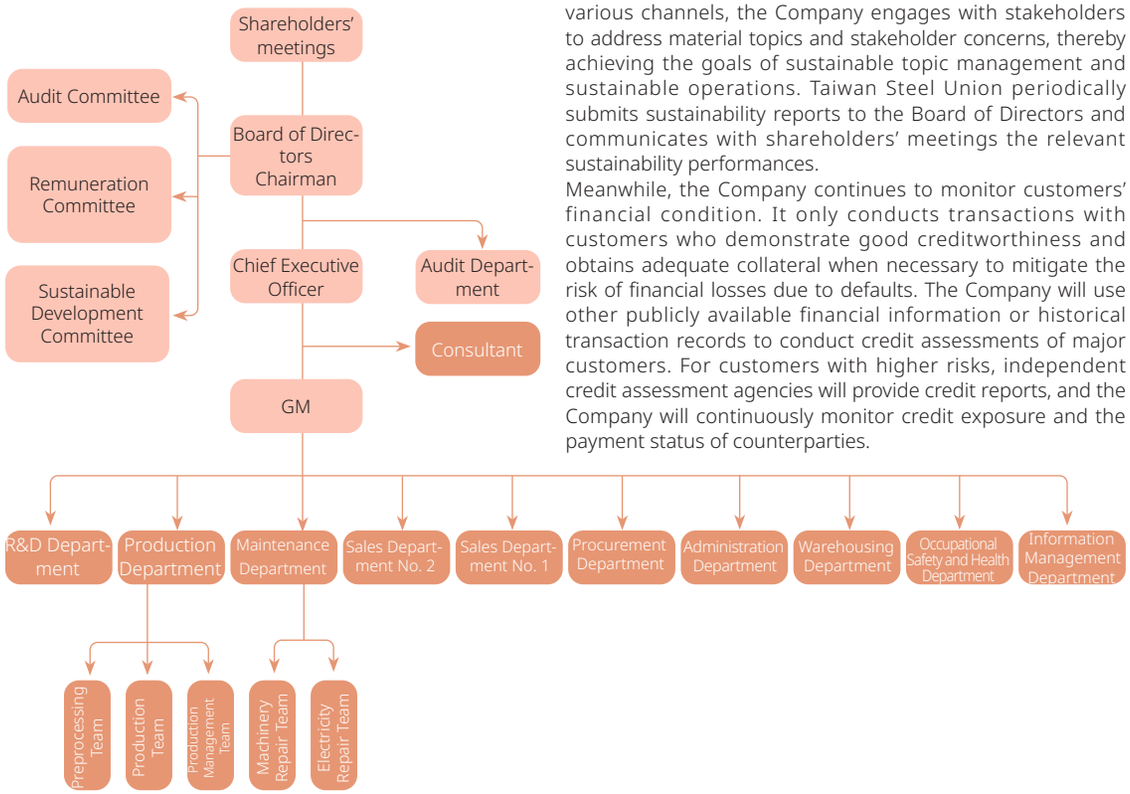
Corporate governance assessment

2024 11th corporate governance assessment score was maintained at 21%~ 35%

2.1 Corporate governance overview

The Taiwan Steel Union has a rigorous corporate governance structure in place to fulfill its corporate responsibility in sustainability. The Board of Directors overseeing general affairs with efficiency is the foundation of good corporate governance. Under the Board of Directors are the Sustainability Committee, the Remuneration Committee, and the Audit Committee, to assist the Board of Directors in providing oversight.

To ensure the implementation of sustainable development, the Sustainable Development Committee was established under the Board of Directors in January 2022 as the responsible unit for Taiwan Steel Union's sustainability report. The committee is chaired by Independent Director Chang Tien-Chin, with the General Manager responsible for supervising and managing matters related to sustainable development. The Management Division serves as the staff and executive unit, responsible for committee operations, project coordination, and data collection, as well as identifying material topics in the areas of economy, environment, and society. Through various channels, the Company engages with stakeholders to address material topics and stakeholder concerns, thereby achieving the goals of sustainable topic management and sustainable operations. Taiwan Steel Union periodically submits sustainability reports to the Board of Directors and communicates with shareholders' meetings the relevant sustainability performances.



Meanwhile, the Company continues to monitor customers' financial condition. It only conducts transactions with customers who demonstrate good creditworthiness and obtains adequate collateral when necessary to mitigate the risk of financial losses due to defaults. The Company will use other publicly available financial information or historical transaction records to conduct credit assessments of major customers. For customers with higher risks, independent credit assessment agencies will provide credit reports, and the Company will continuously monitor credit exposure and the payment status of counterparties.

Taiwan Steel Union Overview

Note: Consolidated financial statements

Data type	2024 relevant data explanation
Company name	Taiwan Steel Union Co., Ltd.
All forms of legal ownership	Publicly listed company (stock code 6581)
Current industry	Green energy and environmental protection
No. of employees	109 employees
Capitalization	NT$1.11 billion
Liabilities and equity	Liabilities: NT$969,243 thousand, equity NT$4,466,074 thousand
Main business activities and products	Taiwan Steel Union: 1. Clearing and reusing EAFD from electric arc furnace steelmaking operations and EAFD from disposal sites 2. Reuse of off-site contaminated soils. 3. Resource recovery and reuse of zinc-containing products and zinc-containing waste 4. Incineration plant incineration fly ash reuse 5. Reuse of solid-derived fuels and other waste materials with high calorific value 6. Sale of crude zinc oxide Taiwan Steel Resource: 1. Pick-up and reuse of reducing slag and oxidizing slag from electric-arc furnaces used for steel making 2. Collection and reuse of rotary kiln slag produced by TSU 3. Sale of concrete aggregate; base materials or aggregates for the base of pavement engineering (roads, pedestrian walks, container yards or parking spaces); asphalt concrete aggregate; controlled low-strength backfill material aggregates; concrete products aggregates. 4. Sale of controlled low-strength materials (CLSMs) and non-structured ready-mixed concrete
Chairman	Mark Lin
GM	Tsai-Hsiang Lin
Headquarters and operating address	No. 36, Xiangong N. 1st Rd., Changhua Coastal Industrial Park, Shengang Township, Changhua County
Taiwan Steel Union Production Line and Capacity	The Company operates two rotary kilns using a high-temperature smelting process, with an annual total approved capacity for the recycling of EAFD and zinc-containing materials of 198,900 metric tons. 2024 recycle and treated EAFD: 118,025 tons. In 2024, the actual volume of recycled and treated non-EAFD waste—including contaminated soil, incinerator fly ash, zinc-containing products, solid-derived fuels, waste with high calorific value, electroplating sludge, and dust or sludge with a zinc content greater than 2.5%—was 22,654 metric tons.
Net sales	2024 net sales of NT$2,378,461 thousand
Markets serviced	Waste resource recycling service • EAFD, reducing slag, oxidizing slag: electric arc furnace steel plants, disposal sites • Contaminated soils: contaminated sites in Taiwan • Zinc-containing products and wastes: Reuse or treatment institution, water hardware industry, zinc and copper alloy, chemical industry, electroplating industry, etc. • Incineration flay ash: waste incineration plants or public/private waste processing organizations. • Solid alternative (renewable) fuels: waste recycling industry. • High calorific value (industrial) waste: manufacturing industry, and disposal sites. Product sale service • Zinc oxide: zinc smelting industry, chemicals industry
Entity included in consolidated financial statements	Subsidiary - Taiwan Steel Resource (operation started in 2019)
Location	Waste resource recycling service region: Taiwan. Zinc oxide sold to: Taiwan, Japan, Belgium, Poland, Thailand and South Korea.

Data type	2024 relevant data explanation
Taiwan Steel Resource Production lines and capacities	Five autoclaves, annual operating volume permitted: 229,500 tons. Magnetic separators of crushed slag, annual operating volume permitted: 300,000 tons. Total of reducing slag, rotary kiln slag, oxidizing slag reuse and treatment amount in 2024: 255,699 tons. Reported total production volume of base materials for pavement engineering work, concrete aggregates (including asphalt), aggregates for controlled low-strength backfill materials in 2024: 241,153 tons. Reported production volume of controlled low-strength materials and non-structure concrete in 2024: 177,906 cubic meters.

Composition and functioning of the Board of Directors

The Board of Directors is Taiwan Steel Union's highest-level governance unit and key decision maker. We have formulated the Regulations Governing the Election of Directors by specifying qualifications and appointment requirements. This includes diversity and professional knowledge. The tenure of the current board starts from May 26, 2022 and ends on May 25, 2025. The Board of Directors consists of 7 directors and 4 independent directors. There is a female director. One director is aged between 30 and 50; all other directors are above 50 years old. Under the leadership of Chairman Mark Lin, the Board of Directors' top priority is to provide supervision via the establishment of functional committees. The purpose is to enhance the quality of oversight and decision-making by the Board of Directors. Taiwan Steel Union's Board of Directors convenes meetings at least once a quarter, to listen to presentations from management team on financials, business and sustainability issues. Key material events include potential or actual negative impacts reported by stakeholders through grievance mechanisms or other procedures, as well as key negative impacts on the organization's operations or business relationships identified through other means. In 2024, the TSU Board of Directors did not discuss any key material events.

Performance Review on Board of Directors

Taiwan Steel Union formulated, with the approval from the Board of Directors, the Regulations Governing the Performance Review on the Board of Directors. Performance reviews on the Board of Directors and Sustainable Development Committee are conducted at the beginning of each year. Except for the finding that the CPAs attended the Audit Committee meetings but not the Board of Directors meetings, resulting in less communication with the directors, all other items in the 2024 evaluation results met the corporate governance goals.

Corporate Governance Officer

According to the resolution of the Board of Directors' meeting of Taiwan Steel Union in February 2022, Jackie Lin, Manager of the Administration Department, was designated to concurrently act as the corporate governance officer of the Union, in order to protect the rights and interests of the shareholders and to strengthen the job functions of the Board of Directors. Its main authorities and responsibilities are: (1) handling company registration and change registration; (2) handling matters related to the Board meetings and shareholders' meetings in accordance with the law, and assisting the Union in complying with relevant laws and regulations on the Board meetings and shareholders' meetings; (3) producing minutes of the Board meetings and shareholders' meetings; (4) providing information required for directors to perform their duties, and the latest developments in laws and regulations related to the Union to assist directors in complying with laws and regulations; (5) handling matters related to investor relations; (6) reviewing the eligibility of independent directors; (7) managing director changes.

Taiwan Steel Union 2024 Annual Shareholders' Meeting

Remuneration of Directors and Sustainability Performance Institutionalization

The remuneration of directors and supervisors of Taiwan Steel Union is explicitly specified in Article 25 of the Articles of Incorporation and is linked to the Union's sustainability performance. Accordingly, under the condition where there is a profit, at least 3% of the profit is appropriated as the remuneration of directors. In 2024, regarding the percentage of the total remuneration amount over the profit after tax, the remuneration of directors accounted for 0.75% thereof.

Remuneration Committee

Remuneration Committee has been established under Taiwan Steel Union's Board of Directors. The Organization Charter for Remuneration Committee has been put in place. Remuneration Committee is responsible for design and periodical reviews of performance of directors and managers, as well as remuneration policies, systems, standards and structures. All of the 4 members of the Remuneration Committee are independent directors. The convener Xiao-Xin Huang is an independent director.

Link between Board of Directors' Remuneration and Sustainability Performance

Taiwan Steel Union has put in the Articles of Incorporation that directors' remuneration is based on involvement in and contributions to the Union's operations and according to the industry standard in Taiwan. The correlation with the Union's operational risks and performance in the future has been factored into the equation. This has been submitted to and approved by Remuneration Committee, to ensure a balance for sustainability and risk control.

Audit Committee

Audit Committee has been established under Taiwan Steel Union's Board of Directors. The Organization Charter for Audit Committee has been put in place. Audit Committee is responsible for the control and supervision of financial reports, internal control and potential risks. All of the 4 members of Audit Committee are independent directors. The convener Wu Chuan-Chuan is an independent director.

Sustainable Development Committee

Taiwan Steel Union has established a "Sustainable Development Committee" under the Board of Directors, to serve as the highest level of ESG decision-making center, and to systematically establish the Union's long-term ESG strategy and direction. The independent director, Tien-Chin Chang, acts the chairperson of the committee and collaborates with senior managers of the Union to integrate the United Nations (UN) sustainable development goals with the core advantages of the Union. The focus includes six main aspects of Corporate Governance, Green Manufacturing Process, Circular Economy, Value Chain Management, Happy Workplace and Social Inclusion. The Sustainable Development Committee also approves the contents of the annual sustainability report. All the 4 members of Sustainable Development Committee are independent directors. The convener Tien-Chin Chang is an independent director.

Code of Conduct

Taiwan Steel Union has formulated "Code of Conduct" to regulate its directors and managers (including Chief Executive Officer and GM and any person who has the right to manage and sign on the behalf of the Union) and to prevent conflict of interest and opportunity of seeking personal gains. The Code of Conduct is fully disclosed.

Principles of Ethical Business

To deepen a corporate culture and robust development based on trust and integrity and to establish a healthy framework for business practices, Taiwan Steel Union has established "Principles of Ethical Business" to prohibit unethical behavior. The practice of honest business operations is defined and dishonest behavior is prevented.

Participation in trade associations

Taiwan Steel Union is dedicated to its core business. To stay in close contact and work with different parties of society for sustainability, we are involved in various organizations in different ways, including the trade associations we are involved with as a director or a supervisor, including the following: There was no sponsorship in 2024 except for regular membership fees.

	Trade associations involved	Participating status	Representative's name
Taiwan Steel Union	Chinese National Federation of Industries	Director	Tsai-Hsiang Lin
	Taiwan Resource Recycling Industries Association	Director	Tsai-Hsiang Lin
	The Formosa Association of Resource Recycling	Member	Taiwan Steel Union
	Association of Companies in Changhua Coastal Industrial Park, Changhua County	Member	Taiwan Steel Union
	Taiwan Carbon Capture Storage and Utilization Association	Director	Yen-Bin Fang
	Resource Circulation Industry Booster Association	Director	Hsieh, Tsung-Lin

2.2 Succession and Inheritance

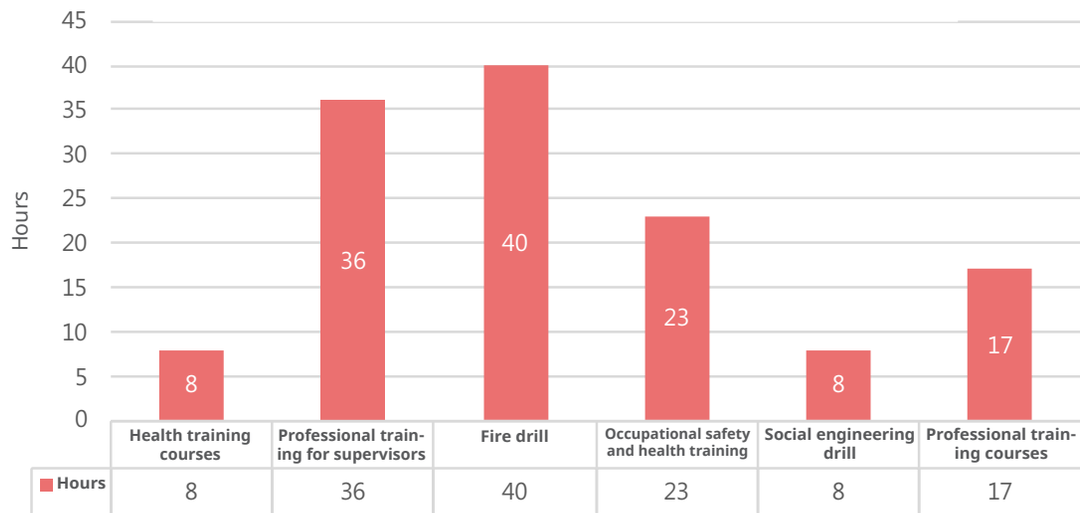
For the sustainable operation of the Company, talent is one of the most important assets. Having capable successors and passing on their experience ensures stable succession planning, which can maintain continuous operations and reduce the impact of human resource risks caused by changes in management. A fair and transparent education and training mechanism safeguards employee rights and promotes a culture of diversity and inclusion, enabling sustainable corporate development. Taiwan Steel Union has begun formulating medium- and long-term succession training plans to strengthen the reserve of mid-level management talent and cultivate internal employees, thereby ensuring the transfer of industry experience.

Stable training program

To ensure stable company operations and the continued transfer of professional expertise, Taiwan Steel Union has established a systematic talent succession and competency transfer mechanism, cultivating mid-level managers with leadership potential and practical experience. Through personal certifications and professional training, the Company has developed effective career development training programs and established the "Education and Training Implementation Regulations" to govern all training-related matters, thereby enhancing sustainable management capabilities.

In 2024, training courses for mid-level managers continued, with the average training hours for supervisors increasing over the years. Courses included internal audit training on sustainable development, ISO 14064 internal audit training, and occupational safety and health refresher courses, totaling 132 hours. Regular employee professional training was also conducted to ensure the transfer of skills and experience. In line with its risk management mechanism, Taiwan Steel Union retains outstanding talent through its remuneration system and promotion channels, mitigates the impact of management changes through risk and opportunity response plans, and continues to monitor training completion.

2024 Mid-level Manager Training Course



2.3 Risk and opportunity management

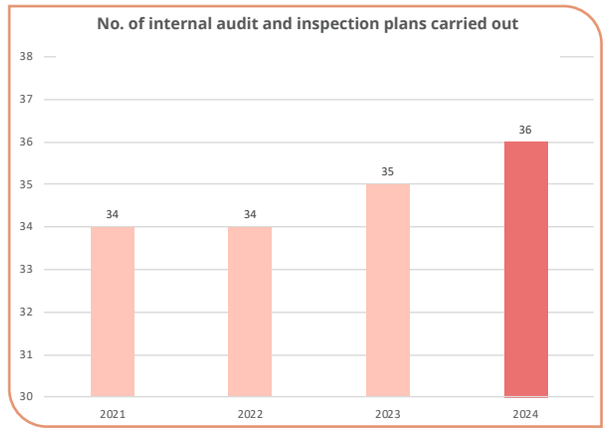
Risk and opportunity assessment

- Taiwan Steel Union has formulated the Sustainable Development Best Practice Principles by including an assessment and management mechanism on relevant risks and opportunities for the confirmation of risks and opportunities during the course of company development.

Types of risks and opportunities	Responses to risks and opportunities
Financial risks	We do not have a research department dedicated to exchange rates or LME zinc prices. Hence, we do not hedge in any way against the change of exchange rates or LME zinc prices.
Human resource risks	Retention of high-caliber employees with remuneration and promotions
Raw material risks	Develop sources of zinc-containing waste and materials other than EAFD to compensate for raw material shortages.
Operational risks	The regulations governing identification and management of compliance obligations have been put in place. Inventory and identification are conducted each quarter regarding new and amended laws and regulations. Assessment is performed by relevant units; improvement measures are carried out according to assessment results.
Environmental, safety and health risks	Annual inspections are conducted every year to replace consumables regularly and maintain stable equipment operation. Quarterly labor environment hazard monitoring is outsourced. The Company organizes annual health checkups for employees and implements follow-up management.
Climate change, water and energy risks	Introduce the TCFD mechanism, formulate climate strategies, implement carbon reduction plans, and plan roof solar power generation systems. Water risk assessment and responding measures
Information security risks	Advocacy of information security policies, establishment of backup server rooms, retention of important data
Legal compliance	Periodic and irregular maintenance of pollution control equipment and implementation of environmental monitoring plans to ensure the normal operation of control facilities.
Opportunities	Advocacy of the circular economy's contributions to operation and the society

Responsible audit units and implementation

Audit Department has been established under Taiwan Steel Union's Board of Directors. Audit Department structures, propose and carry out internal audits and annual inspection plans, covering the risk control and management elements defined by management in corporate governance, operating activities and legal compliance. The audits and inspections serve as the basis for the assessment of the functioning and effectiveness of the internal control system in corporate governance, operating activities and legal compliance. The results are produced into audit reports for submission and reporting to the Board of Directors.



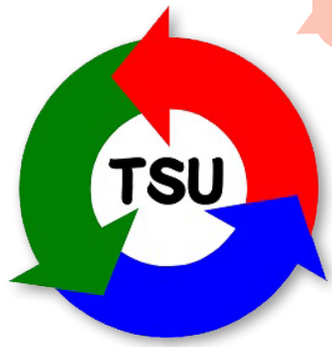
2.4 Products and economic performance

After decades of overdevelopment and overuse, global resources are increasingly depleted. Countries around the world are gradually coming to terms with the limitedness of metal resources. Therefore, the pursuit of sustainable utilization and development of resources has become a key determinant of economic activities going forward. Taiwan Steel Union was originally established as the "Taiwan Arc Furnace Steelmaking Waste Co-processing System," jointly guided by the Ministry of Economic Affairs and the Environmental Protection Administration (now the Ministry of Environment). In line with government policy, it achieved the target of eliminating temporarily stored EAFD by the end of June 2016. Following the termination of the co-processing system, the Company transitioned into a national general recycling institution for EAFD. Its scope expanded to include the recycling of zinc-containing waste, contaminated soil, incinerator fly ash, and waste with high calorific value. Taiwan Steel Union is now a comprehensive circular economy enterprise capable of simultaneously carrying out removal, processing, cleaning, and reuse operations.

Taiwan Steel Union's CIS (corporate identity system)

The three arrows forming a circle surround the Union's abbreviation in the English language. It is a symbol of our business philosophy in resource sustainability and environmental protection.

Representing high-temperature smelting and treatment



Representing the recycled green product zinc oxide and the reusable slag

Representing EAFD from electric-arc furnaces as a hazardous industrial waste

Taiwan Steel Union's products and services

EAFD from Taiwan Steel Union and Related Products
Upper Layer: Raw materials, intermediate materials, and finished products from TSU
Lower Layer: Products at the customer application stage

CIS of Taiwan Steel Resource, a Taiwan Steel Union's 100% subsidiary

The three arrows forming into a circle is a counter-clockwise image of the parent company Taiwan Steel Union's logo. Taiwan Steel Resource is a "clockwise" circle, surrounding the Union's abbreviation, as a symbol of the never-ending circles of resource recycling!

TSR Taiwan Steel Resource's main equipment, an autoclave, wrapped by the letters TSR, to represent Taiwan Steel Resource

Representing resource recycling and sustainable cycles

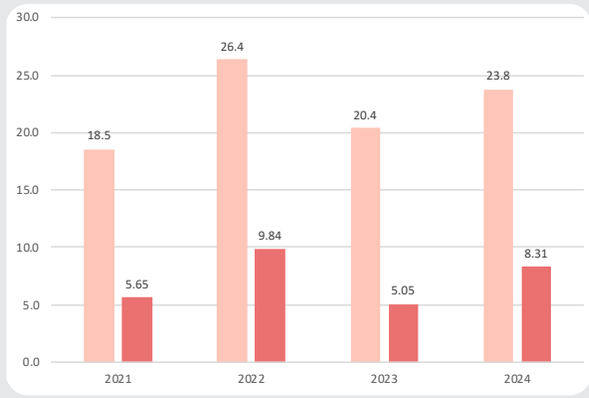
Representing steam, in the high temperature and high pressure inside autoclave

Representing color of slag from electric-arc furnaces

Taiwan Steel Resource Products and Services

Rotary kiln slag, reducing slag, and oxidizing slag reuse services and related products

Revenue and profit targets



Taiwan Steel Union sets up annual revenue and profit growth targets. The 2024 revenue increased by 16.51% from last year and the net income after tax also increased by 64.55% from last year. The main reason is that the rise in international zinc prices and the drop in processing costs (TC) have increased the unit price of zinc oxide, resulting in a significant increase in Taiwan Steel Union's zinc oxide sales revenue. At the same time, the continued expansion of the waste treatment business has increased the volume processed, which in turn has boosted related business revenues, bringing direct revenue growth to the Company.

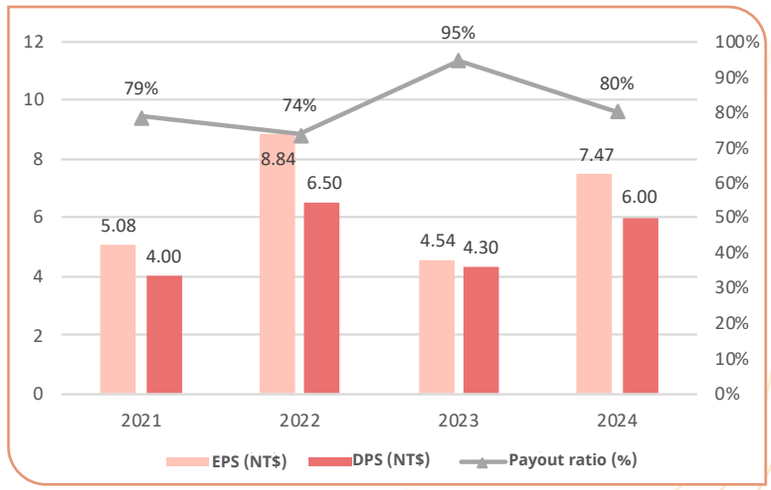
Expansion of green investment and construction a more comprehensive circular economy system

In 2018, the 100% subsidiary Taiwan Steel Resource was established, to focus on the production of green and environmental-friendly building materials by reusing slag. This was in line with the industry policy on circular economy. Five production lines of the Union have been in service for full-line operation. The Company has also constructed two factories for recycled aggregates used in ready-mixed concrete started operation to enter the market for ready-mixed concrete made with slag. This is an additional revenue stream with internal resources. It is also playing our part for corporate social responsibility.

The subsidiary, Taiwan Steel Resources Co., Ltd., continued to operate at a profit, which was mainly due to that its production process improvement result met the expectation. Presently, the stabilization process reducing slag qualification rate has reached 100%. Accordingly, its treatment capacity will be progressively increased in the future. In2024, the stabilization process processed a total of 170,824 metric tons, 1,721 metric tons of steel oxide slag, and 75,395 m3of concrete, contributing approximately 18% of consolidated operating revenue.

Annual dividend payout ratio of 70%

Taiwan Steel Union targets at a 70% annual dividend payout as a return to the investing public and sharing of operational results with shareholders. The payout ratio was 80% for 2024, above the target of at least 70%.



Direct economic value (consolidated financial statements)

Taiwan Steel Union's consolidated financial statements in 2020-2024 are summarized below, without government subsidies.

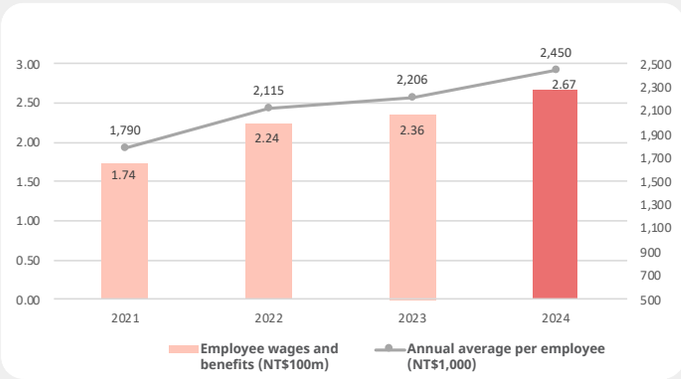
Unit: NT$ thousand

Year	2021	2022	2023	2024
Direct economic value created				
Operating income	1,853,873	2,637,583	2,041,441	2,378,461
Economic value distributed				
Operating cost	840,496	1,124,910	1,167,773	1,108,970
Employee wages and benefits	173,606	224,237	236,060	267,093
Payment to capital providers	338,308	447,718	725,254	478,953
Payment to the government	168,462	192,537	151,419	195,327
Community investments	26,639	23,936	19,404	19,755
Economic value retained				
Direct economic value created -Economic value distributed	306,362	624,245	-258,469	308,363
Other items				
R&D expenses	2,113	278	8,158	38,297
Training expenses	803	840	961	722
Environmental expenses	102,572	118,795	115,721	114,881

Note: Consolidated financials including the subsidiary Taiwan Steel Resource Co., Ltd.

Annual growth of employee wages and benefits

The Taiwan Steel Union aims for annual growth in employee wages and benefits. The average wages and benefits per employee (including wages and pensions) have been on the rise over the years. The 2024 average wages and benefits stood at NT$2,450 thousand, up 13% from 2023. Taiwan Steel Union's employee wages and benefits increase each year.



2.5 TCFD Climate-related Financial Strategy and Implementation

Taiwan Steel Union follows the management framework advocated by the Task Force on Climate-Related Financial Disclosures (TCFD) in the construction of climate change management and information disclosure.

Governance

a. Formulation of the GHG policy, continued energy conservation and carbon reduction
b. Taiwan Steel Union's climate change management team consists of Production Department and Occupational Safety Department to drive climate change actions.

Strategy

a. Identification of Taiwan Steel Union's risks and opportunities associated with climate change in the short-term, mid-term and long-term
b. Description of financial impacts on Taiwan Steel Union due to climate change
c. Taiwan Steel Union's climate change scenario in line with the national target of carbon reduction

Governance

The Board of Taiwan Steel Union has established the Sustainable Development Committee. The independent director serves as chairperson of the committee, to confirm environment performances, climate change issues and corporate concerns each year. Formulation of the GHG policy, continued energy conservation and carbon reduction
Taiwan Steel Union offers incentives for proposals of improvement measures regarding climate change. Bonuses of an appropriate amount are provided to the reviewed and adopted proposals in energy and water conservation and cost reduction. Employees are encouraged to enhance awareness and enthusiasm in work efficiency, energy saving and carbon reduction.

Risk management

a. Description of the organization's identification and assessment process of climate related risks
b. Taiwan Steel Union's management flows in climate related risks
c. Integration of climate change risks and Taiwan Steel Union's overall risks

Indicators and targets

a. Taiwan Steel Union has established 10 key performance indicators for climate change.
b. Full disclosure of Taiwan Steel Union's Scope 1, Scope 1 and Scope 3 GHG emissions and risks
c. Achievement of Taiwan Steel Union's defined and disclosed ten key performance indicators

Strategy

Taiwan Steel Union formulates its climate change strategies on products, low-carbon investments and operating activities.

Strategic aspects	Taiwan Steel Union's responding strategy
Products	Circular economy product: crude zinc oxide
Low-carbon investments	Low-carbon transition projects to achieve carbon reduction goals
Operating activities	Continued energy conservation and carbon reduction

Response to climate change impact on financials

Climate change strategies may lead to increased operating expenses for Taiwan Steel Union, including potential future carbon management fees and regulatory expenses following the implementation of total volume controls.

NDC scenario analysis-transition risk assessment

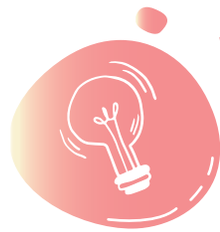
Taiwan Steel Union's carbon reduction targets are aligned with the Climate Change Response Act, aiming to achieve a 34% reduction in greenhouse gas emissions by 2030 compared to the 2012 baseline, and to reach net zero emissions by 2050. These targets form the basis for transition risk scenario analysis.

SSP5-8.5 – Physical Risk Scenario Assessment

The primary purpose of future climate scenario analysis is to utilize the Climate Change Risk and Opportunity Assessment to guide mitigation and adaptation measures, thereby improving decision-making quality. For the analysis of physical risks, the Company adopts the Shared Socioeconomic Pathways (SSPs) simulation model, specifically scenario SSP5-8.5, to analyze the potential impacts of physical risks and opportunities on corporate strategies, and to evaluate or adjust corresponding response measures.

Risks and opportunities

Taiwan Steel Union uses its Corporate Sustainable Development Best Practice Principles in assessment and management of risks and opportunities due to climate change, formulates, identifies and evaluates strategies, and conducts action plans on climate change. The purpose is to adapt to and mitigate climate change impacts. Corresponding adaptation and action plans are mapped out according to risk analysis and assessment. Emerging business opportunities are explored.



STEP 1

Identification and assessment of existing risks and opportunities

Scoring is conducted on transition risks, physical risks and opportunities according to the TCFD framework regarding the correlation, impact and occurrence periods of risks and opportunities, in order to establish a risk/opportunity assessment matrix.

STEP 2

Definition of Substantial Risks and Opportunities and Financial Impact Analysis

Taiwan Steel Union identifies and quantifies the impact of major risks in accordance with its Corporate Sustainable Development Best Practice Principles. These principles define the financial risk impact in five levels: very low, low, medium, high, and very high.

Impacts classified as "high" or "very high" are considered to have a material impact on Taiwan Steel Union and are defined as follows:

"High" Impact

--Affects 4% to 5% of consolidated financial statement EBITDA

"Very High" Impact

--Affects more than 5% of consolidated financial statement EBITDA

STEP 3

Responses and cost estimates

Assessment of actual risks, potential financial impacts and risk management measures

Taiwan Steel Union's climate change risk assessments and action plans		
Risk category	Transition risks	Transition risks
Risk type	Policies, laws and regulations	Market
Time	Long-term	Mid-term
Climate-related risk drivers	Higher GHG emission prices	Cost of raw materials increased - Electricity price increased
Potential financial impacts	Increase of operating costs	Increase of operating costs
Financial impact analysis (Quantitative explanations)	Expected costs and expenses Mid-term 2026-2030 of approximately NT$40 million Long-term 2031-2035 of approximately NT$30 million	Expected costs and expenses Short-term 2024-2025 of approximately NT$20 million Mid-term 2026-2030 of approximately NT$110 million Long-term 2031-2035 of approximately NT$190 million
Responses	1. Risk transfer (price hikes) 2. Risk mitigation (energy saving, carbon reduction, low-carbon investment)	Mitigation of Risks 1. Increase the use of waste-derived materials as substitutes for raw materials 2. Replace old, energy-intensive equipment and establish an ISO 50001 Energy Management System, which is expected to save approximately 290,000 kWh of electricity annually
Estimated costs of responding measures	Carbon reduction investments: approximately NT$160 million (including renewable energy projects and process improvements)	Electricity-saving measures: approximately NT$850,000

Assess the potential financial impact and risk management measures for substantive opportunities.

Taiwan Steel Union's climate change opportunity assessments and action plans		
Opportunities	(Slag/zinc oxide/other new resource waste)	Alternative energy sources
Time	Short-term	Short-term
Climate-related opportunities	Recycle and reuse	Use low-carbon energy (renewable energy and fuel substitution)
Potential financial impacts	Increased incomes	Capital expenditures
Financial impact analysis (Quantitative explanations)	Increase the incineration of fly ash, electroplating sludge, zinc-containing waste, solid derived fuels, and waste with high calorific value (business waste) to increase the Company's operating revenue, replace original materials, and reduce the input of raw materials such as coke and limestone.	The installation of solar panels is expected to generate approximately 1,670,000 kWh each year and to save an estimated electricity bill of NT$3.83 million based on a tariff of approximately NT$2.3 per kWh.
Responses	Increase the sources and volume of resource waste recycling to increase the Company's operating revenue.	Install solar power to increase alternative energy sources
Estimated costs of responding measures	No additional costs	Approximately NT$100 million was invested in roof solar panels

Indicators and targets			
Indicator	**Total GHG emissions**	**Water recycle and reuse rate**	**Water consumption per unit**
Unit	metric tons CO_2e/year	%	Metric tons of water consumed/metric tons of waste disposed
2030 target	Compared to the base year (2012) Reduction by 34%	45%	0.49
2024 Actual Performance	Reduction by 27%	73%	0.398
Goal Achievement Status	Not achieved	38% higher than the 2023 recycling rate	Achieved ahead of schedule

03 Chapter Circular Economy

The circular economy is a regeneration system. The goal of carbon emission reduction is achieved with minimum resource and waste inputs and waste via slowing down, closing up and narrowing the cycles of materials and energies. Production and consumption (purchase) and disposal methods are planned and designed, through principles of reduction, reuse and recycle, to establish an economy and an environment best conducive conditions to sustainable development and resource management.

Management of Material Topics in Circular Economy

Material Topics: Circular Economy, Waste (GRI 306)

Impact influence

Through the circular economy, TSU ensures the sustainable recovery and recycling of resources, reducing natural resource input and waste generation during production, and minimizing the positive impacts of these issues. The Company also increases the diversified reuse of waste resources as alternative raw materials in manufacturing processes, recovers valuable heavy metal zinc to reduce landfill treatment, and minimizes potential negative environmental impacts.

Actions

TSU and its subsidiaries continue to implement relevant management systems and procedures to manage various aspects, and to prevent or mitigate potential negative impacts through specific actions or initiatives. If actual negative impacts occur, the company will promptly and actively improve and correct them, and take corrective actions such as revising operating procedures, equipment improvements, or strengthening employee training to prevent future recurrence.

Circular economy commitment

- Comply with laws and regulations, and properly reuse dust from electric arc furnace steelmaking, zinc-containing resource waste, oxidizing slag, reducing slag, and other renewable resource waste through resource recovery, detoxification, stabilization, or energy recovery methods.

Circular economy policy

- In line with the government's circular economy policy, EAFD from steelmaking waste, EAFD from illegal disposal sites, and zinc-containing resource waste are subjected to resource recovery, detoxification, and stabilization treatment methods for recycling and reuse. In addition to recovering valuable heavy metals from the waste, rotary kiln slag (R-1207) announced as reusable is also produced, achieving 100% circular economy effectiveness for the waste.
- Increase the resource recovery of diversified waste to reduce landfill treatment, raw material extraction and dependence, the usage of materials (coke, limestone, hydrated lime), and greenhouse gas emissions.
- Stabilize reducing slag from electric arc furnace steelmaking waste, convert the stabilized slag into renewable resources, reduce the extraction of natural sand and gravel, and transform it into valuable resource recovery products for 100% circulation and reuse.

Specific actions or initiatives

- Assistance to the government in treatment of EAFD and slag illegally dumped at Dadu River in Changhua County without compensation.
- Promote slag circular economy project.
- Assist the government in processing incinerator fly ash from the Xizhou Incinerator in Changhua County, the Beitou Incinerator in Taipei City, and the Hsin Yung Incinerator in Taoyuan City, which can reduce the burden on domestic landfills caused by solidification and burial, and can also be reused to effectively reduce the mining and use of natural raw materials such as limestone and hydrated lime.
- Assist the electroplating industry in converting hazardous industrial waste electroplating sludge (A-8801) into resources, forming a resource circulation supply chain.

Effectiveness assessment

- Through the annual reporting of sustainability report, the effectiveness and result are tracked and assessed continuously.
- Convert slag into valuable resources for 100% recycling and reuse.

Stakeholder engagements

Regular or irregular communication and interaction are conducted through the stakeholder engagement mechanism, and the information is disclosed in the sustainability report, on relevant platforms, or on the Company website.

Circular economy highlights

TSU – Carbon Footprint Certification for Sustainable Products

- In 2023, Taiwan Steel Resource conducted a carbon footprint assessment of two products: controlled low-strength material (CLSM) with a compressive strength of 30–70 kgf/cm², and non-structural concrete with a compressive strength of 30–280 kgf/cm².

The first domestic hazardous waste recycling organization to obtain UL 2809 certification

- Obtained UL 2809 recycled content verification for crude zinc oxide

Sustainability benefits of circular recycled product

Circular recycling products address illegal waste disposal, reduce the extraction of natural raw materials, and lower greenhouse gas emissions, among other multiple ESG benefits.

Completed circular economy project for slag

Completed circular economy project for the reuse of slag and established a subsidiary specializing in processing it into resource recovery products.

Local job creation

- In 2024, 56% of TSU's employees were local hires from Changhua.
- The subsidiary Taiwan Steel Resource had 62% of its employees from Changhua County.

12 PRODUCCIÓN Y CONSUMO RESPONSABLES

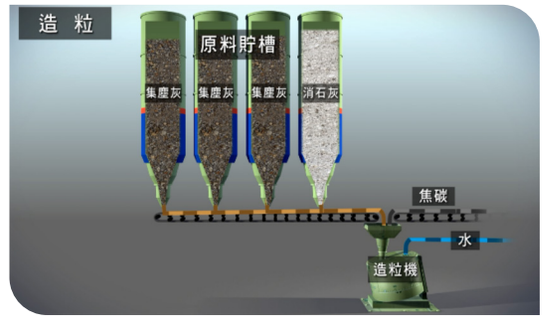
12.5 Prevention, reduction, recycle and reuse to significantly reduce waste generations.

3.1 Circular economy drivers

The circular economy is a philosophy learned from nature in the recycling and reuse of ecosystem resources. It is a new thinking and new development model designed to ensure sustainable recovery, recycle and reuse of resources and reorganization of the society and the economy.

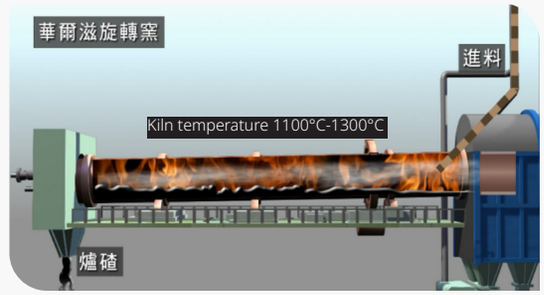
The resource recovery and reuse treatment process for EAFD primarily utilizes rotary kiln high-temperature smelting facilities to treat and reuse EAFD and zinc-containing waste resources, recovering valuable metals such as lead and zinc from the EAFD to produce the resource recovery product, crude zinc oxide. Taiwan Steel Union adopts Waelz Kiln Process, a commercially mature technology in use for decades in the U.S., Europe and Japan for resource recovery and reuse of EAFD.

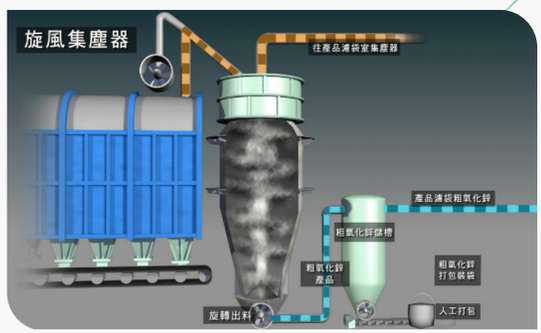
Waelz Kiln Process starts with blending of pelletized acidic or basic SRP EAFD, coke, silica sand (or alternative materials such as internally recycled and reused waste refractory materials, offsite treatment contaminated soils), or lime/hydrated lime/calcium carbonate materials and feeding via conveyer belt in the environment of 1,000°C-1,300°C high temperature treatment in a rotary kiln. The processing can be divided into two steps:



First step: material flows

The high-boiling-point components in EAFD, together with a slag former such as silica sand/silica sand substitute, or lime/slaked lime/calcium carbonate and their substitutes, are sintered into rotary kiln slag (reusable waste R-1207). The slag is discharged from the kiln outlet, cooled by the air cooling kiln system, and then transported via conveyor or loader to the slag storage area for storage. The slag can be reused as road base aggregate, fill material, and civil engineering aggregate.





Second step: gas flows

The low-boiling-point components and dust-laden gas in the feed are treated through the air pollution control facilities of this process, including gravity dust collection chamber, Venturi quench tube, cyclone dust collector, activated carbon and slaked lime injection equipment, and two-stage bag filter. The treated exhaust gas is then discharged into the atmosphere through a chimney. In addition, the particulate material collected by the cyclone dust collector and process bag filter is crude zinc oxide, which, after being collected and packaged, becomes the crude zinc oxide product.

Sustainability benefits of circular and reuse low-carbon products

A circular economy is an economic and industrial system in which resources can be recovered and regenerated, reducing environmental stress and resource use. By increasing resource efficiency, the production process can reduce the input of natural resources and increase the utilization of waste, thereby creating both environmental and economic prosperity.

TSU's crude zinc oxide product is a circular recycled product. Compared with the production of virgin zinc oxide from mining through to smelting and refining, TSU's crude zinc oxide has sustainability benefits including increasing the recycling and utilization of waste, reducing the extraction of natural raw materials, and lowering greenhouse gas emissions. The relevant ESG sustainability benefits are as follows.

Type of sustainability benefits	Item	Explanation of sustainability benefits
Environmental benefits (E)	The demand for natural materials excavation is reduced.	Excavation, processing and transportation affect the environment and the landscape. Conversion of waste into raw materials reduces the environmental impact and enhances the efficiency of natural resources utilization.
	Waste processing services are offered to the society.	TSU conducts resource recovery treatment of waste, resolving illegal waste disposal and preventing ecological damage.
	CO emissions reduction	Using waste to replace raw materials can reduce carbon emissions from the mining, processing, and transportation of raw materials.
	Lower impact on water resources	Using waste to replace raw materials can reduce the impact on water resources from the mining, processing, and transportation of raw materials.
	Full recycle and reuse of slag	Taiwan Steel Union converts waste slag into valuable resources products, with 100% recycle and reuse.
Social benefits (S)	Job creation	Create local job opportunities
	Customer relationship improvement	This responds to the expectation from customers and investors and enhances the engagement with stakeholders.
	Contributions to Local Communities	The Company allocates a monthly donation from the amount of EAFD and ash collected for reuse to the two townships' public offices for unified administration.
Economic benefits (G)	Creation of economic benefits	Create positive economic benefits each year
	Resource dependence risk reduction and organizational resilience enhancement	Natural resources are replaced by waste. This reduces the risks of dependency on natural resources and increases Taiwan Steel Union's economic resilience.

Local job creation

Taiwan Steel Union is located in Changhua Coastal Industrial Park, Changhua County. The Company drives 100% circular economy and prioritizes local hires. The local Changhua County employee percentage is 56%, and the local Changhua County employee percentage of the subsidiary Taiwan Steel Resource is 62%.

3.2 Sustainable product carbon footprint certification: TSU and TSR

Taiwan Steel Resource, a wholly-owned subsidiary of TSU, obtained the "ISO 14067: 2018 Statement" in 2023. For controlled low-strength material (CLSM) with a compressive strength of 30–70 kgf/cm^2, greenhouse gas emissions at each stage were: raw materials – 235.491 kg CO_2e, manufacturing – 10.021 kg CO_2e, totaling 245.51 kg CO_2e. For non-structural concrete with a compressive strength of 30–280 kgf/cm^2, greenhouse gas emissions at each stage were: raw materials – 241.878 kg CO_2e, manufacturing – 10.228 kg CO_2e, totaling 252.11 kg CO_2e.

In 2021, TSU obtained dual certifications for "ISO 14067: 2018 Carbon Footprint of EAFD and contaminated soil Treatment Service (Heat Treatment)" and "ISO 14067: 2018 Crude Zinc Oxide Product Carbon Footprint," and also obtained the "Service Carbon Label" certification from the Ministry of Environment in 2021. In 2024, TSU again obtained certification for "ISO 14067: 2018 Carbon Footprint of EAFD and contaminated soil Treatment Service (Heat Treatment)" and "ISO 14067: 2018 Crude Zinc Oxide Product Carbon Footprint."

The service carbon footprint at each stage was: raw material usage – 348.933 kg CO_2e, service process – 595.731 kg CO_2e, waste disposal – 0.509 kg CO_2e, totaling 945.17 kg CO_2e, representing a 4.2% reduction compared with the 2021 service carbon footprint, and applied to the Ministry of Environment for a carbon reduction label. The product carbon footprint at each stage was: raw materials – 1,030.036 kg CO_2e, manufacturing – 1,662.170 kg CO_2e, totaling 2,692.21 kg CO_2e, representing a 13.2% reduction compared with the 2021 product carbon footprint, demonstrating outstanding carbon reduction performance.

"ISO 14067: 2018" carbon footprint verification for two ready-mixed concrete products.

- Controlled low-strength material (CLSM) Compressive strength (30–70 kgf/cm^2)
- Non-structured concrete Compressive strength (30–280 kgf/cm^2)

TSU and Taiwan Steel Resource both maintain a high level of environmental awareness regarding the carbon emissions of their products' impact on the environment. They continuously inventory the carbon footprint of their products and processing services, and proactively implement a low-carbon, sustainable process model across the upstream, midstream, and downstream of the supply chain, while continuously manufacturing low-carbon products. TSU's use of various types of waste as alternative materials to replace virgin materials reduces greenhouse gas emissions, which is not only environmentally friendly but also demonstrates a sustainable business model benefiting society and the economy.

"ISO 14067: 2018 Carbon Footprint of EAFD and contaminated soil Treatment Service (Heat Treatment)" certification.

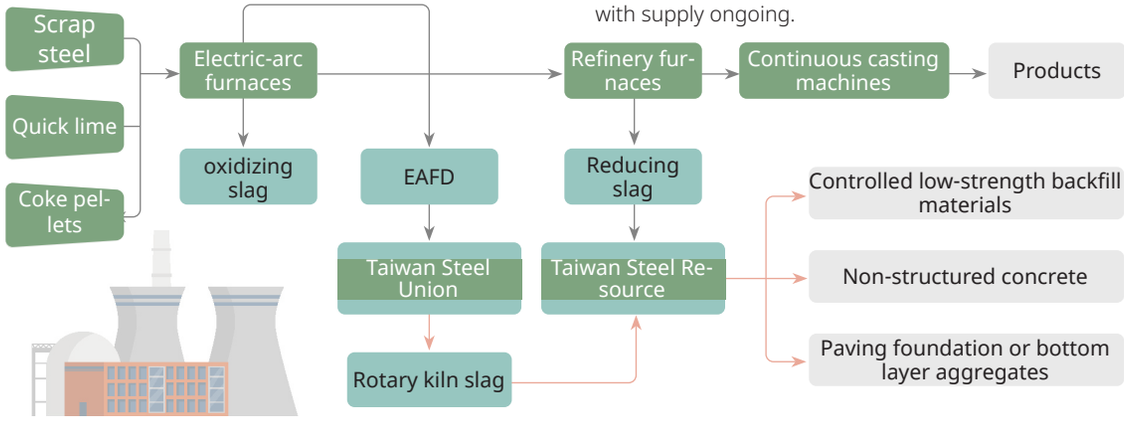
"ISO 14067: 2018 Crude Zinc Oxide Product Carbon Footprint" certification.

3.3 Special report on circular economy of slag

The biggest issue with the reuse of reductive slag is the high volumetric swelling, due to a large amount of quick lime not completely reacted. The calcium oxide not fully reacted exists in the form of free-CaO, likely to react with water and carbon oxide into calcium hydroxide and calcium carbonate. In the process of free-CaO converting into calcium hydroxide, slag volume will expand causing social incidents so called roads expansion and "pimples" on the walls.

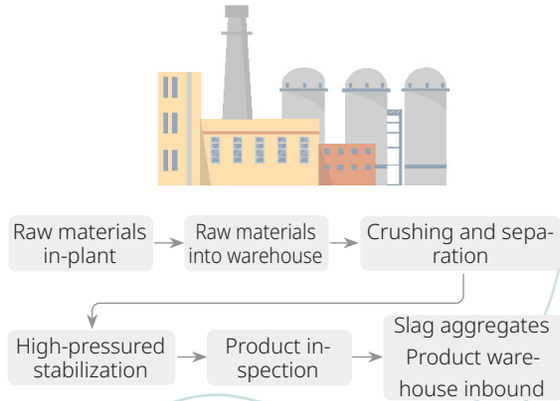
Taiwan Steel Union established the subsidiary company Taiwan Steel Resource mainly for stabilization and treatment of reducing slag. Slag is stabilized utilizing high pressure and high temperature resource recovery techniques, so that they will no longer expand and can be used as a useful resource product, in combination with the recycling of rotary kiln slag produced by Taiwan Steel Union. Taiwan Steel Union achieves 100% recycle and reuse model for circular economic and is a role model for the circular economy in Taiwan and abroad. TSU Step feet into reuse of slag for the production of green and environmental-friendly building materials is in line with the circular economy and industrial policy.

Within the Taiwan Steel Resource plant, two dedicated recycled aggregate ready-mixed concrete plants have been established, entering the slag ready-mixed concrete industry. The dedicated plants allow complete control over material flow, and contracts with downstream companies are continuously being finalized, with supply ongoing.



Taiwan Steel Resource stabilizes the reducing slag with high temperatures and pressurized steam processes via crushing, magnetic separated and sifted. Pellets are crushed into below 5mm size for conveyer belt transportation to autoclaves for stabilization. Shown in the graph


Five autoclaves



3.4 Waste volume growth

TSU has added resource waste business to the environmental impact assessment. In addition to EAFD, TSU has obtained at least 18 alternative raw material and fuel reuse qualifications, such as contaminated soil, electroplating sludge, incinerator fly ash, solid-derived (renewable) fuel, waste with high calorific value, and zinc-containing products. In 2024, the treatment volume of the newly added waste business reached 22,654 metric tons, contributing NT$180 million to annual revenue.

Acceptance Standards and Maximum Treatment Volume for Each Individual Resource Waste

	Acceptable Items	Explanation	Maximum approved treatment volume (ton/year)	Acceptance Standards
Main Raw Materials	Other EAFD from steel making	As part of transformation into a General-Case recycle and reuse processor of EAFD (waste code: A-7101), except collection from the existing steelmakers other local electric arc furnaces steel mills (including carbon steel and stainless steel) are newly added.	28,000	Zn ≥ 2.5%
	EAFD from dumpsites	Collection of EAFD (A-7101) at local dumpsites are newly added, to provide proper treatment channel and speed up the activation and utilization of national land.	25,000	
	Waste zinc (single metal)	Waste zinc /slag/ashes (R-1303) etc. waste generated from all industrial processes with at least 40% zinc content	1,500	
	15%-40% zinc content products from recycle or treatment facilities	Collection of products with lower zinc content of 15%-40% which are produced from recycle or treatment facilities and are difficult to sell are newly added. However, such products can become our company's raw materials for rotary kiln high temperatures smelting process and to be recycled as crude zinc oxide product.	4,000	
	Waste zinc-manganese alkaline batteries	Collection of waste zinc-manganese alkaline batteries are newly added to assist the Environmental Protection Administration's Recycling Fund Management Board in resolving lack of proper waste batteries final treatment facilities issue in Taiwan. The valuable zinc metal resources in waste batteries can be recycled as crude zinc oxide product via high-temperature smelting at rotary kilns.	4,000	
	EAFD or sludge with zinc content ≥ 2.5% (e.g., faucet related hardware industry, zinc-copper alloy industry etc.)	Sources of EAFD or sludge from other industries with zinc content ≥ 2.5% are newly added (e.g., faucet related hardware industry, zinc-copper alloy industry etc.)	2,000	
	Electroplating dewatered sludge	Collection of electroplating dewatered sludge (A-8801) with zinc content ≥ 2.5% which are produced via wastewater treatment plant of electroplating processes are newly added. The primary contents of this waste are heavy metals and can be resource recovered and recycled as crude zinc oxide product via high-temperature smelting processes of our plant's rotary kilns. In this way, the purpose of 100% proper treatment and resource recovery of waste can be achieved.	20,000	

Acceptance Standards and Maximum Treatment Volume for Each Individual Resource Waste

	Acceptable Items	Explanation	Maximum approved treatment volume (ton/year)	Acceptance Standards
Additive Raw Materials	Incineration fly ash from municipal solid waste incinerators or public/private waste treatment facilities incinerators	Incineration fly ash containing ≤ 3% chlorine generated from municipal solid waste incinerators or public/private waste treatment facilities incinerators, can be used in lieu of the hydrated lime/lime additive raw materials input for high-temperature smelting process in rotary kilns providing proper digestion channels. It mitigates the problems associated with existing incineration fly ash must be solidified and landfilled for a long time and also reduces local landfill site demands and lengthens the service life of existing landfill sites and frees up national land resources.	35,000	Cl ≤ 3%
Fuels	Solid alternative (renewable) fuels	Increase acceptance of solid alternative (renewable) fuel products, which can be recycled and reused as auxiliary fuel through the high-temperature smelting process in rotary kilns. This not only assists the Industrial Development Bureau in resolving disposal issues, but also complies with the government's policy to promote waste-to-energy in the circular economy.	30,000	Heating value ≥ 1,500 kcal/kg
	Solid (industrial) waste with high calorific value	Increase acceptance of solid industrial waste with a heating value (acceptance heating value ≥ 1,500 kcal/kg), or solid waste with heating value produced through screening pre-treatment and specially approved by the central or local environmental protection authorities. Such waste can be recycled and reused as auxiliary fuel through the high-temperature smelting process in rotary kilns, also in line with the government's policy to promote waste-to-energy in the circular economy.		
	Waste filters bag from electric arc furnaces steel mills	Increase acceptance of waste filters bag from steelmaking plants (acceptance heating value ≥ 1,500 kcal/kg), which can be recycled and reused through the high-temperature smelting process in rotary kilns. This not only provides auxiliary thermal energy for process needs, but also allows the recovery and reuse of valuable metals (zinc) from the residual EAFD. This provides a proper treatment route for such waste and also complies with the government's policy to promote waste-to-energy in the circular economy.		

Following the approval of new resource waste items in the environmental impact assessment, TSU has, since obtaining the permit in 2022, actively negotiated business involving zinc-containing products, waste with high calorific value, stainless steel EAFD, incinerator fly ash, zinc-containing dewatered sludge from the electroplating industry, and zinc-containing sludge from the chemical industry. TSU plans to apply in 2025 to expand the approved volumes for several waste types, including zinc-containing sludge and zinc-containing products, continuing to move toward diversified growth momentum. In addition, TSU plans to establish an incinerator fly ash water washing plant with an initial target annual processing capacity of about 30,000 metric tons, to provide washing and reuse services for incineration plants. This will reduce the need for each plant to install its own washing equipment. Furthermore, incinerator fly ash processed through TSU's rotary kiln system will produce rotary kiln slag, which will be sent to the subsidiary Taiwan Steel Resource as a raw material for concrete, achieving an environmental effect of circular reuse. The TSU water washing plant is expected to officially begin operation after 2027, driving diversification and providing domestic industries with diversified reuse services.

In TSU's fly ash, zinc-containing, and high-calorific-value waste business, the output of zinc oxide in 2024 was 51,145 metric tons. TSU has increased the diversification of waste resource recovery. Zinc-containing resources (waste) include waste zinc, zinc-containing products, electroplating dewatered sludge (A-8801), and EAFD and sludge from other industries. Replacing the main raw material EAFD with these resources can not only recover valuable heavy metal zinc, but also reduce landfill treatment and environmental problems caused by illegal waste disposal. Replacing the secondary raw materials lime and hydrated lime with newly added incinerator fly ash can reduce raw material extraction and dependence. Replacing fuel coke with newly added waste with high calorific value and solid recycled fuel products can reduce the amount of coke used. The benefits of these waste substitutions not only reduce greenhouse gas emissions but also significantly reduce carbon footprint emissions.

The optimization and improvement of key stabilization technologies for reducing slag at the subsidiary Taiwan Steel Resource have shortened processing time, significantly increasing production capacity and yield. In addition, concrete shipments have increased compared with last year. TSU will continue to expand its market share in the ready-mixed concrete sector, and in the future will promote cement-free low-carbon CLSM produced with 100% recycled materials, positioning cement-free low-carbon CLSM technology as a key focus for future development, demonstrating innovation in the green building materials market.

Management mechanism after change of development behavior

Taiwan Steel Union has been in the business operation of hazardous waste EAFD cleaning and removal for numerous years, and the Union has established relevant internal control management regulations related to the receipt and cleaning operations, in order to maintain standard and consistent operations, thereby achieving the goal of proper control and treatment of wastes.

Receipt and treatment volume upper limit and early warning control mechanism

The internal control order receipt management regulations have specified that during the contract signing stage, the sales unit shall confirm the current production status with the production unit, and after the contract signing, the production plan shall be adjusted in order to arrange the treatment volume of such lot of wastes and its schedule. In addition, production meeting shall be convened periodically to review and adjust the product plan. Furthermore, TSU will calculate the total pollutant emissions for each quarter based on the quarterly chimney emission inspection values, as well as the annual cumulative total. At the monthly production and sales meetings, the cumulative total pollutant emissions will be reviewed, and for any pollutant item reaching 90% of the total permitted volume, an early warning will be issued. Necessary receipt and feedstock control measures will then be implemented for incoming waste to ensure that air pollutant emissions do not exceed the annual total.

Receipt treatment item acceptance standard and management mechanism

Regarding the incoming control management method, the factory of the Union requests the production source to provide waste sample to the Union's laboratory for chemical testing and analysis, or the production source provides the waste test report. The contract is accepted and signed only after the waste complies with the acceptance standard of the factory of the Union.

For newly added waste items, the acceptance standards, testing items, testing methods, and testing frequency will be implemented in accordance with regulations, with sampling and testing carried out for each truckload of waste upon arrival. Waste will be accepted only after confirming compliance with the plant's acceptance standards; any waste that does not comply will be immediately returned. Relevant management methods are included in the order acceptance management regulations and warehouse inbound management regulations of the Union, and standard and consistent operations are main-

President of Taiwan Steel Union, Tsai-Hsiang Lin (center)
Plant Manager Tsung-Lin Hsieh (right) and Administration Division Manager Jackie Lin (left)

tained in order to achieve the goal of proper control and treatment of wastes.
Diversified resource waste has obtained environmental protection-related reuse permits, doubling treatment capacity and driving continuous growth in new customers. The primary customers are in the Surface Treatments (electroplating) industry, with others in the technology, chemical, and automotive recycling industries. In addition, TSU has secured public sector contracts for the treatment of incinerator fly ash from large-scale waste incineration plants in Taipei, Taoyuan, and Changhua, with volumes exceeding 1,000 metric tons.

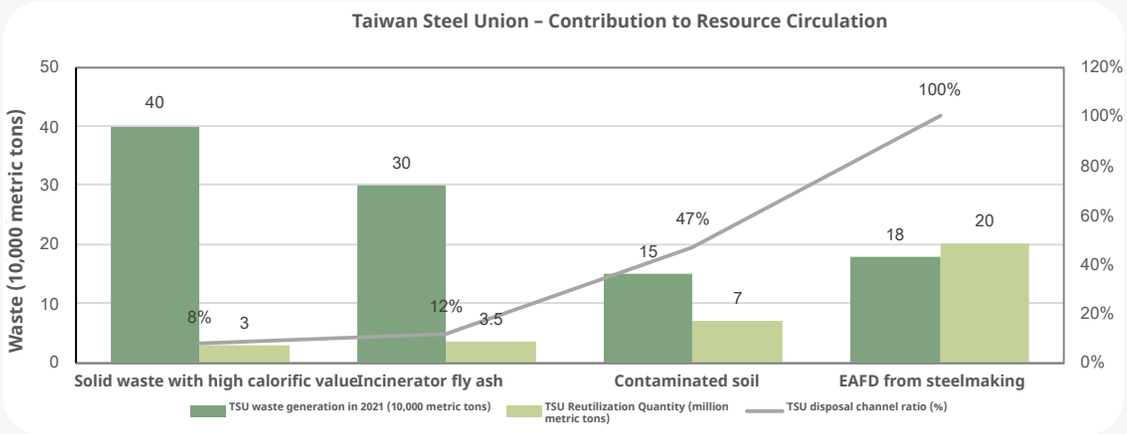
TSU maintains its current strategy of increasing revenue and reducing costs, and continues to evaluate increasing the processing of domestically generated, difficult-to-treat, high-value waste. By expanding its customer base, TSU aims to drive operational growth and become the leader in Taiwan's resource waste recycling and circular economy industry.

3.5 TSU resource circulation contribution

The remaining capacity of all landfills in Taiwan is about 2 million metric tons. TSU's contribution can extend the lifespan of domestic landfills by 6 to 7 years. The annual permitted treatment volume of industrial waste under the environmental impact assessment is equivalent to that of a large-scale urban incineration plant.

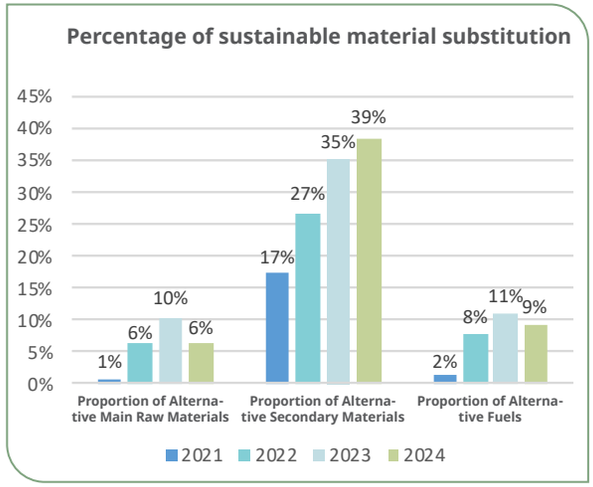
Item	EAFD from steelmaking	Contaminated soil	Incinerator fly ash	Solid waste with high calorific value
Waste generation in Taiwan (10,000 metric tons) Note 1	18	15	30	40
TSU reutilization capacity (10,000 metric tons)	20	7	3.5	3
TSU disposal channel ratio (%)	100%	47%	12%	8%

Note 1: The data source is the 2021 waste statistics report from the Ministry of Environment. Of the 400,000 metric tons of solid waste with high calorific value, this refers to the amount of mixed plastic waste subjected to thermal treatment or landfill disposal.



Percentage of sustainable material substitution	2021	2022	2023	2024
Percentage of alternative main materials	1%	6%	10%	6%
Percentage of alternative secondary materials	17%	27%	35%	39%
Percentage of alternative fuels	2%	8%	11%	9%

Note 1: Alternative main raw materials include commercially available low-purity zinc oxide, electroplating dewatered sludge, inorganic (zinc-containing) sludge, waste zinc, ferromanganese, zinc plates, zinc sheets, and zinc waste and fragments;
Note 2: Alternative secondary materials include incinerator fly ash, water-washed fly ash, and contaminated soil;
Note 3: Alternative fuels include waste wood, pyrolysis furnace slag, ASR waste plastic mixtures, solid-derived fuel, and waste filter bag from steelmaking plants, with the percentage of each increasing year by year since 2021.



3.6 Waste management

Waste diverted from disposal

TSU is a cradle-to-cradle company with 100% recycling and reuse. We have established a waste recycling and reuse policy, implemented the slag reuse project, set key performance indicators (KPIs) for waste reuse, and disclosed them transparently.

Waste recycling and reuse

In 2024, TSU generated a total waste weight of 94,685 metric tons, including 93,892 metric tons of general industrial waste and 793 metric tons of hazardous industrial waste, all of which were returned to the furnace for treatment.

The total weight of general industrial waste commissioned for reuse treatment was 95,448 metric tons, including 95,425 metric tons of rotary kiln slag and 23.08 metric tons of waste wood. A total of 14.5 metric tons of domestic waste was incinerated, and 13.3 metric tons of mixed waste rubber and waste oil was treated by physical processing.

General industrial waste mainly consisted of 95,425 metric tons of rotary kiln slag (R-1207), which was reused to convert it into valuable resource products. In 2024, the general industrial waste reuse rate was 101.66%, and the slag reuse rate was 100%.

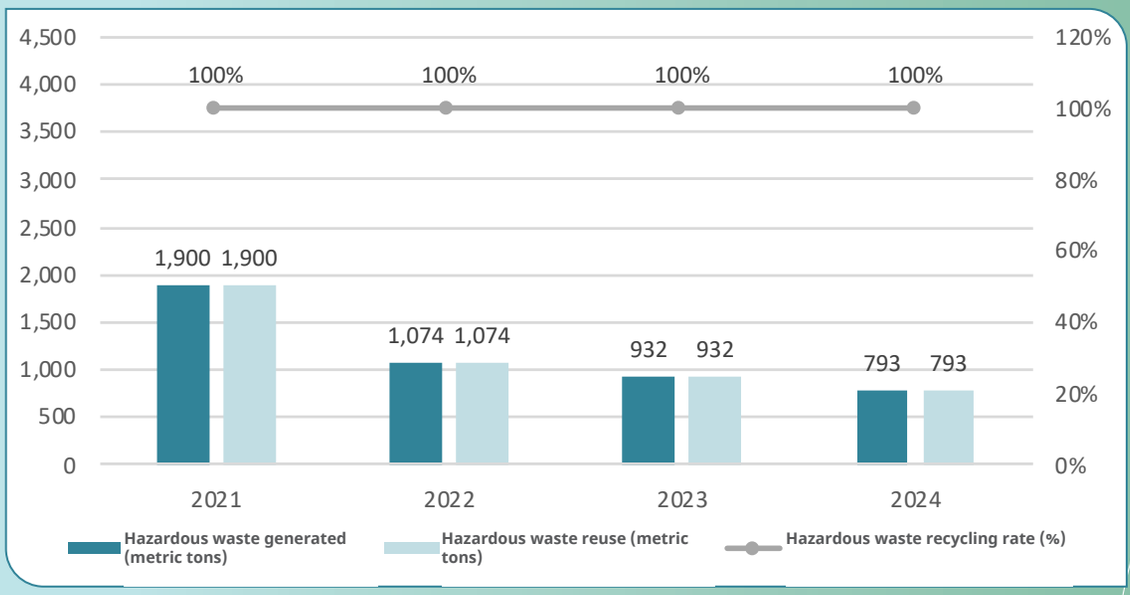
New KPIs and targets in waste reuse management

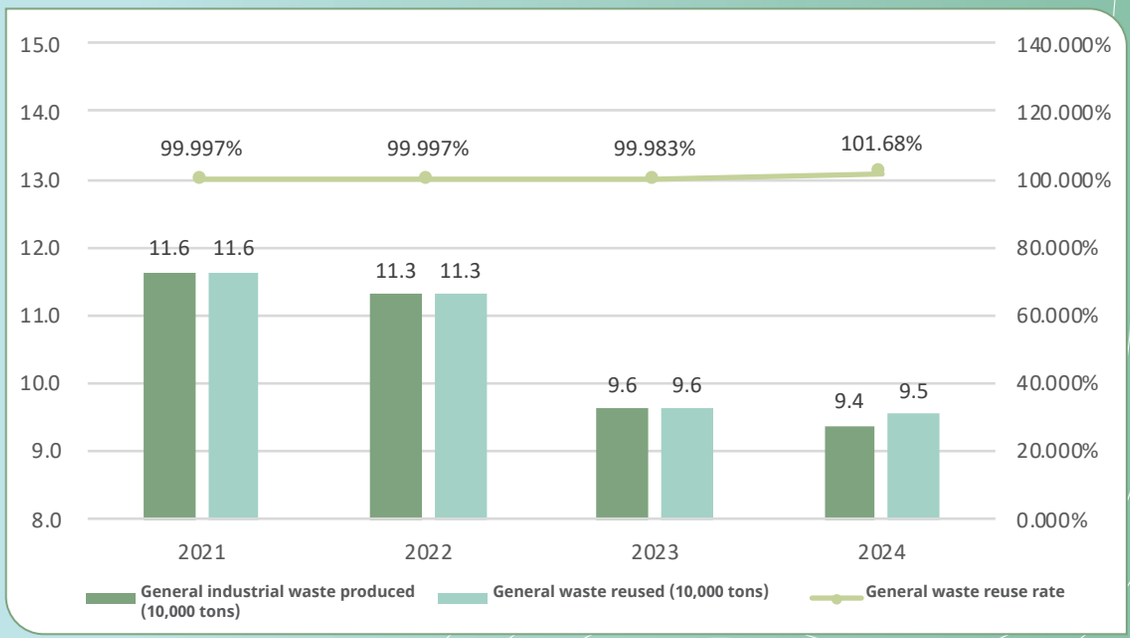
TSU has newly set key performance indicators and targets for waste reuse, including the reuse rate of general industrial waste, the reuse rate of hazardous industrial waste, and zero waste leakage violations.

KPIs and targets in waste reuse		
Key Performance Indicators		
• Industrial waste reuse rate • Slag reuse rate • Major waste leakages or breaches		
2024 Key Performance Indicators (KPIs)		
Industrial waste reuse rate (%) 2024 101.68 2023 99.98 2022 99.99 2021 99.99	Slag reuse rate (%) 2024 100.00 2023 100.00 2022 100.00 2021 100.00	No. of major waste leakages and breaches (No. of times) 2024 0 2023 0 2022 0 2021 0
2024 target achievement		
Target achievement	Target achievement	Target achievement

Note: The 2024 reuse rate exceeded 100% due to the remaining in-house furnace slag inventory at the end of 2023.

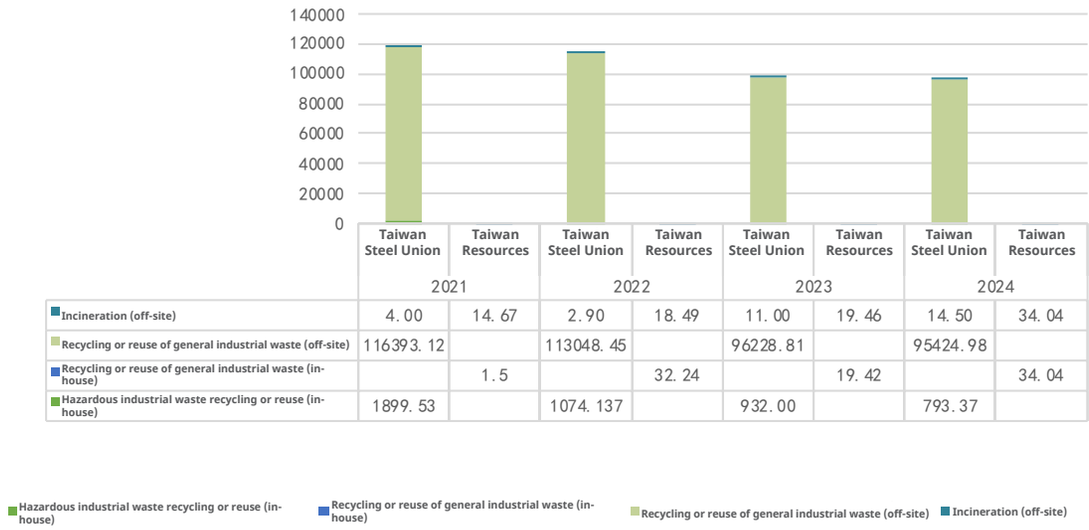
New KPIs and targets in waste reuse management





New KPIs and targets in waste reuse management

Waste directed to disposal (metric tons)



	2021		2022		2023		2024	
	Taiwan Steel Union	Taiwan Resources	Taiwan Steel Union	Taiwan Resources	Taiwan Steel Union	Taiwan Resources	Taiwan Steel Union	Taiwan Resources
Incineration (off-site)	4.00	14.67	2.90	18.49	11.00	19.46	14.50	34.04
Recycling or reuse of general industrial waste (off-site)	116393.12		113048.45		96228.81		95424.98	
Recycling or reuse of general industrial waste (in-house)		1.5		32.24		19.42		34.04
Hazardous industrial waste recycling or reuse (in-house)	1899.53		1074.137		932.00		793.37	

3.7 Joint participation of upstream and downstream industry chains – TSU Full Circular Model

TSU is a joint investment by 12 electric arc furnace steelmaking plants, established in accordance with the "Guidelines for the Joint Processing of Industrial Waste" of the Industrial Development Administration, Ministry of Economic Affairs. Each steelmaking plant commissions TSU to process its EAFD waste, with the sales surplus from the products returned to the shareholders. This promotes proper waste disposal and achieves resource recovery, creating a win-win situation for upstream and downstream industries, and serves as the most successful domestic model for industrial waste recycling. The joint participation of upstream and downstream industries in TSU's operations is illustrated in the figure below:

Participation in the steelmaking industry chain

A large quantity of steel products is used in domestic livelihood, construction, and the automotive industry. When these products reach the end of their service life, they become scrap steel and scrap iron, which, after being recycled, are used by electric arc furnace steelmakers to produce steel products, forming a recycling loop for steel products.

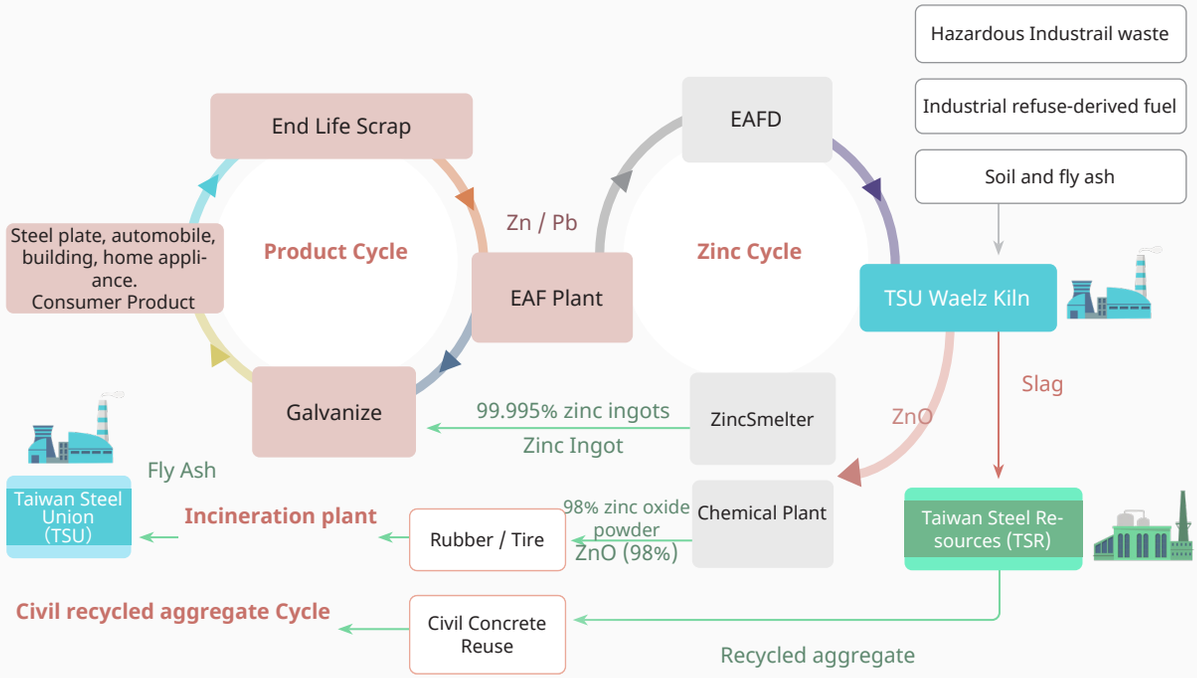
Participation in the zinc circulation industry chain

During the production of steel products by electric arc furnace steelmakers, the dust collected by air pollution control equipment in the steelmaking process is commissioned to TSU for recycling treatment. Using TSU's rotary kiln high-temperature smelting technology, valuable resources such as zinc (approximately 25% Zn) are recovered from the dust and processed into "Crude Zinc Oxide (approximately 58% Zn)" products. These products are mainly sold to overseas smelters for the production of pure metal zinc ingots (zinc content of 99.995% or higher) or to domestic and overseas chemical plants for the manufacture of high-purity zinc oxide products (ZnO purity of 98%). Pure metal zinc ingots are sold back to domestic steel, water hardware, and galvanizing industries, further processed into products, and re-enter the steel product recycling loop. High-purity zinc oxide products (ZnO 98%) are resold to domestic tire and rubber manufacturers as additives for remanufacturing related consumer goods, which eventually enter the waste disposal process.
TSU's crude zinc oxide is a by-product of the circular economy in steelmaking and is an important component of the "urban mining" circular economy, which not only reduces the mining of natural zinc ore but also effectively addresses the problem of hazardous industrial waste disposal.

Participation in the construction circular industry chain

The final product of TSU's process, rotary kiln slag, is a general industrial waste with stable properties that can be 100% reused. According to Announcement No. 35 of the "Regulations for the Management of Industrial Waste Reuse" of the Ministry of Economic Affairs, it can be reused as cement raw materials, concrete aggregates for cement products, asphalt concrete aggregates, asphalt concrete aggregate raw materials, non-structural concrete aggregate raw materials, or base and subbase granular materials for pavement engineering, among other uses. TSU's slag is mainly processed by its subsidiary, Taiwan Steel Resource, into recycled civil engineering aggregate products, which are then used in construction project aggregate cycles, enabling TSU to achieve a 100% circular economy reuse model with zero waste generation, serving as a model for the circular economy both domestically and internationally. In addition, at the end of 2020, TSU completed the establishment of two ready-mixed concrete plants dedicated to recycled aggregates, expanding into the reuse of slag to produce green and environmentally friendly building materials, and dedicating these plants exclusively to fully control the flow of slag, thereby fulfilling its corporate responsibility.

Flowchart of the joint participation of upstream and downstream industry chains in EAFD and ash reuse



04 Chapter Value Chain Management

TSU and its subsidiaries' operating value chain consists of the supply chain and customers. Upstream involves the collection and treatment of EAFD or sludge (A-7101), as well as oxidizing slag and reducing slag, by resource recovery and processing plants. Downstream involves the collection of products and waste, with vehicle fleet management for collection and compliance with laws and regulations as the most important requirements.

Value Chain Management of Material Topics

Material Topic: Procurement Practices (GRI 204)

Policy

Establish a sustainable value chain

Impact influence

TSU actively promotes local procurement to enhance the resilience of the local industrial supply chain, promote employment and economic vitality, and reduce the positive impact of the issue.

Actions

TSU and its subsidiaries continue to implement relevant management systems and procedures to address various topics, preventing or mitigating potential negative impacts through specific actions or initiatives. If actual negative impacts occur, TSU promptly undertakes corrective measures, including revising operating procedures, improving equipment, or strengthening employee training, to reduce the likelihood of recurrence.

Management System

Pragmatic supply chain management

Effectiveness assessment

Local procurement ratio of 50% or above.

Concrete Actions or Initiatives in the Value Chain

Maintain a local procurement ratio of over 50% to increase local employment opportunities and ensure stability of quality.

Conduct supplier evaluation management monthly and annually, focusing on product delivery quality and environmental, safety, and health matters.

Comply with and sign the supplier code of conduct, evaluate and integrate supplier qualifications, and protect and promote labor safety and the environment.

Stakeholder engagements

Regular or irregular communication and interaction are conducted through the stakeholder engagement mechanism, and the information is disclosed in the sustainability report, on relevant platforms, or on the Company website.

3.6 Halving of the number of injuries and deaths due to traffic accidents around the world

Value chain management highlights

Customer satisfaction with zinc oxide and zinc-containing products met the target.

In 2024, zinc oxide customer satisfaction reached 5.6 points
(A full score of 6; target at 5.4)
In 2024, customer satisfaction with zinc-containing products reached 5.8 points
(A full score of 6; target at 5.4)

Key Suppliers

Diversify supply sources, conduct real-time tenders to ensure uninterrupted supply, sign contracts with domestic suppliers to stabilize supply, and have at least two supply sources for each key material.

Local Procurement Achievement

In 2024, the proportion of local procurement amounted to 73%, achieving the target of over 50%.

The satisfaction rate of EAFD and soil reuse has reached the target.

- 2024 satisfaction level of EAFD customers received 5.8 points.
- 2024 Customer satisfaction with soil reuse is 6.
  (A full score of 6; target at 5.4)

Customer Satisfaction for Electroplating Sludge, High Calorific Value, and Fly Ash Met the Target

- In 2024, customer satisfaction for electroplating sludge was 6 points
- In 2024, customer satisfaction for high calorific value was 6 points
  In 2024, customer satisfaction for fly ash was 6 points
  (A full score of 6; target at 5.4)

A-Grade Supply Chain

The proportion of A-grade suppliers was 100%

4.1 Supply chain management

Taiwan Steel Union has put in place "Suppliers' Code of Conduct" for supplier management by incorporating expectations in ethics, healthy and safe environment, labor and human rights. The main suppliers signing the "Supplier Code of Conduct" for the first time reached 61.

Ethics

Adherence to laws and standards
Fair and honest transactions
Anti-corruption

Healthy and safe environment

Health and safety
Environmental protection
Event management and emergency preparation

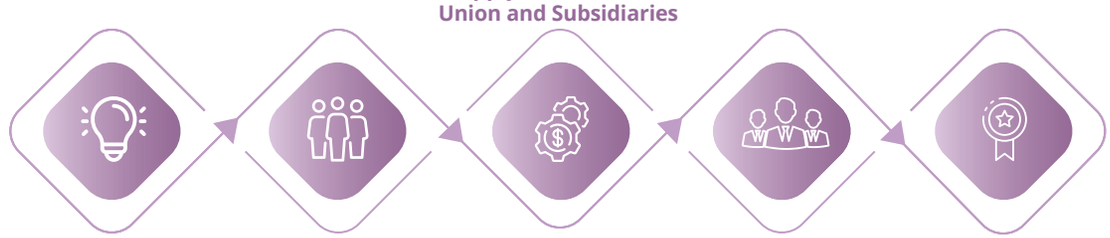
Labor and human rights

Voluntary employment
No child labor
Wages and benefits
Work hours and breaks
Freedom of association and bargaining between workers and employers
Anti-discrimination and anti-harassment
Respect and no discrimination
Protection of female employees

Suppliers' Code of Conduct

TSU and its subsidiaries are enterprises promoting a 100% circular economy. In addition to zinc oxide customers, the main upstream suppliers include raw material suppliers, contaminated soil customers, and equipment maintenance providers. The supply chain structure is shown in the figure.

Supply Chain of Steel Union and Subsidiaries



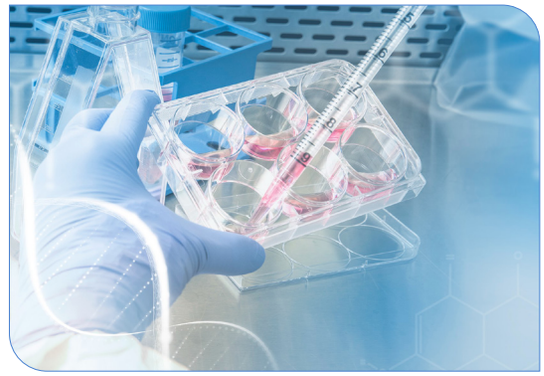
Key suppliers

Key materials are defined as materials whose shortage would directly affect production. Key suppliers are defined as those providing key materials. Key materials have been identified as coke, slaked lime, and quick lime, with procurement expenditures from key suppliers accounting for 35% of total purchases.

Total number of suppliers	Key suppliers
378 suppliers % of total purchase ***100%***	*11* suppliers % of total purchase ***35%***

Key tier 1 suppliers	Key non-tier 1 suppliers
6 suppliers % of total purchase ***10%***	*5* suppliers % of total purchase ***25%***

Note 1: Key tier 1 suppliers refer to suppliers supply materials to Taiwan Steel Union directly
Note 2: In 2024, the total net purchases amounted to NT$810,161,246, and the net purchases from key suppliers (Tier 1 + non-Tier 1) amounted to NT$281,659,199. The percentage of procurement expenditure from key suppliers was 281,659,199 / 810,161,246 × 100% = 35%.



Taiwan Steel Union's management of key supplier risks

TSU's key supplier risk management methods include diversifying sources, conducting real-time tenders to ensure uninterrupted supply, signing contracts with domestic suppliers to stabilize supply, and having at least two supply sources for each key material. In addition, accepting incinerator fly ash to replace lime and slaked lime, and accepting solid-derived fuels and high calorific value waste to replace coke, can both reduce the risk of supply chain shortages and increase the benefits of waste recycling and reuse.

In the business of fly ash, zinc-containing waste, and high-calorific-value waste, electroplating dewatered sludge with high zinc content has market competitiveness, and new customer sources are continuously being added. For incinerator fly ash, tenders have been secured from three public and private incineration plants. Solid-derived fuel sources currently include only biomass fuel suppliers who continue to cooperate. Additional sources of high calorific value waste include technology plants, chemical factories, plastic cracking plants, and tire recycling plants, with individual reuse applications being submitted to ensure a stable supply.

Supplier assessment management

To enhance sustainable supply chain management, TSU has established the "Supplier Management and Evaluation Measures" to define the management standards for evaluating suppliers and contractors, and screens suppliers with annual procurement amounts of NT$200,000 or more for evaluation.

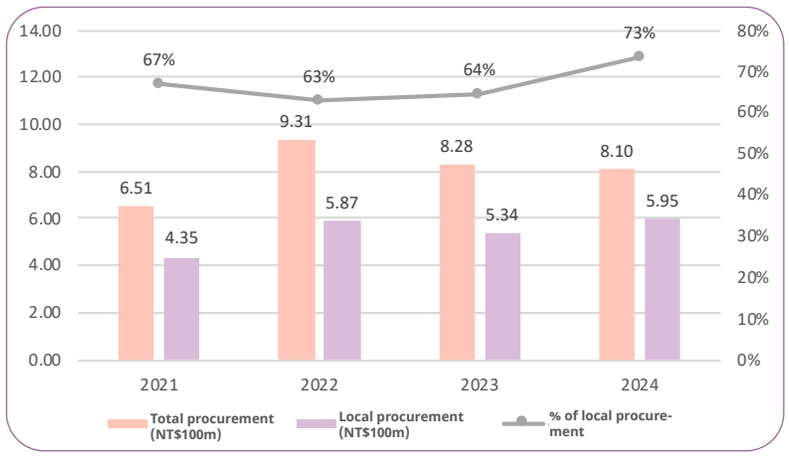
Supplier assessment results

Supplier and contractor evaluations are conducted monthly and annually, focusing mainly on product delivery quality, and environmental, safety, and health matters. Evaluation results are categorized into grades for subsequent tiered management. The evaluation results for 2019–2024 are as follows: In 2024, a total of 136 suppliers and contractors were evaluated, with the proportion of Grade A reaching 100%.

Classification	Classification standard	2019 No. of suppliers and contractors	2020 No. of suppliers and contractors	2021 No. of suppliers and contractors	2022 No. of suppliers and contractors	2023 No. of suppliers and contractors	2024 No. of suppliers and contractors
Assessment of suppliers	A Level (90-100 points)	44	45	48	57	59	61
	B Level (61-89 points)	1	1	0	0	0	0
	C Level (≤60 points)	0	1	0	0	0	0
Assessment of contractors	A Level (90-100 points)	67	68	79	82	77	75
	B Level (61-89 points)	1	1	0	0	0	0
	C Level (≤60 points)	0	0	0	0	0	0

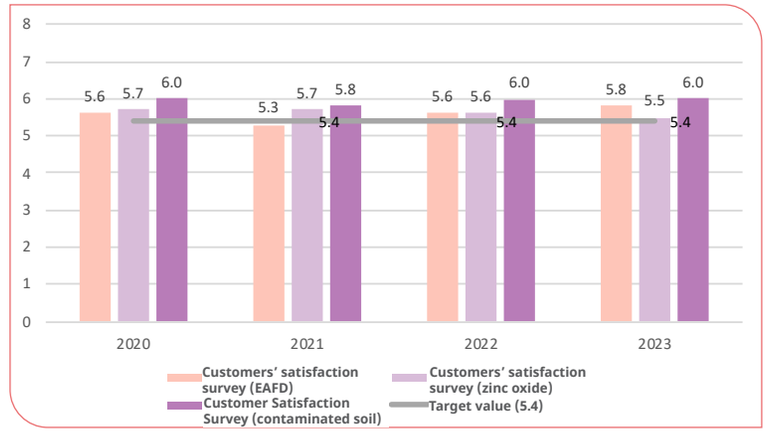
Local procurement

TSU promotes local procurement, defining "local" as within Taiwan, to foster the nation's economic development and increase domestic employment opportunities. The policy stipulates that at least 50% of procurement value must be sourced locally. In 2024, this proportion reached 73%, and from 2021 to 2024, the target was met consistently each year.



4.2 Customer relation management

Taiwan Steel Union conducts annual customer satisfaction surveys for EAFD customers and zinc oxide customers, as part of its efforts to maintain customer trust and ensure service quality. Since 2018, customers of reused soil services have also been included in the survey. Survey ratings are categorized as "Satisfied" (5–6 points), "Acceptable" (3–4 points), and "Unsatisfied" (1–2 points). A high-quality performance target of 5.4 points was established, and this target was consistently met from 2021 through 2024.



Satisfaction level of EAFD customers

A total of 13 questionnaires were distributed to EAFD customers, with 12 returned. Over the past four years, customer satisfaction levels have consistently exceeded the target standard, with a score of 5.8 in 2024.

EAFD Customer A	Temporary tank truck cancellations occasionally occur, necessitating the use of dump trucks for loading.
EAFD Customer B	Good cooperation in arranging and waste clearance.

Satisfaction level of contaminated soils customers

Since 2018, Taiwan Steel Union has conducted customer satisfaction surveys for reused soils customers, including government agencies and private organizations. In 2024, a total of 14 questionnaires were distributed and 10 returned, with all customers rating satisfaction at the maximum score of 6.

Contaminated soil Customers	Good cooperation in arranging and waste clearance.

Satisfaction level of zinc oxide customers

10 copies of survey questionnaires were issued to and 9 copies were recovered from zinc oxide customers. The level of customers' satisfaction for 2024 was 5.6, reaching the target of 5.4 points. Taiwan Steel Union maintains good communication with customers and assists customers to keep an eye on the steel market and the zinc ore market in Taiwan and overseas. Hopefully this creates win-win for Taiwan Steel Union and customers with stable demand and supply by helping customers make adjustments to market change and providing materials specific to requirements.

Zinc oxide Customer A: Purchased zinc oxide, good quality and stable.

Customer Satisfaction with Zinc-Containing Products

4 questionnaires were issued to customers who received zinc-containing products, and 4 were returned. Customer satisfaction was consistently high. In 2024, customer satisfaction scored 5.8 out of 10.

Products containing zinc Customers: Good overall satisfaction.

Customer Satisfaction with Electroplating Sludge

21 questionnaires were issued to electroplating sludge customers, and 12 were returned. Customer satisfaction was consistently high, with a score of 6 out of 10 in 2024.

Electroplating sludge Customers: Good overall satisfaction.

Customer satisfaction for high high calorific value

Five questionnaires were issued to high high calorific value customers, and two were returned. Customer satisfaction was consistently high, with a score of 6 out of 10 in 2024.

High calorific value Customers: Good overall satisfaction.

Customer Satisfaction Rate of Fly Ash

Four questionnaires were issued to fly ash customers, and three were returned.Customer satisfaction was consistently at an acceptable level, with a score of 6 out of 10 in 2024.

Fly ash Customers: Good overall satisfaction.

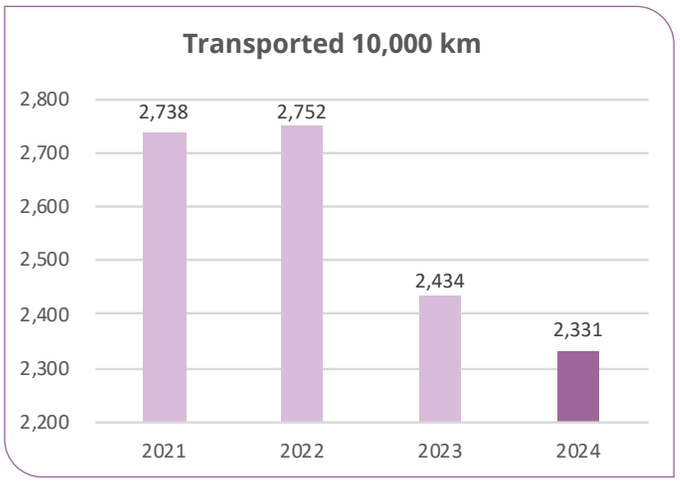
4.3 Transportation Safety Management

Transportation management

Taiwan Steel Union engages contracted transportation providers to handle the collection of related wastes such as EAFD. Through rigorous transportation contract management, we achieve our sustainability targets, including installing GPS positioning systems in compliance with Ministry of Environment regulations, establishing driver qualification requirements, and ensuring all collection drivers complete hazardous materials transportation training, hold valid certification, and attend regular refresher courses. During transportation, strict protective measures are implemented, along with vehicle cleaning protocols, personnel training, and inspections in line with the supervisory office's self-inspection requirements. This embeds a zero-tolerance corporate culture in daily transportation management to ensure safety and regulatory compliance.

Transportation safety

The Taiwan Steel Union maintains strict control over transportation safety and aligns with the United Nations Sustainable Development Goal (SDG) 3.6, aiming to halve global traffic accident fatalities by 2030. We set a "zero tolerance" target for traffic accidents and fatalities. Over the past four years, TSU and its subsidiary, Taiwan Steel Resource, vehicles have traveled a total of 102.55 million ton-kilometers with zero fatalities, achieving 100% of the target.



Taiwan's island is approximately 939.5 kilometers in circumference, 102,550,000 km is equivalent to driving around the island 109,000 times.

Transportation laws and regulations

For the past four years, Taiwan Steel Union has demonstrated excellent transportation management performance, with no violations of any major transportation safety laws or regulations.

05 Chapter Green Manufacturing Process

Management of Material Topics in Green Process

Taiwan Steel Union is a company that reuses waste from steel making electric-arc furnaces in Taiwan. To fulfill corporate social responsibility, we translate our philosophy into effective resource planning. Potential hazards, risks and environmental impacts are effectively controlled with an environmental health and safety management system on production activities, products and services, in order to achieve sustainability.

Material Topics: Environmental Policy and Management System, Materials (GRI 301), Energy (GRI 302), Emissions (GRI 305)

Impact influence

Taiwan Steel Union is a scrap reutilization institution for the electric arc furnace steelmaking industry in Taiwan, practicing the concept of a circular economy. The Company's operations may cause actual or potential negative impacts on the environment and related stakeholders. To achieve corporate sustainability, TSU regularly and irregularly reviews the implementation of material topics and continuously improves to minimize the potential or negative impacts caused by its operations.

Actions

TSU and its subsidiaries continue to implement relevant management systems and procedures to manage various aspects, and to prevent or mitigate potential negative impacts through specific actions or initiatives. If actual negative impacts occur, the company will promptly and actively improve and correct them, and take corrective actions such as revising operating procedures, equipment improvements, or strengthening employee training to prevent future recurrence.

Green manufacturing process and environmental safety and health policy

- Adherence to the government's laws, regulations and other requirements in environmental safety and health
- Continuing operations in accordance with green, environmental protection and safety policies
- Environmental safety and health education to enhance employees' awareness in environmental safety and health
- Hazard and pollution prevention to establish a quality work environment
- Continued improvement to enhance management performance in environmental safety and health
- Industrial waste reduction to lower pollutant emissions and protect the environment
- Adherence to environmental safety and health issues to achieve sustainable operation
- Safe and healthy environment to prevent injuries and diseases
- Increase worker consultation participation and improve environmental safety and health performance.

Management system

- Established the environmental, safety, and health management system ISO 14001:2015 and ISO 45001:2018.
- Establishment of ISO 50001:2018EnergyManagement System.
- ISO 14064-1 GHG emissions verification is performed annually.
- ISO 14067 product and service carbon footprint verification is conducted every three years.

Effectiveness assessment

- Through the annual reporting of sustainability report, the effectiveness and result are tracked and assessed continuously.
- Hold review meetings regularly to confirm the project implementation status and target achievement.
- Periodically review and improve nonconforming items, and implement improvement measures.
- Through the Corporate Sustainable Development Committee and its promotion team, we continue to track implementation status and target achievement.

Concrete Actions and Initiatives

- Compliance with emission standards stipulated in all environmental laws
- Reduce electricity consumption by 1% per year.
- Water recycle and reuse rate 45%.

6 CLEAN WATER AND SANITATION — 6.4 Significant improvement of water consumption efficiency for different industries, to ensure the sustainability of fresh water supply and recycling

7 AFFORDABLE AND CLEAN ENERGY — 7.a. Enhancement of energy infrastructure and investment in clean energy technology

Stakeholder engagements

Regular or irregular communication and interaction are conducted through the stakeholder engagement mechanism, and the information is disclosed in the sustainability report, on relevant platforms, or on the Company website.

Green manufacturing process highlights 1

100% of materials are recycled and reused
The materials include EAFD, zinc-containing waste, fly ash, and sludge, which are used to produce crude zinc oxide and slag. The slag is converted into resources by Taiwan Steel Resource, resulting in 100% material recycling and reuse.

Key Scope 3 emission
The emissions from upstream and downstream transportation and distribution of goods, and from purchased goods (including upstream energy), totaled 69,000 metric tons, accounting for 44.09% of total emissions.

Highest energy saving in past years
The calorific value of energy saved in 2024 reached 6.12 TJ, a record high.

Renewable Energy Installation
The first phase of the solar power generation system was installed, with grid-connected generation of 1.683 million kWh in 2024.

Environmental Protection Expenditure
In 2024, the expenditure amounted to NT$115 million.

Green manufacturing process highlights 2

Industrial waste reuse rate close to 100%
The general and hazardous industrial waste reuse rate was close to 100% and the slag reuse rate was 100%.

Significant Reduction in Dioxin Emissions
The total annual emissions of dioxin concentration (grams) decreased significantly by 135%.

Significant Reduction in Nitrogen Oxide (NOx) Emissions
Compared with 2023, total annual NOx emissions decreased significantly by 38%.

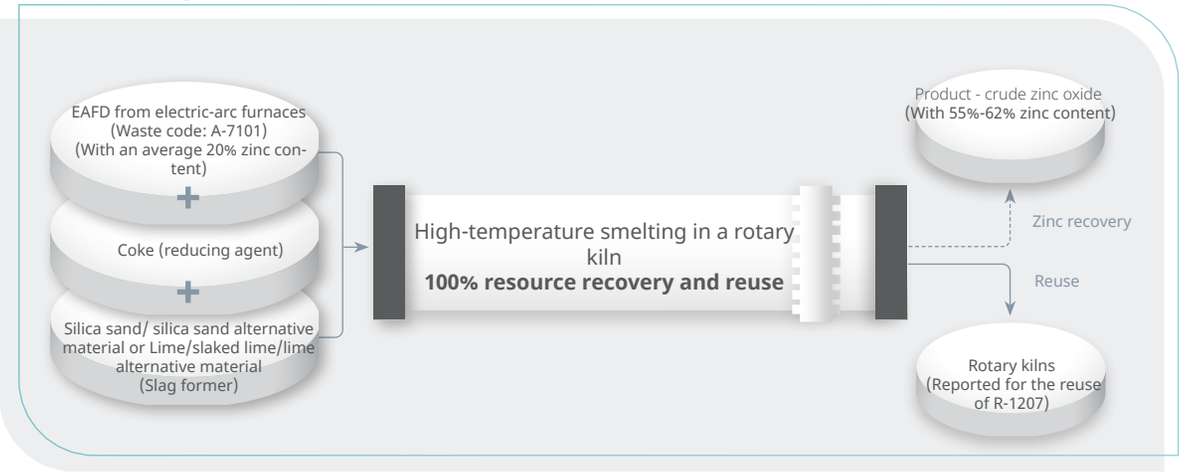
The water intensity continues to decrease.
In 2024**,** water consumption was 0.398 metric tons per metric ton of waste processed, achieving the 2030 target of 0.49 ahead of schedule.

Improved Water Recycling Rate
In 2024, the water recycling rate reached 73%, representing a 38% increase compared to 2023.

Coke Energy Efficiency Project
The amount of coke used per metric ton of waste treatment decreased significantly, with a reduction of up to 37% compared to 2017.

5.1 Environmental-friendly green manufacturing process

Taiwan Steel Union uses the Waelz Kiln Process with high-temperature smelting in rotary kilns to recycle and stabilize zinc-containing waste from EAFD (A-7101) and contaminated soils. The process converts these into valuable crude zinc oxide and reusable slag, achieving 100% circular utilization. The environmentally friendly process incorporates best available control technology (BACT), process optimization and improvement, enclosed transportation systems, cooling system upgrades, thermal energy recovery, and fleet management.



Air pollution control technology

Taiwan Steel Union uses air pollution control equipment of the best available control technology (BACT). This includes a gravity sedimentation chamber, Venturi cooling pipes, hydrated-cyclones, activated carbon injectors, slaked lime injectors, two-stage bag-type dust collectors (product bags and absorption bags), bag-type dust collectors for entry ends and kiln entries. Meanwhile, preventive measures are in place to control fugitive pollution from stored materials. Warehouses are built for raw materials, products and Phase III, so that raw materials as inputs, rotary kiln slag and products as outputs are all kept indoors. This reduces fugitive pollutions due to blowing of strong winds.

Manufacturing process optimization and improvement

Taiwan Steel Union optimizes and improves the manufacturing process such as review of parameters of basicity adjustments and betterment of the cooling system. The purpose is to reduce the consumption of coke and liquid oxygen and the generation of wastewater.

Enclosed transportation system

To reduce material dispersion, Taiwan Steel Union adopted a fully enclosed underground corridor transportation system for raw material handling in the third-phase warehouse operations and installed dust collectors at the receiving warehouse.

Aircooler and thermal recovery

In 2015 and 2016, the No. 2 kiln and No. 1 kiln underwent cooling system upgrades, respectively, adding a slag cooling kiln to recover hot air. The cooling system was replaced from water-based to air-based, using counter-current heat exchange between slag and cold air. The recovered hot air, at approximately 320–400 °C, is fed back into the main rotary kiln as combustion air. After cooling, the slag temperature is reduced to 50–80 °C and conveyed to the storage yard. These process improvements save approximately 10–20% of coke consumption, reduce liquid oxygen and tap water usage, and lower wastewater discharge, achieving energy savings, carbon reduction, and water conservation benefits.

Fleet management

To reduce the pollution risk due to fugitive emissions of dropped materials, the purchase contracts require the cleaning of the vehicle after the uploading of each batch. When leaving the factory, vehicles are inspected at the weighing room for cleaning and prevention of fugitive materials.

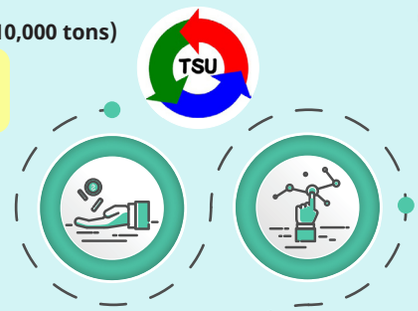
100% recycle and reuse of materials

Taiwan Steel Union invests in materials including EAFD and contaminated soil, and produces products such as crude zinc oxide and general waste slag, all of which are non-renewable resources. The subsidiary Taiwan Steel Resource converts slag into products, with 100% resource recovery and reuse.

In 2024, the subsidiary Taiwan Steel Resource reported material usage of 153,000 metric tons of reducing slag, 94,000 metric tons of rotary kiln slag, 8,000 metric tons of oxidizing slag, 6,000 metric tons of cement, and 3,000 metric tons of furnace slag powder.

Output – resource recovery of slag (10,000 tons)

2021	2022	2023	2023
11.6	11.3	9.6	9.4



Outputs – crude zinc oxide (10,000 tons)

2021	2022	2023	2024
5.13	5.35	5.14	5.11

Inputs (10,000 tons)

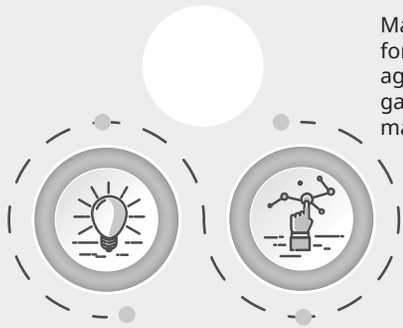
	2021	2022	2023	2024
EAFD	14.2	14.4	11.9	11.8
Contaminated soils	0.5	0.3	0.2	0.2
Others	2.6	2.3	2.0	2.0
Environmental assessment newly added waste actual reuse and treatment volume (tons)	0.22	1.78	2.29	2.11

Material output - furnace slag (metric tons)

2021	2022	2023	2024
11.6	11.3	9.6	9.4

Material inputs - Total of reducing slag, rotary kiln slag, oxidizing slag, cement, ground granulated blast furnace slag (in 10,000 tons)

2021	2022	2023	2024
19.1	26.5	27.5	26.3



Material output - Total of base materials for pavement engineering work, concrete aggregates (including asphalt), aggregates for controlled low-strength backfill materials (in 10,000 tons)

2021	2022	2023	2024
16.7	24.6	25.3	23.9

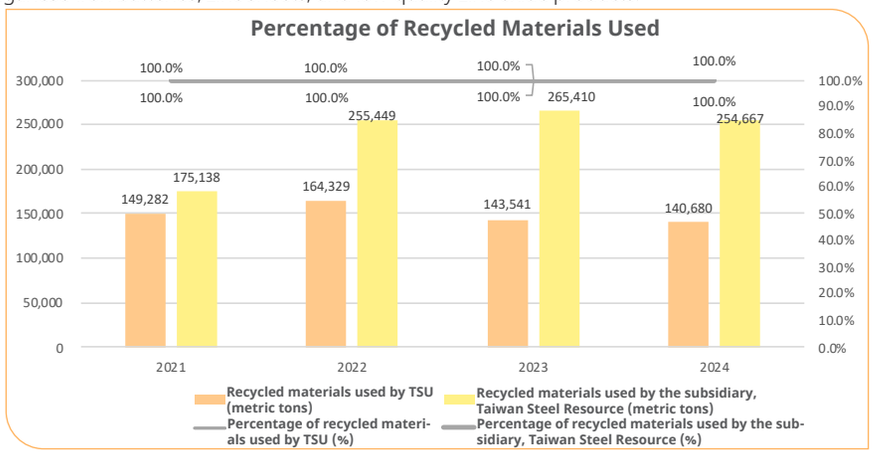
Materials output - controlled low-strength filler materials and non-structural concrete production declaration (M3)

2021	2022	2023	2024
6.2	6.1	7.9	13.2

Use recycled and renewable materials

Taiwan Steel Union actively promotes the circular economy, using recycled materials starting from EAFD and contaminated soil, and now including regenerated raw materials comprising three major categories and 11 types of waste: incineration fly ash, zinc-containing sludge with a zinc content ≥ 2.5%, electroplating dewatered sludge, solid-derived fuels, waste with high calorific value, zinc waste, manganese-iron batteries, zinc sheets, and low-quality zinc oxide products.

In 2024, Taiwan Steel Union used 140,680 metric tons of recycled materials, accounting for 100% of all raw materials; the subsidiary, Taiwan Steel Resource, used 254,667 metric tons of recycled materials, also accounting for 100% of all raw materials.



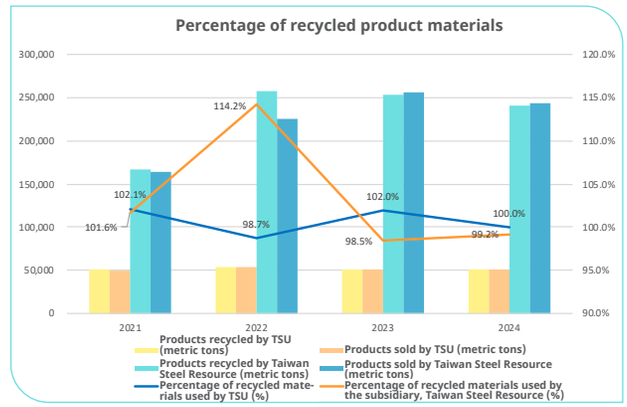
Recycled products and their packaging materials

Due to the nature of the industry, the proportion of packaging materials used by Taiwan Steel Union and its subsidiary, Taiwan Steel Resource, is negligible and therefore not included in the statistics.

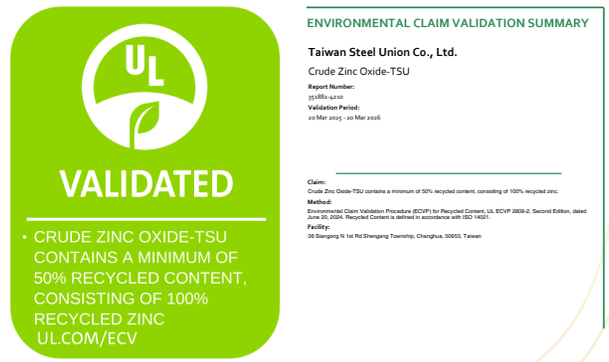
UL2809 Recycled Material Content Verification

UL2809 recycled material content verification confirms the actual proportion of recycled materials in a product or raw material. Steel Union recycles zinc-containing waste such as EAFD, zinc-containing sludge, and low-zinc zinc oxide. The resulting crude zinc oxide is produced through a high-temperature rotary kiln smelting process, with 100% of its zinc content sourced from recycled materials. In March 2025, Steel Union obtained UL2809 recycled material content verification for crude zinc oxide, becoming the first hazardous heavy metal industrial waste recycling organization in the country to receive UL2809 certification.

This achievement not only effectively reduces the potential environmental risks of waste but also establishes a new sustainability benchmark for the steel and resource recycling industries.



Note: The recycled amount is the cumulative total from previous years and is greater than the current year's product sales volume. Therefore, the percentage of recycled product materials exceeds 100%.



5.2 Environmental policy and management system

To implement ISO 14001: 2015 environmental management system, ISO 45001: 2018 occupational health and safety management system and to fulfill corporate social responsibility, **Taiwan Steel Union has formulated its environmental health and safety policy** as the highest principle for environmental health and safety management.

Environmental standards and policy

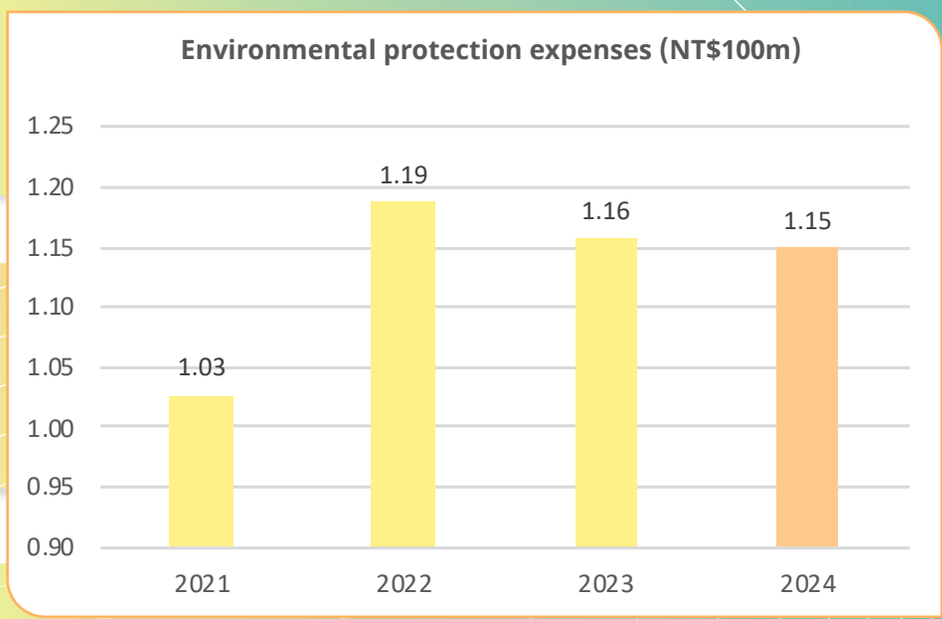
Taiwan Steel Union is a company that reuses waste from steel making electric-arc furnaces in Taiwan. To fulfill corporate social responsibility, we translate our philosophy into effective resource planning. Potential hazards, risks and environmental impacts are effectively controlled with an environmental health and safety management system on production activities, products and services, in order to achieve sustainability.

Environmental management system implementation and validation

Taiwan Steel Union continues to drive its environmental health and safety management system, with annual targets, goals and management initiatives. A robust management method is implemented to reduce pollutions and emissions, improve the operating environment and enhance management performance in environmental health and safety. The purpose is to ensure the environmental friendliness of the manufacturing process and the creation of a safe operating environment.

Environmental protection expenses

Taiwan Steel Union's environmental protection expenses include wastewater treatment and emission charges, air pollution processing and emission charges, waste collection and processing fees, regular inspection fees, cleaning and maintenance of factory facilities and cultivated plants and costs for environmental management and preventive measures. 2024 expense amount was NT$115 million.



5.3 Operational ecosystem efficiency

GHG management

GHG inventory verification and registration

GHG management is a Material Topics for Taiwan Steel Union. A GHG policy has been put in place. We conduct GHG inventory and registration each year according to the operational guidelines on GHG inventory registrations issued by the Environmental Protection Administration and ISO 14064-1 Organization Quantification and Reporting of Green House Gases - GHG Emissions Inventory & Reporting. Our base year is set at 2012.

New KPIs and targets in GHG management

TSU has set new KPIs and targets for GHG management. These include the total emissions target in line with the national phased control target, the Scope 1 emission intensity target (ton CO2e/ton of waste treated), and the Scope 2 emission intensity target (ton CO2e/ton of waste treated).

National GHG reduction target and planning

The Climate Change Response Act is implemented in five-year phases, with the central competent authority consulting with the relevant central industry authorities to set control targets for each phase. The Ministry of Environment has coordinated with the relevant central industry authorities to establish Taiwan's third-phase (2026–2030) Nationally Determined Contributions (NDCs), setting a 2030 emissions reduction target of 24% ± 1%. TSU, in line with the NDC reduction scenario, has formulated a reduction plan and implemented related carbon reduction action programs, using 2012 as the base year. In 2024, TSU reduced its greenhouse gas emissions by 27% relative to the base year, but this fell short of the 2024 reduction target of 30%. Previously, the carbon content of incoming waste and raw materials was tested by the in-house laboratory for every batch and vehicle. In 2024, due to amendments to the GHG Emission Inventory Registration and Verification Management Regulations, carbon content testing was required to be conducted by an external laboratory accredited with ISO/IEC 17025 or CNS 17025 certification. The testing frequency was also changed from once per vehicle to once per quarter. This reduction in sample size resulted in higher carbon emission coefficients for some raw materials compared to the previous year. TSU's in-house laboratory has already obtained ISO 17025 certification and is currently receiving guidance from SGS Taiwan, with the aim of completing accreditation by 2026. Restoring the original testing frequency is expected to improve the accuracy of carbon emission coefficients for the relevant materials.

KPIs and targets in GHG management

Key Performance Indicators	Long-term target for 2030
• National emissions target in phases (compared to the base year reduction %)	• 30% reduction by 2024 • 31% reduction by 2025 • 34%reduction by 2030
• Scope 1 emission intensity target (metric tonCO_2e/ metric ton of treatment)	• 2025 target: 0.56 • 2030 target: 0.53
• Scope 2 emission intensity target (metric tonCO_2e/ metric ton of treatment)	• 2025 target: 0.064 • 2030 target: 0.062

2024 Key Performance Indicators (KPIs)

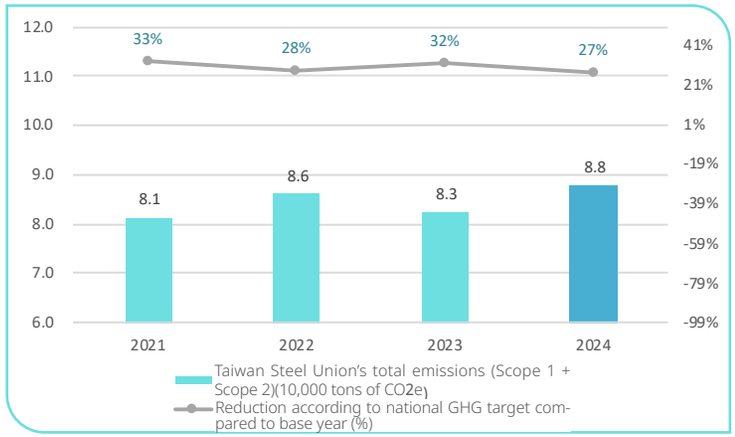
Phased control reduction target (%) (compared to the base year reduction %)	Scope 1 emission intensity (metric tonsCO_2e/metric tons processed)	Scope 2 emission intensity (tons CO_2e ton/ton treated)
2024 27	2024 0.569	2024 0.061
2023 32	2023 0.504	2023 0.065
2022 28	2022 0.464	2022 0.061
2021 33	2021 0.481	2021 0.064

2024 target achievement

In 2024, there was a 27% reduction, but the target was not met.	The Scope 1 emission intensity in 2024 was 0.569, with continued progress toward net-zero emissions by 2030.	The Scope 2 emission intensity in 2024 was 0.061, already achieving the 2030 target and advancing toward net-zero emissions by 2050.

Note 1: The 2024 treatment volume includes seven categories: EAFD, contaminated soil, electroplating sludge, and zinc-containing products.
Note 2: In 2023, the GHG emissions of TSU's subsidiary, Taiwan Steel Resource, were 11,069 metric tons CO2e.

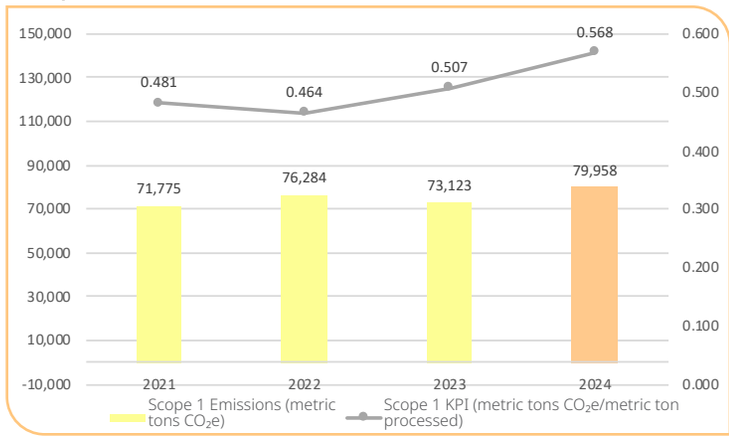
Total GHG emissions (Scope 1 + Scope 2) – National total emissions target



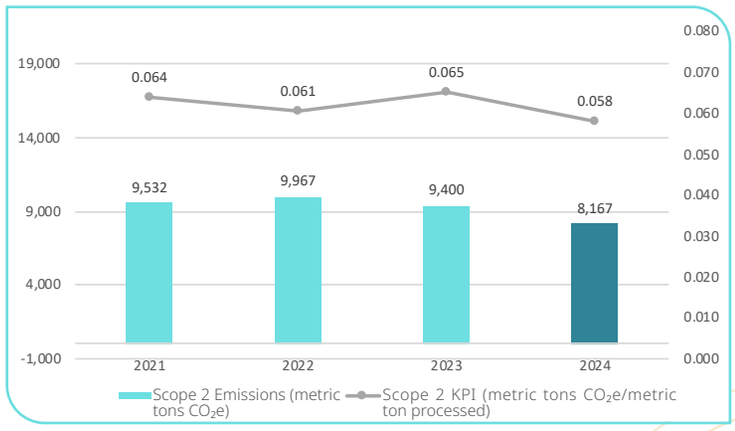
TSU registers its Scope 1 and Scope 2 emissions annually as part of the first batch required by the Ministry of Environment.

In 2024, inventory categories 3 to 6 were assessed, and third-party verification was conducted by SGS. TSU obtained the updated ISO 14064-1:2018 Greenhouse Gas Inventory Statement in 2025.

Scope 1 emission intensity (metric tonCO_2e/metric ton of waste treatment**) of United Steel's Greenhouse Gas Emissions**



Scope 2 Emission Intensity (metric tons CO_2e/metric ton processed) **– TSU GHG Emissions**



In line with 2050 sustainability and net-zero carbon goals, TSU evaluates the carbon emissions generated during all operational processes and has formulated suitable carbon reduction plans to mitigate environmental impacts.

Taiwan Steel Union's Scope 3 emissions

Following the TCFD climate strategy, TSU inventories Scope 1 through Scope 3 GHG emissions and provides full disclosure. Key Scope 3 categories are identified, and material Scope 3 emissions are determined. In line with the materiality principle, the reporting boundary for other significant indirect emissions is defined. The assessment criteria for material indirect emissions are weighted based on scale, impact, risk, opportunity, outsourcing, and employee participation according to Categories 3~6. A weighted score of 3 or above is classified as material indirect emissions. Identified Results:

Based on the identified material indirect emissions, the total Scope 3 emissions were 55,992.9091 metric tons CO_2e/year, accounting for approximately 44.09% of TSU's total emissions, including:

Total emissions of Category 3: 9,297.5794 metric tons CO2e/year.

Category 3 refers to emissions from upstream transportation and distribution of goods.
- The emission was 3,700.3166 metric tons of CO2e/year, accounting for 2.57% of the Company's total emissions.
- To cover the upstream transportation emissions caused by the disclosure of major material items in the CSR report.

Category 3 refers to emissions from downstream transportation and distribution of goods.
- The emission was 5,597.2628 metric tons of CO2e/year, accounting for approximately 3.88% of the Company's total emissions.
- To cover the transportation emissions of all products.

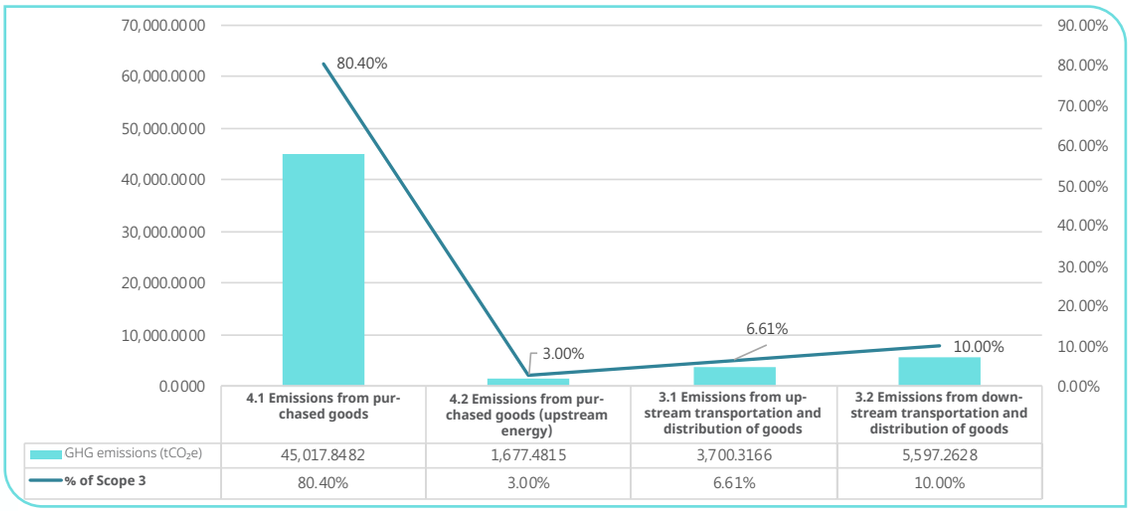
Total emissions of Category 4: 46,695.3297 metric tons of CO2e/year.

Category 4 emissions from purchased goods.
- The emission was 45,017.8482 metric tons of CO2e/year, accounting for 31.24% of the Company's total emissions.
- To cover the emissions caused by the main raw materials disclosed in the ESG report (including coke, quicklime (CaO), hydrated lime ($Ca(OH)_2$), and activated carbon).

Category 4 emissions from purchased goods (upstream of energy), accounting for 1.16% of the Company's total emissions.
- The emission was 1,677.4815 metric tons of CO2e/year.

Note: Scope 1 and 2 GWP values are based on the Fifth Assessment Report, while Scope 3 GWP values are based on the Sixth Assessment Report.

TSU Scope 3 Emissions (metric tons CO□e)



Taiwan Steel Union's Scope 3 emission risks

TSU's Scope 3 GHG emissions accounted for 38.85% of the total Scope 1–3 emissions, approaching half of the total emissions.

2024 TSU Implements Eco-Friendly Reduction Measures

- TSU has established the ISO 50001 Energy Management System for the plant and inventoried all energy-consuming equipment. In 2024, two chillers in the main office were replaced. The total energy saving is expected to reach 34,112 kWh. Based on the 2024 electricity emission factor of 0.474 kg CO_2e/kWh announced by the Bureau of Energy, this will reduce approximately 16 metric tons of greenhouse gas emissions.
- In 2024, TSU optimized the EAFD treatment process, focusing on the rotary kiln. By adjusting process parameters to reduce clinker formation and heat loss, the need for burners for heating was minimized, decreasing diesel consumption by approximately 27.8 kiloliters and reducing greenhouse gas emissions by about 73 metric tons. (Diesel emission factor is calculated according to the factor announced by the Ministry of the Environment.)
- To further reduce particulate matter pollution, TSU has strengthened environmental maintenance in designated areas to minimize material accumulation and has installed spray dust suppression systems at key warehouse entry and exit points.

According to the waste resource recycling and reuse net-zero carbon emission strategy and roadmap announced by TSU on April 22, 2022, as follows:

Replacement restoring agent

Both fossil fuels and alternative fuels (RDF, biomass fuels, etc.) emit greenhouse gases during combustion. Hydrogen is a clean energy source that can replace traditional fossil fuels and produces no greenhouse gases or other pollutants during use. Currently, hydrogen development is still in the R&D and testing stage. TSU will continue to monitor hydrogen advancements and assess the feasibility of its practical application in the steelmaking industry to replace coke, a high-carbon-emission raw material.

Use of renewable energy

The planned capacity is 7,686 m^2(approximately 1,356 kW) for rooftop solar panels. The rooftop solar panel installation on the plant roof was completed in December 2023. Furthermore, the Company is evaluating the installation of an additional 20,400 $m^2$of solar panels on the TSU and Taiwan Steel roofs, which would provide an extra 3,400 kW of power. The total estimated capacity is 3,910,384 kWh, which reduces Scope 2 purchased electricity consumption and delivers carbon reduction benefits.

Using EVs to replace diesel.

To reduce diesel consumption, the Company assesses the feasibility of replacing diesel-powered vehicles such as loaders, forklifts, transport vehicles, and excavators with electric vehicles to reduce GHG emissions.

Process adjustment

Evaluate the feasibility of high-temperature gas and furnace shell heat recovery in the rotary kiln, and add rain shelters to the rotary kiln to prevent climate factors from causing the furnace temperature to fall, resulting in increased fuel input to raise the temperature and higher carbon emissions.

Carbon capture and storage

Domestic manufacturers have already established a demonstration plant for flue gas carbon capture, which can recycle and convert CO_2into alkanes for reuse. Research and development and testing phases have been conducted at CPC Corporation, in the petrochemical industry, and the steel industry. Therefore, the Company will evaluate the feasibility of installing carbon capture equipment and reuse in the main flue stacks in the future to reduce GHG emissions.

Promote energy management

TSU have introduced the ISO 50001 system to monitor and understand the plant's energy needs, establish energy policies and targets, and implement effective operational control methods to improve energy efficiency.

The electricity emission factor in 2022 was 0.495 kg CO_2e/kWh.

Energy management

Taiwan Steel Union continues to implement action plans for energy efficiency and carbon reduction, by improving energy consumption efficiency and energy performance. Taiwan Steel Union is categorized as an electricity user for at least 800kW capacity and subject to the Regulations on Setting Energy Conservation Objectives and Execution Plans for Energy Users. This requires at least 1% average electricity saving rate p.a. in 2015-2024. By 2024, the average power saving rate reached 1.71%, with heat savings of 6.12 TJ, the highest recorded to date.

Year	2021	2022	2023	2024
Total electricity consumption (kWh)	18,976,000	18,694,400	18,406,400	18,868,466
Annual electricity saving (kWh)	188,412 Note 1	148,504	408,544	1,700,102 Note 2
Energy saving (TJ)	0.68	0.53	1.47	6.12
Annual electricity saving rate %	1.00	0.8	2.17	8.27
Carbon reduction (metric tonsCO_2e)	95	76	202	806 Note 3

Note 1: The 2022 electricity-saving measure was to reduce the air compressor operating pressure by 0.5 kg/cm² → 995.91 kW × 0.8 (average annual load of the air compressor) × 0.03 (electricity saving percentage from a 0.5 kg pressure reduction) × 7,680 annual operating hours × implementation period of 6/12 months = 91,738 kWh; the carbon reduction calculation adopts the 2022 electricity emission factor of 0.495 kg CO2e/kWh.
Note 2: Renewable energy generation in 2024 totaled 1,638,866.00 kWh.
Note 3: The electricity emission factor for 2024 is 0.474 kg CO2e/kWh.

Taiwan Steel Union Energy consumption

Non-renewable energy	2021	2022	2023	2024
Non-renewable energy - electricity consumption (MWh)	18,976	18,538	18,706	17,230
Non-renewable energy - Diesel (KL)	274	320	320	293
Non-renewable energy - Coke (ton)	28,591	28,662	26,570	26,843
Total of non-renewable energy -TJ	**916**	**918**	**857**	**912**

Note: This statistic does not include solid-derived fuels or calorific waste, resulting in a lower reported energy proportion.
Note: The calorific value conversion coefficients for energy use are as follows — Electricity (MWh) = 860,000 Kcal/MWh, Diesel (KL) = 8,400,000 Kcal/KL, Coke (ton) = 7,000,000 Kcal/ton, and 1 Kcal = 0.000000004187 TJ.

Taiwan Steel Resource Energy consumption

Non-renewable energy	2021	2022	2023	2024
Electricity purchased from Taiwan Power Company (MWh)	5,815	6,732	7,280	5,611
Non-renewable energy - Diesel (KL)	122,600	185,400	231,150	218,668
Non-renewable energy - natural gas (m^3)	2,390,471	3,310,724	3,001,454	2,855,719
Non-renewable energy - tap water (metric tons)	103,068	113,503	122,402	89,769
Total of non-renewable energy -TJ	**87,421**	**120,762**	**112,275**	**105,992**

Note: Taiwan Steel Resource's energy use is mainly natural gas, due to the application of reducing slag stabilization technology in high-pressure autoclaves.
Note: The calorific value conversion coefficients for energy use are as follows — Electricity (MWh) = 860,000 Kcal/MWh, Diesel (KL) = 8,400,000 Kcal/KL, Natural Gas (m^3) = 860,000 Kcal/kWh, Tap Water (ton) = 7,000,000 Kcal/ton, and 1 Kcal = 0.000000004187 TJ.

KPIs and targets in energy management

Taiwan Steel Union has established new KPIs and targets for energy management, including the average annual electricity saving rate from 2015 to 2024, the energy intensity target (GJ/ton of waste treated), and the electricity consumption intensity target (kWh/ton of waste treated).

KPIs and targets in energy management	
Key Performance Indicators	Long-term target for 2030
• Annual electricity saving rate in 2015-2024	• Annual electricity saving 1% to 2024 (10% over the 10 year period)
• Energy intensity (GJ/metric ton of waste disposed)	• 6
• Electricity intensity target (kWh/metric ton of waste treatment)	• 110

2024 Key Performance Indicators (KPIs)		
Annual average electricity saving rate (%)	Energy consumption intensity target (GJ/ton treated)	Electricity consumption intensity target (kWh/ton treated)
2024 8.27	2024 6.1	2024 122
2023 2.17	2023 6.0	2023 130
2022 0.80	2022 5.6	2022 115
2021 1.00	2021 6.1	2021 127
2020 0.99	2020 6.3	2020 115
2024 target achievement		
Target achieved	Ongoing	Ongoing

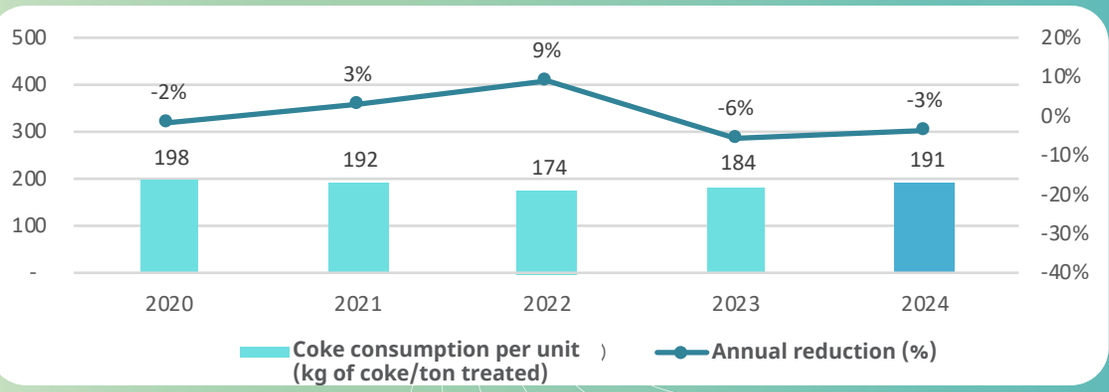
Note: The treatment volume in 2024 includes seven categories: EAFD, contaminated soil, electroplating sludge, and zinc-containing products.
Note: The energy intensity KPI (GJ/metric ton of waste treated) is calculated based on the total electricity, coke, and diesel consumption.

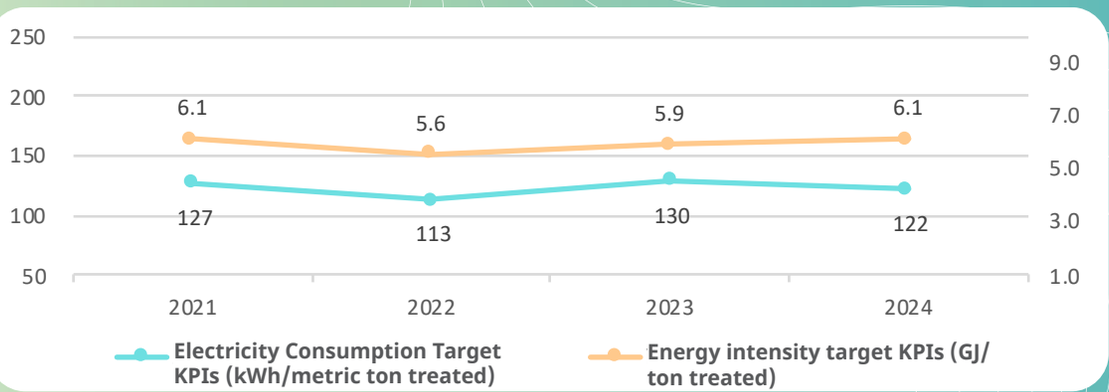
Taiwan Steel Union Energy and Electricity Use Intensity Indicators – Coke Energy Efficiency Improvement Plan

Since 2018, TSU has implemented the Coke Energy Efficiency Improvement Plan, which increases the reuse of contaminated soil through timely adjustment of alkalinity. During operations, the amount of coke input and the coke-to-dust collection ash ratio have been gradually reduced to achieve balanced and stable kiln operation. Measures to reduce the coke-to-EAFD ratio in Kiln No. 1 and No. 2 have continued, lowering coke consumption per metric ton of treated waste from 303 kg in 2017 to 191 kg in 2024 — a cumulative reduction of 37%.

Since September 2021, TSU has used Refuse Derived Fuel (RDF) as an auxiliary fuel, replacing approximately 7–8% of coarse coke without affecting production capacity or product quality. In 2024, the use of RDF and other auxiliary fuels, such as other calorific waste, reached 2,736 metric tons. This not only reduced coke usage in the process but also helped address the disposal of domestic industrial waste.

In 2024, the energy intensity reached 6.1 GJ/metric ton of waste treated, missing the target value of 6. The shortfall was mainly due to efforts to maintain slag quality stability in rotary kilns and increase production capacity. In the second half of the year, coke usage was increased to raise kiln temperature and enhance the reduction effect, allowing zinc and lead in the waste to be reduced and oxidized into zinc oxide products, thereby minimizing residual content in the slag. As a result, coke-related carbon emissions in 2024 increased by 1,900 metric tons of CO_2e compared to 2023. For this year, the coke use intensity target is set at 0.195 metric tons of coke per metric ton of waste treated. A carbon management system has been established to monitor and control process-related carbon emissions against this target. In 2025, TSU will also conduct tests using coke of varying specifications to evaluate ways to extend coke residence time in the kiln, improve energy efficiency, and further reduce coke input.





Note: The denominator for the electricity intensity KPI is the total electricity consumption in 2024. The denominator for the energy intensity KPIs includes the total electricity consumption in 2024 plus diesel and coke consumption.

Install renewable energy

The solar power generation system was completed in December 2023. In 2024, total self-generated renewable energy reached 1,638,866 kWh. In 2025, planning and construction will commence for the Phase 2 solar power generation system and the rooftop solar panel installation project at Taiwan Steel. The total installation area will be approximately 20,400 m^2, with a total capacity of 3,400 kW. Estimated total generation will be 3,910,384 kWh, with completion scheduled for the end of 2025 and 2026. These projects will continuously reduce Scope 2 purchased electricity usage, delivering long-term carbon reduction benefits. In preparation for the implementation of carbon fees, Taiwan Steel Union is not only expanding renewable energy installations but also increasing the use of alternative fuels to partially replace coke, and will continue to raise this substitution rate to mitigate the impact of carbon fees.

5.4 Environmental laws and regulations

Adherence to environmental laws and regulations is the most important issue to Taiwan Steel Union. We strive to meet all the regulatory requirements in energy, air pollution, wastewater, waste, transportation, reporting and monitoring.

Details of environmental regulatory breaches

In 2024, there were no records of fines for violating environmental protection laws and regulations.

Air pollution emission management

Taiwan Steel Union carries out air pollution control measures to ensure all the pollution control equipment maximize effectiveness. We also strictly adhere to laws, regulations and environmental assessment and commitment and make transparent disclosure.

Environmental-friendly air pollution control

Taiwan Steel Union implements environmentally friendly control measures, including enclosing transportation vehicles or using bulk bags to reduce fugitive emissions, cleaning vehicle bodies after unloading, utilizing high-efficiency dust collection equipment, adopting sealed underground corridor transportation systems, operating back-end pollution control facilities properly, and continuously monitoring and analyzing air pollutants. In 2024, all emissions were below both legal standards and the commitments made in the environmental impact assessment. To further enhance exhaust gas pollution control, Taiwan Steel Union continues to use special embedded activated carbon, increasing the mercury removal efficiency of air pollution control equipment to over 90%.

100% Compliance with Air Pollution Regulations

Emissions of nitrogen oxides (NOx), sulfur oxides (SOx), and particulate matter were all below the levels committed in the environmental impact assessment. Emissions of volatile organic compounds (VOC) were limited to evaporation from the diesel storage tank, amounting to only 0.004 metric tons per year.

In 2024, NOx emissions were 13.69 metric tons and SOx emissions were 13.58 metric tons. Air pollution emissions complied with legal standards, fulfilling environmental management responsibilities. To achieve stricter control, Taiwan Steel Union has committed to significantly reducing annual air pollution emissions, with a maximum reduction of up to 95%, demonstrating the company's responsibility to maintain the lowest possible emissions using the best available control technology (BACT).

Regular monitoring and transparent disclosure

In addition to air pollution inspection at the chimney outlets, Taiwan Steel Union regularly monitors the ambient air quality for two stations, dioxins in the air for three stations, dioxins in the air dust for three stations. Despite a lack of control standards on dioxins in the air and in the air dust in Taiwan, Taiwan Steel Union has been monitoring and analyzing the data and disclosing the results in its official website each quarter.

2024 air pollution emissions

Our commitment to annual air pollution emission reduction

Year	2021 starting in 2021	2022 Actual emission	2023 Actual emission	2024 Actual emission	Achieved commitment (2021) emissions target
Particle matters (ton/year)	5.48	2.81	5.3	2.81	Target achieved
SOx (ton/year)	20.64	16.02	12.34	13.58	Target achieved
NOx (ton/year)	28.36	22.12	14.99	13.69	Target achieved
Lead (ton/year)	0.06	0.00541	0.0124	0.0077	Target achieved
Zinc (ton/year)	0.43	0.06911	0.12922	0.10247	Target achieved
Cadmium (ton/year)	0.0024	0.00010	0.00023	0.00021	Target achieved
Mercury (ton/year)	0.432	0.01850	0.00764	0.01492	Target achieved
Dioxin (gram/year)	0.04	0.036	0.019	0.017	Target achieved

Note: The main important pollutants emitted by our plant are disclosed. Emissions of other pollutants have been recorded in the monitoring information on our official website.

Annually Monitoring information

5.5 Water risk management

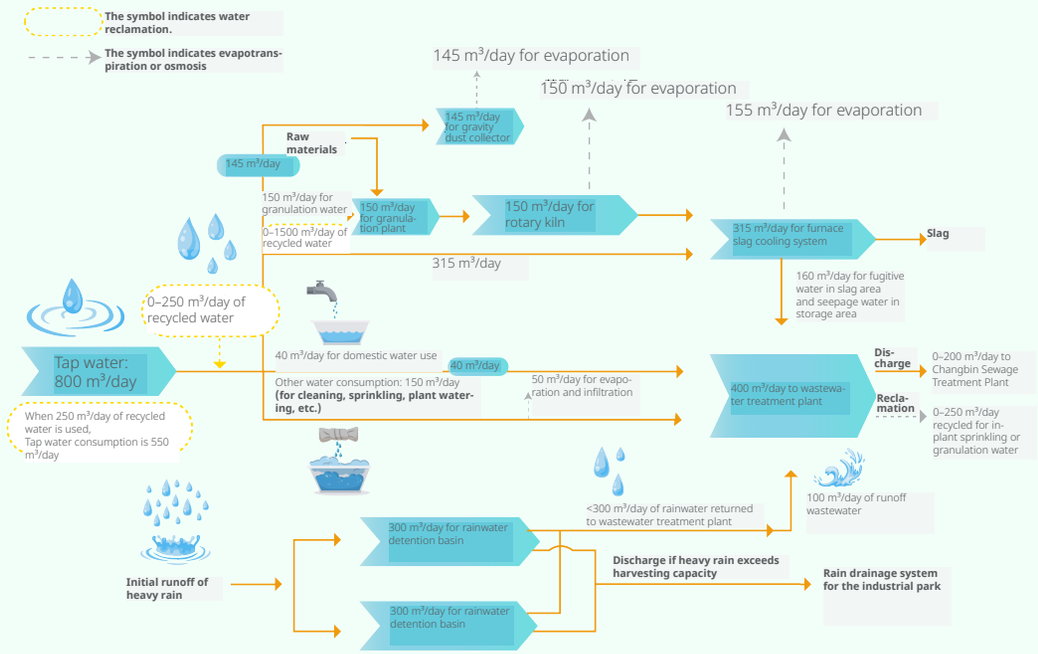
Water resource management is Taiwan Steel Union's priority. We have put in place a **water risk management policy** to assess water consumption risks. We are committed to water reclamation and reuse. A set of KPIs on water resource management have been established. We also manage and monitor sewage discharge and provide transparent disclosure.

Water risk policy

Water risk assessment

Taiwan Steel Union is located in Changhua Coastal Industrial Park, Changhua County. Water resources are from running water (from the third party). According to the official website of Changhua Coastal Industrial Park, local running water is from the Carp Pond Water Reservoir. The reservoir supplies about 700,000 tons of water each day, and among this, 15,000 tons daily is allocated to Changhua Coastal Industrial Park. Taiwan Steel Union's average water assumption per day is approx. 1.8% of the reservoir's daily supply. The water acquisition method and volume do not cause a significantly adverse influence on the water source. The scarcity risk of water resources is low. It is not a water resource stress spot. Note

Taiwan Steel Union water consumption balance diagram



Note: According to the World Resources Institute (WRI) Global Aqueduct Water Risk Atlas (https://www.wri.org/data/aqueduct-water-risk-atlas), Taiwan is classified as a non-water-stressed area.

KPIs and targets for water resource management

Taiwan Steel Union has set up a new set of KPIs and targets for water resource management. This includes water reclamation rates, water consumption per unit of treated waste, and wastewater discharge complying with the sewage influent standards of Changhua Coastal Industrial Park without violations.

KPIs and targets for water resource management

Key Performance Indicators	Long-term target for 2030
• Water recycle and reuse rate	• 45%
• Water consumption of unit treatment volume	• 0.49
• Wastewater influent pipes	• No material breach

2024 Key Performance Indicators (KPIs)

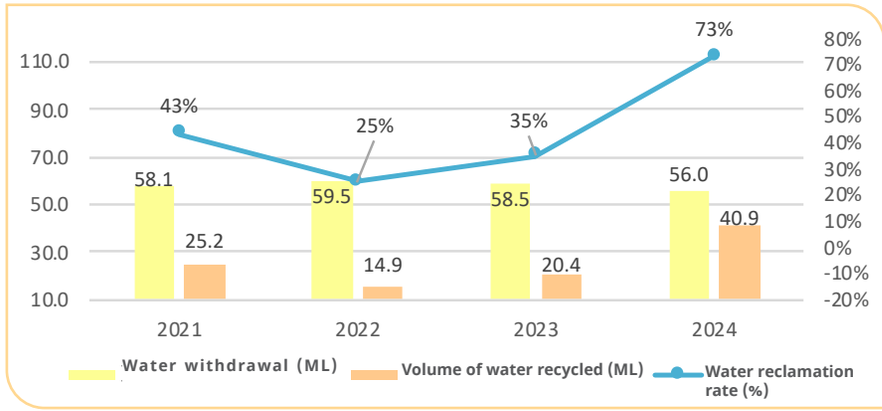
Water recycle and reuse rate (%)	Water consumption per unit (ton/ton waste treated)	Zero breach
2024 73	2024 0.398	2024 0
2023 35	2023 0.407	2023 0
2022 25	2022 0.362	2022 0
2021 43	2021 0.389	2021 0

2024 target achievement

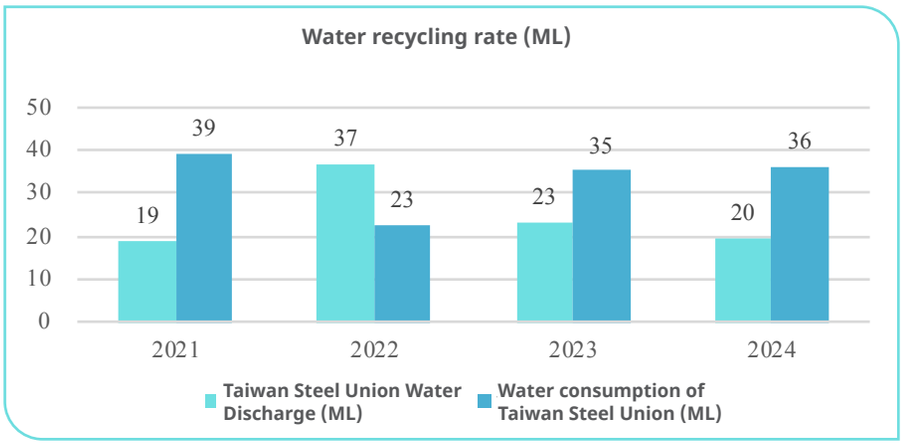
Target achievement	Target achievement	Target achievement

Water reclamation and reuse

Taiwan Steel Union uses water primarily for the granulation process, rotary kilns, slag cooling, pollution prevention, cleaning, sprinkling and watering, and domestic use for employees. A portion of the water is lost through evaporation. To maximize water resource utilization, process water is circulated and recycled for reuse. In the initial stage, rainwater runoff and process wastewater undergo pretreatment and are then prioritized for use in the granulation process. The next priority is road sprinkling and cleaning within the plant. Only when the recycled water storage tanks reach a high level is the water discharged into the drainage system. In 2024, the total water withdrawal was 56 million liters (ML), with 40.9 ML reclaimed and reused, achieving a reclamation rate of 73%. The recycling rate increased significantly compared to 2023, mainly due to the completion of the plant's sprinkler pipeline renewal in February 2024, which increased recycled sprinkling water from approximately 6,000 metric tons in 2023 to over 20,000 metric tons in 2024, boosting the total amount of water recycled at the plant.



Note: In 2024, Taiwan Steel's water withdrawal was 89.8 million liters (ML).



Note: The conductivity of Taiwan Steel Union and the Taiwan Cement Corporation (TCC) plant remained below 1,000 mg/L throughout the year. Water use was primarily for production processes, operational needs, cooling towers, and domestic sewage, with no direct discharge into water bodies (all effluent is connected to the Changbin sewage system).

Note: In 2024, Taiwan Steel's water discharge was 50 million liters (ML), and its water consumption was 42 million liters (ML).

Wastewater discharge management

All of Taiwan Steel Union's wastewater is pretreated onsite and must meet the effluent standards of the Changhua Coastal Industrial Park sewage system before being discharged into it. There is no direct discharge of wastewater into surface water bodies. In addition to conducting water quality testing on influents to the sewage system, regular inspections are carried out on the rainwater detention basin at two stations, upstream and downstream groundwater at two stations, and soil at one station with two samples (surface and subsurface soil). Strict monitoring and data analysis are performed, and the monitoring results are disclosed quarterly on the official website.

06 Chapter Happy and Safe Workplace

Employees are the irreplaceable asset of the Union. Taiwan Steel Union believes that only at a safe work environment can our healthy employees provide trustworthy products and services.

Management of Material Topics in a Happy Workplace

Material Topics: Occupational Health and Safety (GRI 403)

Impact influence

In order to create a safe and healthy work environment for employees, foster a safe and healthy organizational culture, and build a safe and comfortable workplace, a comprehensive occupational safety system can reduce the accident rate, stabilize workforce deployment and production processes, and minimize intangible losses resulting from accidents.

Actions

TSU and its subsidiaries continue to implement relevant management systems and procedures to address various topics, preventing or mitigating potential negative impacts through specific actions or initiatives. If actual negative impacts occur, TSU promptly undertakes corrective measures, including revising operating procedures, improving equipment, or strengthening employee training, to reduce the likelihood of recurrence.

Happy workplace commitment

A zero-hazard work environment is created to protect the health and safety of employees. Annual health inspections and comprehensive training & education are offered.

Specific Actions or Initiatives for a Happy Workplace

- No major occupational injuries occur each year. The target is to keep improving on the record of zero hazard hours.
- Regular and ad-hoc training and education programs or external training resources are provided.
- TSU have established an Occupational Safety Committee and hold regular quarterly meetings to provide consultation, communication, and follow-up on improvements for workers regarding occupational health and safety.
- All employees: obligation to undertake training and education in health and safety, adherence to "Health and Safety Work Rules" and "Training and Education Implementation Rules".

Happy workplace management system

- Operating environment monitoring is implemented according to the frequency specified in the Occupational Safety and Health Act. In addition, respiratory protective equipment airtightness test and general health examination, special operation health examination and health classification management are implemented for all employees of the factory.
- Plan management and performance reviews are performed annually. ISO 45001: 2018 occupational health and safety management system is promoted and maintained.
- Employees receive training according to the frequency and hours required by law.
- Factory doctors and protection system is implemented, and assistance to the labor health protection of health management, occupational disease prevention and health promotion, etc. is provided.
- The "Psychological Health Counseling Program" is provided to support employees' mental health.

8.8 Protection of labor interest, promotion of workplace safety.

Happy workplace complaint mechanism

Establishment of an opinion box for employees and convening of labor relation meetings from time to time as channels for employees to provide feedback on a timely basis.

Happy workplace effectiveness evaluation

Through the annual reporting of sustainability report, the effectiveness and result are tracked and assessed continuously.

Stakeholder engagements

Regular or irregular communication and interaction are conducted through the stakeholder engagement mechanism, and the information is disclosed in the sustainability report, on relevant platforms, or on the Company website.

Happy workplace highlights

Promote labor health protection
Continue to include the plant doctor and plant nurse system to protect employee health and safety.

Gender equality
There is no difference in remuneration due to gender or ethnicity for new employees of the same job positions and the same job ranks. Basic salary ratio for female and male employees is 1:1.

Completed human rights due diligence
Completed human rights due diligence, with all identified human rights risks classified as low risk.

Employees' performance review
Employees 100% regular performance review

Employee Remuneration institutionalization
The company charter specifies that no less than 1% of the annual profits shall be appropriated as employees' remuneration, in order to retain talents

Year-end banquet in 2024

6.1 Human resource management

Employees are Taiwan Steel Union's most valuable asset. The company has established a fair, reasonable and competitive remuneration and promotion systems for human resources management and employees' right protection. We observe all the regulations outlined in the Labor Standards Act. We have a reasonable structure and a robust system for employees' salaries. We regularly organize communication meetings and the welfare committee meetings for employees' opinions. The two-way communication with employees is healthy.

To encourage a strong work ethic, we and employees work together for the business. We have put in place relevant codes of conduct, incentive schemes and penalty standards for employees. TSU have established a comprehensive communication mechanism and provided employees and the supply chain with complaint channels – "Illegal or Unethical Behavior Reporting System[Note]" – to protect employee rights and interests. The number of complaints regarding labor conditions to date is zero.

Although the Company has not yet established a trade union or collective bargaining agreements, it holds regular quarterly labor-management meetings and has transparent communication channels.

Employment

As of the end of 2024, Taiwan Steel Union had 109 employees, including 26 male foreign workers on term contracts for operational roles. All the others are full-time permanent employees and Taiwanese citizens. As a traditional environmental protection business, most of Taiwan Steel Union's employees are male. In 2024, we had 91 male employees, accounted for 85% of the total number of employees. The number of female employees was 16, accounted for 15% of the total number of employees. Taiwan Steel Union is a stable SME (small-and-medium enterprise). The change over the years was limited.

Note: The reporting mechanism for illegal or unethical conduct within Steel Union can be found at https://www.tsutw.com.tw/contactus.php#.

Category		Taiwan Steel Union								Taiwan Steel Resource							
		2021		2022		2023		2024		2021		2022		2023		2024	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Managers	<30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	30-50	7	0	7	0	6	1	6	1	4	2	5	1	6	2	5	1
	>50	5	1	5	1	5	1	5	1	3	0	2	0	2	0	3	1
Non-field operator	<30	0	2	2	1	2	2	3	1	0	2	1	1	0	1	0	1
	30-50	7	5	7	8	5	7	6	9	10	5	11	8	12	8	12	7
	>50	2	0	3	0	4	0	4	0	1	0	1	0	2	0	2	1
Field operator	<30	4	1	5	1	9	1	8	0	8	0	9	0	15	0	14	0
	30-50	49	4	52	4	52	4	52	5	25	1	33	2	29	2	27	2
	>50	10	0	10	0	8	0	8	0	1	0	2	0	1	0	2	0
Total		84	13	91	15	91	16	92	17	17	10	65	10	67	13	65	13

Note 1: All of Taiwan Steel Union's employees are full time. We do not hire temporary workers or part-time personnel.
Note 2: Managerial personnel is directors or above.

New and resigned employees

In 2024, Taiwan Steel Union had a total of 109 employees, including 7 new hires and after 5 departures. The subsidiary Taiwan Steel Resources had a total of 78 employees, including 12 new hires and after 14 departures.

Category		Taiwan Steel Union								Taiwan Steel Resource							
		2021		2022		2023		2024		2021		2022		2023		2024	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
New employees	<30	3	1	5	2	4	0	0	0	3	0	4	1	6	0	3	0
	30-50	7	0	15	1	6	2	5	2	12	3	11	4	6	1	7	1
	>50	0	0	0	0	0	0	0	0	2	0	1	0	1	0	0	1

Category		Taiwan Steel Union								Taiwan Steel Resource							
		2021		2022		2023		2024		2021		2022		2023		2024	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
New hire rate %	<30	75%	33%	71%	100%	33%	0%	0%	0%	33%	0%	40%	100%	40%	0%	21%	0%
	30-50	11%	0%	23%	8%	10%	17%	8%	13%	31%	38%	22%	44%	13%	8%	16%	10%
	>50	0%	0%	0%	0%	0%	0%	0%	0%	40%	0%	20%	0%	20%	0%	0%	0%
Total new hire rate %		12%	8%	22%	20%	11%	13%	5%	12%	32%	30%	25%	50%	19%	8%	15%	15%

Note: The new employment rate is the number of new employees divided by the total number of employees for each category by the end of the year.

Category		Taiwan Steel Union								Taiwan Steel Resource							
		2021		2022		2023		2024		2021		2022		2023		2024	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Resigned	<30	0	0	0	0	0	0	0	1	2	0	0	2	1	0	2	0
	30-50	7	0	10	2	9	1	2	1	9	2	5	3	10	0	9	2
	>50	4	0	2	0	2	0	1	0	0	0	1	0	2	0	1	0

Category		Taiwan Steel Union								Taiwan Steel Resource							
		2021		2022		2023		2024		2021		2022		2023		2024	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Departure rate	<30	0%	0%	0%	0%	0%	0%	0%	100%	22%	0%	0%	200%	7%	0%	14%	0%
	30-50	10%	0%	15%	17%	14%	8%	3%	7%	23%	25%	10%	33%	21%	0%	20%	20%
	>50	0%	0%	11%	0%	12%	0%	6%	0%	0%	0%	20%	0%	40%	0%	14%	0%
Overall turnover rate		7%	0%	13%	13%	12%	6%	3%	12%	21%	20%	9%	50%	19%	0%	18%	15%

Note: The departure rate is the number of departures divided by the total number of employees for each category by the end of the year.

Category	Taiwan Steel Union				Taiwan Steel Resource			
	2021	2022	2023	2024	2021	2022	2023	2024
Total employee turnover rate Note 1	6%	14%	10%	5%	21%	13%	14%	18%
Voluntary employee turnover rate – choosing to leave the organization Note 2	5%	13%	9%	5%	21%	13%	14%	18%
Data coverage ratio	100%	100%	100%	100%	100%	100%	100%	100%

Note 1: Includes voluntary and non-voluntary.
Note 2: Percentage of employees who resigned, retired, or took early retirement, as a percentage of total employees.

Number of workers who are not employees (person-years)Note

Taiwan Steel Union

2023	2024
19.0	19.5

Taiwan Steel Resource

2023	2024
11.2	3

Gender equality

Remuneration Committee has been established under Taiwan Steel Union's Board of Directors. The Organization Charter for Remuneration Committee has been put in place. Remuneration Committee is responsible for design and periodical reviews of performance of directors and managers, as well as remuneration policies, systems, standards and structures. There is no difference in remuneration due to gender or ethnicity for new employees of the same job positions and the same job ranks. Basic salary ratio for female and male employees is 1:1.

Note: Non-employee workers refer to workers who are not employees but whose work is controlled by the organization. Types include agency contractors, subcontractors, and repair workers.
Note: The number of non-employee workers is calculated based on total working hours, estimated in person-years (250 working days in 2024, 8 hours per day)
Note: No significant fluctuations during the reporting period.

6.2 Comprehensive benefits system

Taiwan Steel Union has established a comprehensive scheme for employee benefits and retirements. The company shares profits with employees. The Articles of Incorporation stipulates that no less than 1% of the annual profits shall be appropriated as employees' remuneration, and the amount of year-end bonus in number of months of personal salary issued is linked to the profit status of the Union, in order to retain talents. Employees' Welfare Committee often organizes leisure and cultural activities for relaxation and bonding between colleagues, in order to make Taiwan Steel Union a happy company.

Benefits

Taiwan Steel Union cares about employee benefits. We provide a comprehensive benefit package.

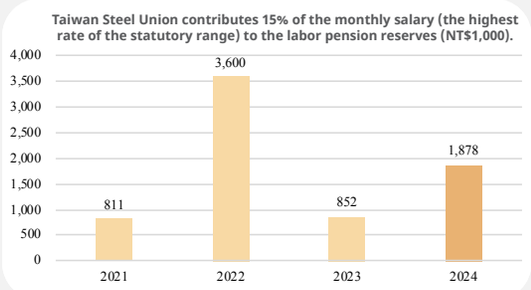
1. The company provides free lunches and RO (reverse osmosis) drinking water every day.
2. The company provides free uniforms, for summer and winter seasons each year, as well as work outfits such as tops, trousers, helmets, safety footwear and protective equipment.
3. A spacious parking lot is available for employees to park cars and motorcycles. Sprinklers are called in from time to time, for road cleaning and a green environment.
4. The company occasionally organizes domestic employee trips, issues Labor Day bonuses, birthday gifts, and subsidies for weddings, funerals, and other occasions, and hosts annual maintenance gatherings and year-end parties.
5. We have signed contracts with major hospitals nearby, so that our employees and their families can enjoy favorable prices and services for hospital visits or stays. Employees may apply for group medical insurance payments for hospital visits or stays due to injury or sickness.
6. Health inspections are offered to employees once per year. The list of items is adjusted according to requirements. Highlight checks are offered each year to employees working at special sites.
7. Employees' children studying in an elementary school, junior high school, senior high school, two-year college or university may apply for scholarships if their academic performance meets a certain standard.

Pension System

Pension system and its implementation status, and the agreement between the employer and the employees are as follows:
Taiwan Steel Union's pension system is a defined pension plan administered by the government in accordance with the Labor Standards Act of R.O.C. Pension fund is appropriated according to 8% of the total monthly salary of employees. Since the implementation of the new labor retirement system on July 1, 2005, according to the Labor Pension Act, the monthly appropriation of the pension fund shall not be lower than 6% of the monthly wage of employees. In addition, retirement related affairs are handled in accordance with relevant provisions of the Labor Pension Act and Taiwan Steel Union's "Employment and Dismissal Regulations", and labor-management meeting is convened periodically.

Taiwan Steel Union has put in place the retirement scheme for employees. We have also set up Labor Pension Supervisory Committee with government approval.

Since 1997, Taiwan Steel Union has hired actuaries to calculate pensions according to relevant requirements set forth in the Labor Standards Act.



Taiwan Steel Union works with the new labor retirement system. For the new hires from July 1, 2005 onwards and the employees entitled to the tenure under the old system based on the Basic Labour Standards Act but opt for the new system starting on July 1, 2005, the company contributes to the individual pension accounts of employees according to the Labor Pension Act.

Defined Benefit Plan

Taiwan Steel Union implements a defined benefit pension plan administered by the government in accordance with the Labor Standards Act of the Republic of China. Employee pension payments are calculated based on years of service and the average monthly salary during the six months prior to the approved retirement date. The Company allocates 8% of each employee's total monthly salary to the pension fund, which is deposited by the Labor Pension Fund Supervisory Committee, in the name of the Committee, into a dedicated account at the Bank of Taiwan. Before the end of each year, if the estimated balance in the pension fund is insufficient to cover payments for employees expected to meet retirement requirements in the following year, the Company makes a one-time contribution for the shortfall by the end of March in that year.

The amounts included in the consolidated balance sheets for 2023 and 2024 are as follows: Unit: NT$1,000

	December 31, 2024	December 31, 2023
Present value of defined benefit obligations	25,290	26,957
Fair value of planned assets	(24,477)	(23,557)
Net defined benefit liabilities	813	3,400

Total remuneration ratio in 2024

The ratio is calculated by comparing the total annual remuneration of the highest-paid individual to the median annual remuneration of all other employees, excluding the highest-paid individual.

TSU 7.48 TSR 3.78

Percentage of increase in total remuneration of the highest-paid individual in the year, compared to the median percentage increase in total remuneration of other employees (excluding the highest-paid individual) in the year (Note 1)

TSU 1.35 TSR 4.11

Note 1: The multiple of change in remuneration is calculated as A/B, where:
A represents the maximum personal change rate = (current year's remuneration − previous year's remuneration) ÷ previous year's remuneration.
B represents the other employees' change rate = (current year's remuneration − previous year's remuneration) ÷ previous year's remuneration, taking the median value. Board members are excluded from the employee calculation.

Full-time non-managerial employees' salaries

In accordance with the Taiwan Stock Exchange's updated Corporate Governance Planning Blueprint, TWSE-listed companies in Taiwan must disclose the number of full-time employees in non-managerial positions, their average salary, and the median salary.
In 2024, Taiwan Steel Union had 99 full-time employees in non-managerial positions. The average annual salary was NT$1.04 million, and the median annual salary was NT$1 million. The above statistics were compiled in accordance with Taiwan Stock Exchange regulations. The calculation excluded managers (executives) and employees eligible for statistical exemptions. For employees with less than one year of service, the calculation was weighted according to the number of days employed. Employee remuneration was calculated on an accrual basis.

Year	Number of people	Average (NT$10,000/person)	Median (NT$10,000/person)
2023	107	93	89
2024	109	104	100
2023–2024 differences	2	11	11

Percentage of vacant positions filled by internal candidates (internal hiring)

Category	Taiwan Steel Union				Taiwan Steel Resource			
	2021	2022	2023	2024	2021	2022	2023	2024
<30	0%	0%	0%	0%	2%	3%	14%	7%
30-50	26%	14%	28%	33%	10%	10%	39%	43%
>50	5%	4%	0%	11%	0%	0%	6%	7%
Male	32%	18%	17%	33%	29%	35%	56%	57%
Female	0%	0%	11%	11%	3%	0%	0%	0%
Average recruitment cost/FTE (NT$)	4,323	2,165	1,764	26,045	852	695	1,656	1,058

Retaining the position without pay for baby nursing

Colleagues may request for up to two years of unpaid parental leaves before children are three full years old. To help employees return to their jobs after unpaid parental leaves, we provide refresher courses for an update. In 2024, all 11 male employees of the subsidiary Taiwan Steel Resource who were entitled to unpaid parental leave did not apply for leave without pay. From 2020 to 2024, neither Taiwan Steel Union nor Taiwan Steel Resource had any applications for unpaid parental leave.

Care for Employees' Children

Taiwan Steel Union believes that in addition to providing competitive salaries and benefits, a company should extend care to employees' families. This approach allows employees to work with peace of mind, fulfills corporate social responsibilities, encourages childbirth, and contributes to addressing Taiwan's low birth rate, with the Company taking the lead in finding solutions. Starting in 2024, the company offers a childcare allowance. From the birth of a child until the age of six, the company provides a monthly subsidy of NT$3,000 per child, with a maximum total subsidy of NT$216,000 per child.

To further encourage academic diligence among employees and their children, Taiwan Steel Union has also established a scholarship program. Employees and their children who meet the specified academic performance criteria during their studies may apply for an educational scholarship each semester, with awards ranging from approximately NT$500 to NT$3,000.

Employee performance reviews

Taiwan Steel Union conducts periodical performance reviews on all employees. Annual scores are assigned based on employees' self-assessments and interviews with managers and finalized by President. The scores for division managers and auditors are finalized by Chairman.

Employee turnover

Job position change, resignation and retirement of employees of Taiwan Steel Union are handled according to regulations. Official employees may apply for retirement upon the service age of 65 years old according to the "Labor Standards Act" or may apply for early voluntary retirement according to the laws. For job position change of an employee, prior to the change, the direct supervisor negotiates with the employee first, and once agreement is obtained, job change is then announced. In case of difficulty in the performance of labor, an employee may request for termination of labor contract or file complaint within the effective day of the change notice. In addition, after the complaint is rejected, the employee may apply for termination of the labor contract with the Union according to the regulations.

The minimum notice periods for major operational changes shall be in accordance with Article 11 or Article 13-3 of the Labor Standards Act, as stipulated by law.

6.3 Training talent

Employees are Taiwan Steel Union's most valuable assets. To become a happy company, we have established a comprehensive human resource management system in remuneration, benefits and promotions. Training & education programs or external training resources are provided to employees each year, to enhance the technical competences, capabilities, knowledge and attitude required for work.

Employee training and development

The purpose of the training and education provided by Taiwan Steel Union is to enhance the capability and core competence of employees. It is able to increase the work efficiency and to expand the talent pool. "Training and Education Implementation Rules" have been formulated to govern all the matters associated with the Union's training and education. Including:

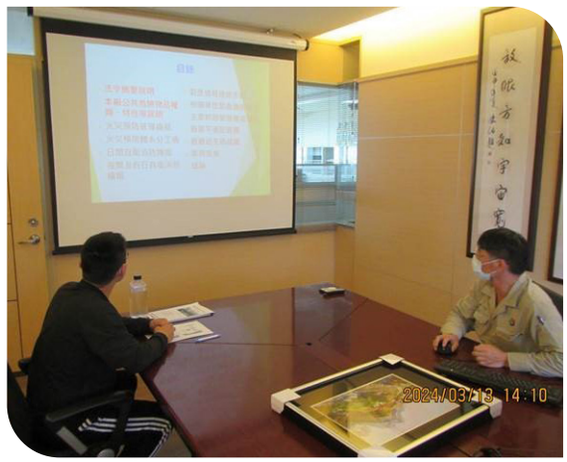
- Various trainings and education courses are implemented or professional technicians are invited from overseas to assist the Union's technical personnel and enhance core competence.
- Employees are encouraged to participate in external workshops, seminars and professional training classes. New employees are provided with assistance to participate in qualification tests in order to obtain operational licenses. The fees are fully paid by the Union.

Employee training

Taiwan Steel Union organizes regular and ad-hoc training and education or provides external training resources each year. Through training, employees enhance technical competences, capabilities, knowledge and attitude required for work.

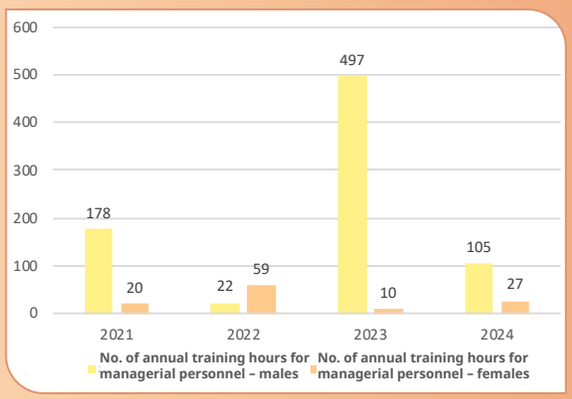
- Internal employee training: Internal training programs are organized to meet divisional requirements. Dedicated department are responsible for progress monitoring.
- External training courses: Employees are encouraged to participate in external training classes and obtain relevant licenses.

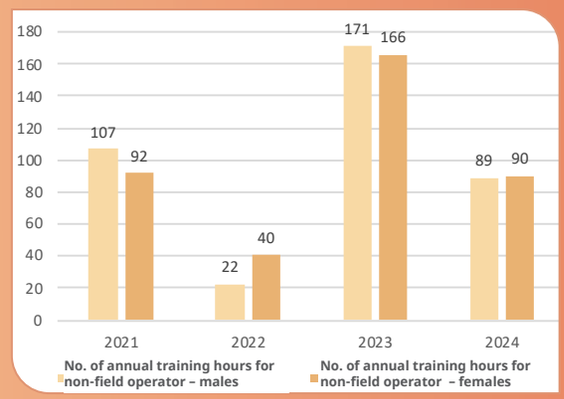
Orientation and training for new employees



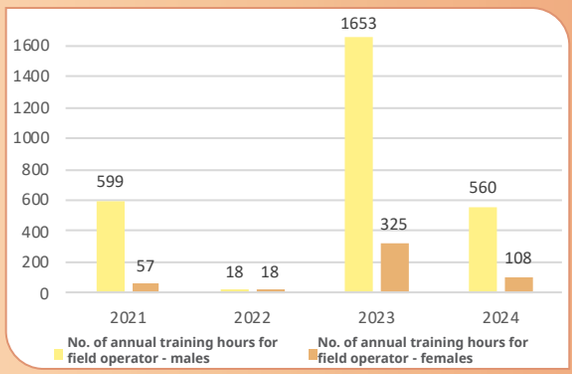
Implementation and assessment of employee training

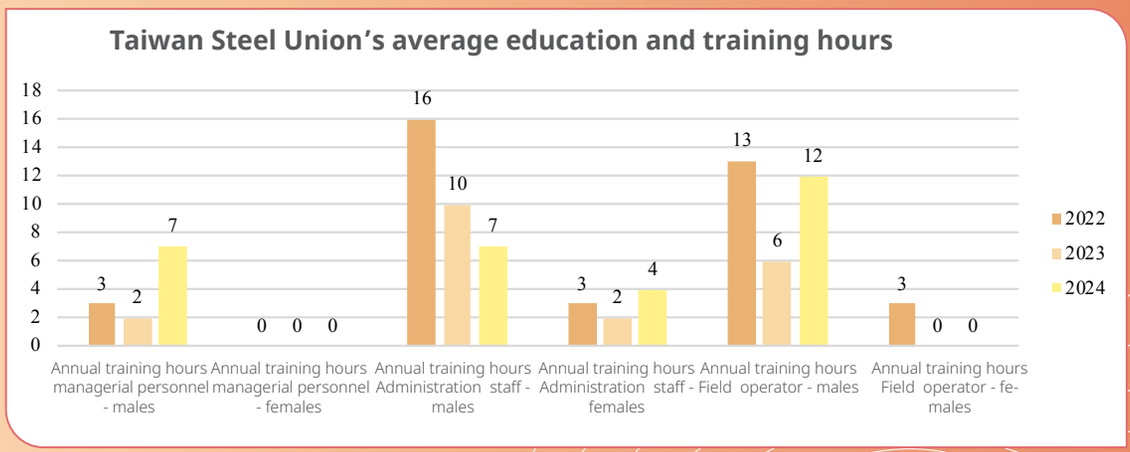
Taiwan Steel Union organizes regular and ad-hoc employee training or provides external training courses each year. Employees receive training according to the frequency and hours required by law. Thesupervisors received training from 2021 to 2024 as required by law. The average annual training hours for supervisors have steadily increased over the years. In 2024,the average training hours forCompany and its subsidiary Taiwan Steel Resource were higher for male employees.





Most of the Company's employees are male, resulting in a higher average training time for men than for women.





Note: Not all courses are offered every year; training sessions are arranged only when there is a need. The majority of male supervisors have received training.

6.4 Occupational safety and health

Occupational health and safety is one of the most important issues for stakeholders. Employees and employees' families are all concerned with this issue. Accordingly. to create a healthy and safe workplace for employees, Taiwan Steel Union revised its occupational health and safety management system to ISO 45001 in 2018. We strive to create a healthy and safe organizational culture. We continue to improve and offer a healthy and safe work environment so that our employees and their families can rest assured.

Occupational health and safety management system

Taiwan Steel Union implements ISO 45001: 2018 occupational health and safety management system. The management includes the following:

- Operational environment monitoring: monitoring conducted according to the frequency stipulated in the Occupational Safety and Health Act
- Health checks: General health checks for employees and health checks for special operators are provided each year. Tiered health management is administered according to regulations.
- Safety and health education and training: New employees and on-job employees are offered training and education. This consists of internal training and external training (e.g., training and refresher courses in health and safety qualifications). The purpose is to enhance the employees' awareness in health and safety.
- TSU have established an Occupational Safety and Health Committee in accordance with the Occupational Safety and Health Management Regulations, and hold regular quarterly meetings to conduct consultation, communication, and follow up on improvements.
- A deficiency improvement system has been established for environmental health and safety issues. Any problems identified are immediately registered, notified and followed up for improvement.
- Plan management and performance reviews are performed annually. Occupational health and safety management system is promoted and maintained.


台灣鋼聯股份有限公司
Taiwan Steel Union Co.,Ltd.

環安衛政策

本公司為台灣區電弧爐煉鋼業廢棄物再利用機構，為善盡企業社會責任，本公司將秉持一貫之理念，有效規劃資源，透過環安衛管理系統之運作將生產活動、產品及服務中的可能產生危害風險與環境衝擊源予以有效控制，以達成永續經營為目標，我們承諾做到：

(一)遵守政府環安衛法規及其他要求事項。
(二)持續秉承綠色環保及環安政策而營運。
(三)落實環安衛教育提升員工環安衛認知。
(四)危害及污染預防建立優質的工作環境。
(五)藉由持續改善以增加環安衛管理績效。
(六)工業減廢以降低污染排放及友善環境。
(七)環安衛相關議題遵守以達到永續經營。
(八)提供安全與健康環境預防傷害及疾病。
(九)增加工作者諮詢參與提升環安衛績效。

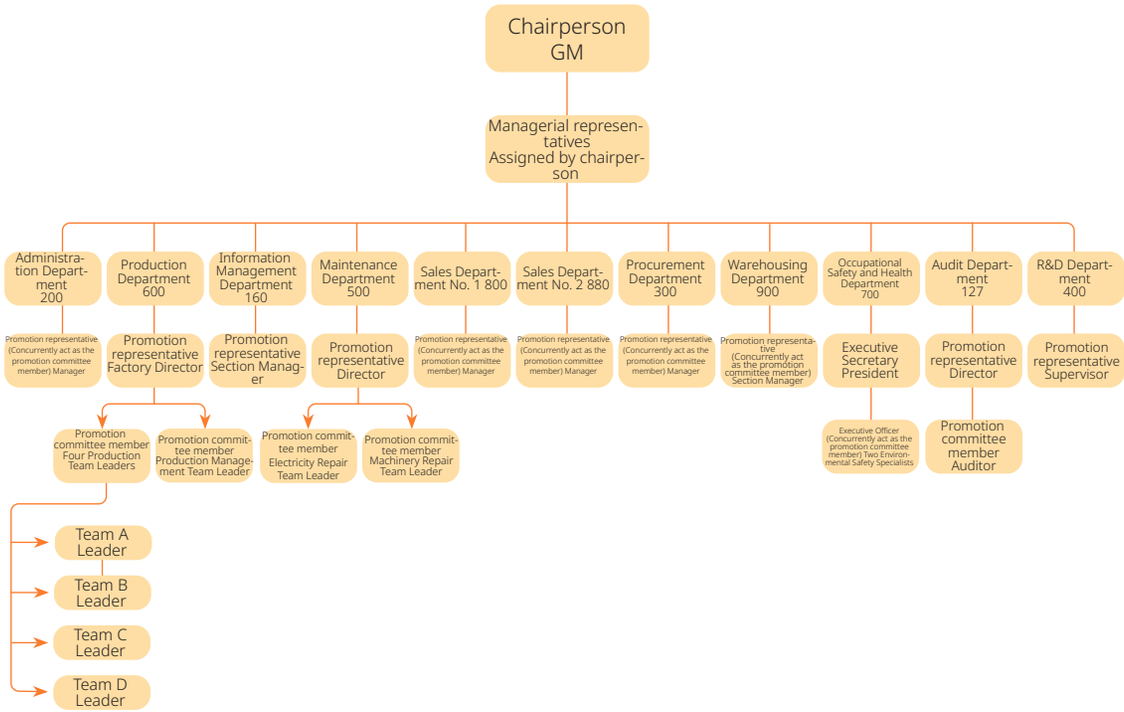
董事長
林明儒

2022年1月

Occupational Safety Committee

Taiwan Steel Union has established an Occupational Safety and Health Committee in accordance with the Occupational Safety and Health Management Regulations to propose safety and health policies, and to review, coordinate, and make recommendations on matters related to safety and health. Labor representatives elected to the Occupational Safety Committee account for more than one-third of the total committee members. The committee convenes regular meetings every quarter to conduct consultations, facilitate communication, and follow up on improvements. Quarterly meetings discuss occupational safety and health topics, during which the chairperson reviews and coordinates safety and health matters proposed by committee members or labor representatives.

Organization chart of the Environmental, Safety and Health Management Committee of Taiwan Steel Union Co., Ltd.



Taiwan Steel Union and Subsidiary Taiwan Steel Resource Occupational Health and Safety Management System Table

Location of Operation	Occupational health and safety management system	Number of internal auditors		Number of people audited by external auditors	
		Employees	Non-employees Note 2	Employees	Non-employees Note 2
Taiwan Steel Union	ISO 45001:2018	109	719	109	719
Taiwan Steel Resource	PDCA Note 3	78	742	0	0

Note 1: Taiwan Steel Resource management system without being verified by a third party.
Note 2: Non-employee refers to individuals without an employment relationship, specifically those under the direction and supervision of the workplace manager or contractors.
Note 3: Taiwan Steel Union follows the PDCA (Plan–Do–Check–Act) cycle to voluntarily promote the occupational safety and health management system.

Environmental safety and health goal and management plan

Taiwan Steel Union and Taiwan Steel establishes environmental safety and health goals that can be measured, monitored and conveyed with best effort, in order to use it as the basis for environmental safety and health goal assessment and measurement, and updates of such goals are maintained timely. The promotion representative of each relevant unit shall establish and maintain documented environmental safety and health goal, and shall achieve consistency with the commitment of the environmental safety and health policy.

To achieve the existing goal, the promotion representative of each relevant unit shall establish environmental safety and health management plans whenever necessary, and such plans shall include the responsibility allocation, achievement method and schedule, in order to facilitate the execution management. For new or modified equipment assessed to have major impact on the environmental safety and health, such equipment shall be included in relevant impact assessment of environmental and hazardous risks for management.

Employees' health management and operational environment monitoring

In adherence to the Occupational Safety and Health Act, Taiwan Steel Union and Taiwan Steel conducts risk assessments on hazardous operational environments with noise, dusts and ionizing radiation. Relevant health and safety operational standards are set up accordingly. Operational environmental monitoring plans are drawn in line with regulations. The sampling items and frequencies for operational environmental monitoring are listed in the table below. Environmental monitoring and inspection and personnel health checks are conducted regularly by commissioned external parties. Specialty doctors are hired to visit the sites and observe the operational environment, in order to provide health and safety assessments and suggestions for improvement. And arranges personnel of the operation area to perform the respiratory protective equipment airtightness test annually, in order to ensure the respirator protection capability of operators and to make corrections in a timely manner.

According to the Occupational Safety and Health Act and the Labor Health Protection Act, labor selection and task assignments are implemented based on the physical examination forms submitted by new employees. Classification management is implemented based on regular health examination of employees and health inspections for workers working on hazardous operations. The nature of jobs is also adjusted appropriately according to health conditions.

Taiwan Steel Union and Taiwan Steel provides periodical health checks and personal protective equipment to employees. This is to protect the health of employees and avoid injury to physical health due to work process or damage to laborers' right to life.

The operational items of high risks or with high incidence of specific diseases include slag removal from rotary kilns, PAP (process air pipe) replacement, corrugated roof sheet replacement, replacement of fire-retardant materials and filter bags for rotary kilns during periodical maintenance. Strict management is exercised on occupational health and safety.

Occupational health and safety education and training

TSU Monitoring Items

No.	Item		Monitoring frequency
1	Total dust amount		Once every six months
2	Respirable dust		
3	Heavy metals	Lead	
4		Manganese	
5		Cadmium	
6		Zinc	
7	CO_2		
8	Oxygen		
9	Noise		
10	Wet Bulb Globe Temperature (WBGT)		Once a quarter
11	Sulfuric acid		Once every six months
12	Wind velocity		

Items under monitoring by Taiwan Steel

No.	Item	Monitoring frequency
1	Total dust amount	Once every six months
2	Respirable dust	
3	Noise	
4	Wet Bulb Globe Temperature (WBGT)	Once a quarter
5	Wind velocity	Once every six months

Working environment monitoring

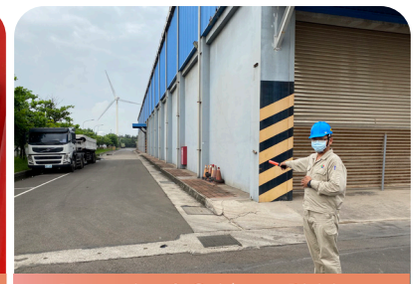
Training & education in health and safety; regular fire drills

In order to improve the competency of its personnel, enhance technical skills and professional knowledge, and establish safety awareness and hazard prevention capabilities, Taiwan Steel Union and Taiwan Steel Corporation organized regular and ad hoc safety and health education and training courses in 2024. These included on-the-job occupational safety training, mechanical operation, organic solvent operation, Grade B boiler operation, and fire prevention education and promotion. A total of 146 participants attended the training. Fire drills were conducted regularly, and all internal and external training activities, as well as certification acquisition, complied with legal requirements.

Emergency response

Taiwan Steel Union and Taiwan Steel Corporation place the safety of workers as the highest priority. To effectively prevent occupational accidents and provide a safe working environment, the companies conduct explanations of work rules and regulatory education during new employee orientation. When a worker identifies an immediate hazard while performing job duties, the worker may, without endangering the safety of others, suspend operations and retreat to a safe location. The companies comply with relevant regulations to ensure such workers are protected from any disciplinary actions.

Safety Protection Team



Instruction & Guidance Division

Rescue Division (drills for burn and scald injury first-aid care)

Fire and disaster prevention education and training.

Reporting and Communication Division (broadcasting and reporting)

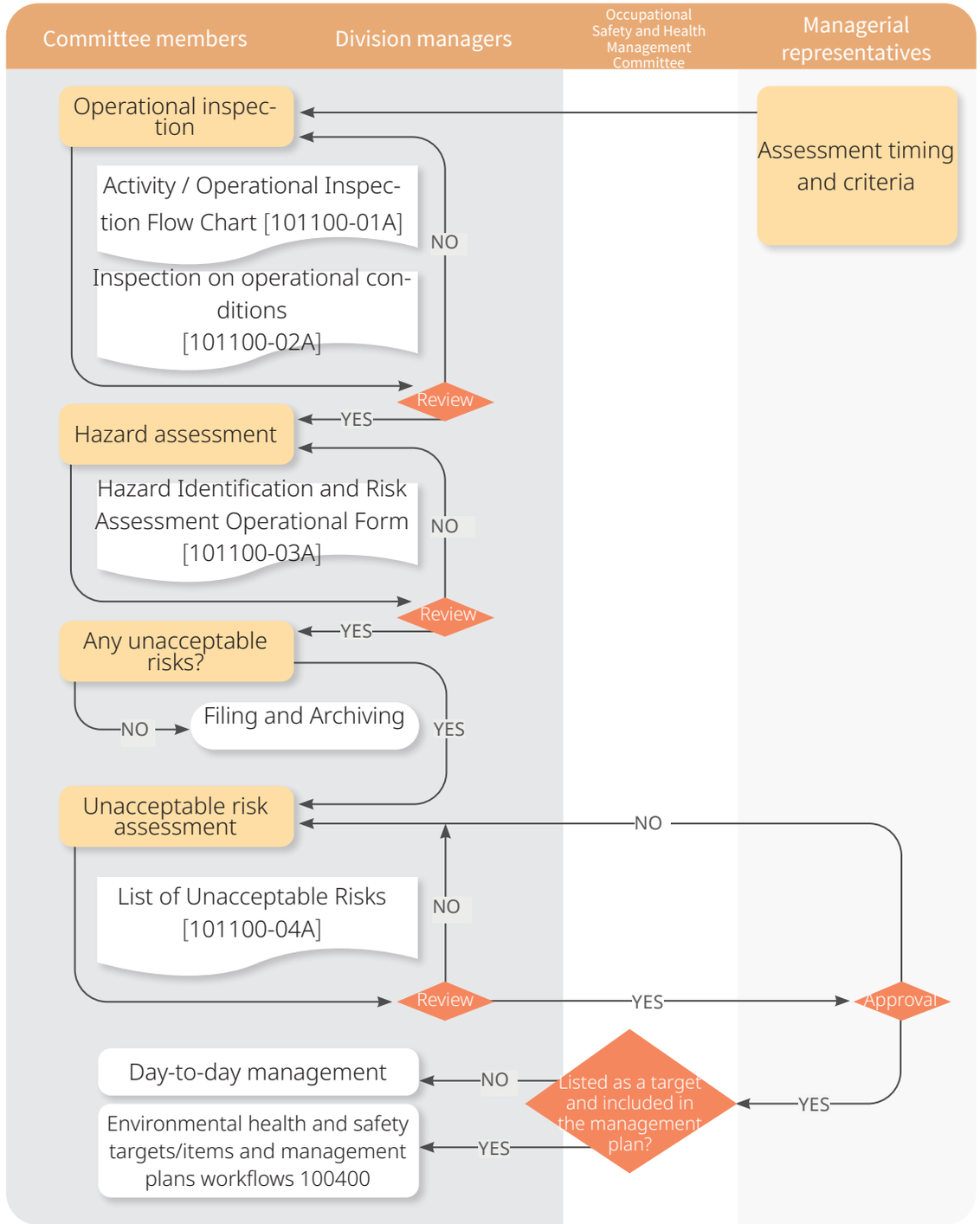
Fire Extinguishing Division

Evacuation Division

Occupational safety training for new recruits

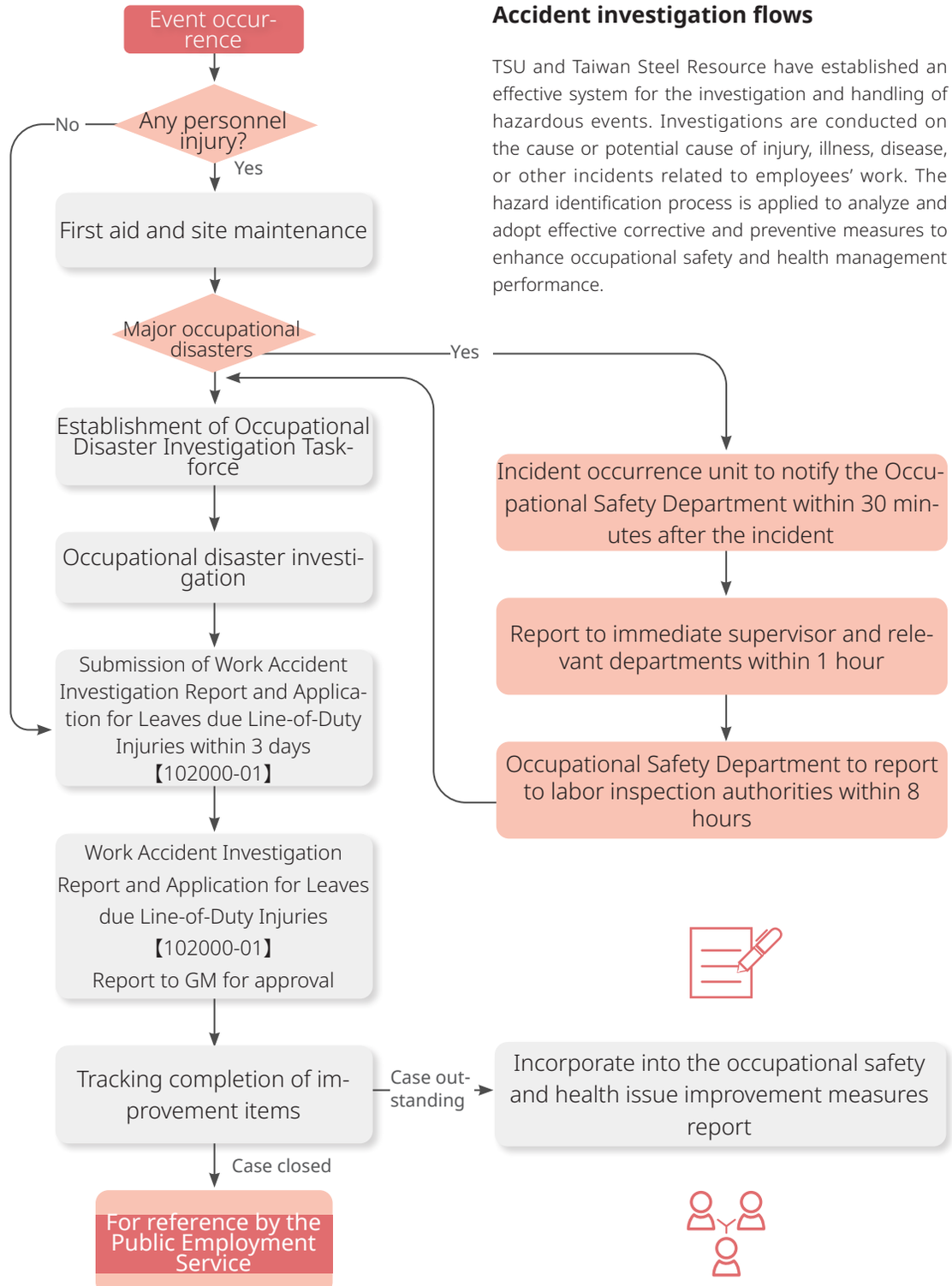
Hazard identification and risks assessment process

Taiwan Steel Union refers to Hazard Identification and Risk Assessment Operational Form in the analysis of inherent and potential operational risks by considering personnel, machinery, facilities, methods, materials, energy and relations with operating environments. Hazard identification and risk assessment are conducted on operational activities and procedures, by considering the causes, consequences, characteristics and hazard characteristics (e.g., physical, chemical, biological and ergonomic). When hazardous situations or potential risks are identified in the workplace, Taiwan Steel Union encourages employees to submit proposals in accordance with the proposal management regulations or to have labor representatives raise the matter at the Occupational Safety Committee. Rewards are provided at the annual settlement for such proposals. Suppliers may also present corrective suggestions during contractor conferences for the purpose of internal improvement.



Accident investigation flows

TSU and Taiwan Steel Resource have established an effective system for the investigation and handling of hazardous events. Investigations are conducted on the cause or potential cause of injury, illness, disease, or other incidents related to employees' work. The hazard identification process is applied to analyze and adopt effective corrective and preventive measures to enhance occupational safety and health management performance.



Abnormal condition control and prevention

Accident occurrence

After an accident occurs, the on-duty first aid personnel's supervisor from the TSU Occupational Safety Department and the Taiwan Steel Resource Environmental Safety Section shall be notified immediately. The report should include the time, location, unit, a brief description of the incident, and the number of casualties. If the incident is a major occupational accident as defined in Article 37, Paragraph 2 of the Occupational Safety and Health Act — including fatalities, incidents involving three or more affected persons, or incidents involving one or more persons requiring hospitalization — the occupational safety and health management representative must report to the Central District Labor Inspection Office within eight hours.

STEP 1

Accident cause investigation

After a major occupational disaster occurs, the unit supervisor shall form an investigation team consisting of the unit supervisor, operators, and professional personnel from the TSU Occupational Safety Department and the Taiwan Steel Resource Environmental Safety Section. The investigation shall be completed within three days, after which the results shall be reported to the management representative, along with appropriate recommendations regarding the event. Recommendations for corrective and preventive measures shall also be proposed, communicated to management, and implemented in a timely manner.

STEP 2

Event review and improvement

Based on the improvement measures indicated in the event investigation analysis report prepared by the investigation team, the TSU Occupational Safety Department and the Taiwan Steel Resource Environmental Safety Section shall immediately record and track these measures, and develop corrective and preventive actions. Each unit supervisor shall ensure that a risk assessment is conducted upon resumption of operations within the specified time frame, to confirm that post-improvement safety and health risks are reduced to an acceptable level, thereby eliminating the causes of the event and preventing recurrence. The TSU Occupational Safety Department and the Taiwan Steel Environmental Safety Section shall continue to follow up and review the improvements.

STEP 3

Agreement organization and hazard notifications

Taiwan Steel Union and Taiwan Steel Corporation has integrated contractors into an agreement organization and treats their laborers as ours. In addition to onsite audits and highlight support, we also provide relevant training and education to enhance health and safety performance. Based on the type of operations and the list of potential hazard factors, contractors should require hazard prevention measures such as training and education, protective equipment or qualifications in machinery operation. It is necessary to be equipped with personal protective equipment (helmets, work shoes, dust masks, workwear, and gloves) when entering the loading/unloading area of EAFD.

Employee Health Inspection and Management

In accordance with the Occupational Safety and Health Act and the Labor Health Protection Regulations, Taiwan Steel Union and Taiwan Steel require new employees to submit a physical examination form. Annual employee health checks are conducted, including chest X-rays, cardiopulmonary function tests, liver function tests, and blood lead level testing, as required for dust-exposed working environments.

For Taiwan Steel Union employees with blood lead levels exceeding the regulatory limit, tiered health management is implemented. This includes regular follow-up examinations, re-testing, and, where necessary, job reassignment measures to protect employee health.

Employee health promotion activities

In 2024, the companies organized health education campaigns led by plant nurses and courses on sarcopenia prevention and management. These initiatives aimed to strengthen employees' awareness of the importance of regular exercise, reduce the risk of muscle loss, and equip Taiwan Steel Union employees with knowledge on how to maintain and protect their physical well-being.

Health Care and Education & Training on Preventing Frailty and Sarcopenia for Plant Nurses

Maternal health protection for female laborers

The Maternal Health Protection Plan has been put in place. "Classification Reference for Hazards and Risks to Maternal Health" is provided, along with Job Suitability Arrangements Forms. "Operational Venue Hazard Assessments and Measures Adopted for Maternal Health" is the form for hazard and risk classification of the operational venues. For assistance in female health, referrals can be made to labor health service centers or occupational injury/disease prevention centers commissioned by the Occupational Safety and Health Administration (OSHA).

Protection against unusual work hours, ergonomic issues and workplace violence

The companies have established the "Overwork Assessment Form and Overload Assessment Questionnaire" and the "Musculoskeletal Symptoms Survey." Through these assessments, data is collected on abnormal working hours and musculoskeletal injury conditions of employees. The information is stored in a database for comparison and analysis, enabling hazard assessments of existing and potential risks in work areas or operations. Appropriate improvements or interventions are then implemented. Additionally, periodic awareness campaigns are organized to prevent unlawful, abnormal, or abusive incidents in the workplace.

Plant physician and plant nurse health consultation

Plant doctors and nurses have been introduced to provide on-site health consultations. Following physical examinations, physicians conduct on-site consultations, ensuring a 100% consultation rate for personnel at Level 2 or above. Medical equipment, such as blood pressure monitors, is also provided for use by contractors and other workers, enhancing health care for both employees and non-employee workers.

Psychological health consultation

Aligned with the World Health Organization (WHO)'s principle that "without mental health, there is no true health," Taiwan Steel Union organized psychological health consultation sessions in 2024 to safeguard employees' mental well-being. A total of two employees participated in these consultations.

Occupational hazard statistics

TSU and Taiwan Steel's annual occupational injury statistics are based on the disability injury indicators published by the Ministry of Labor. Through a comprehensive reporting procedure and accident investigation mechanism, the investigation results of each case are reported back to all relevant units, and corrective and preventive measures are implemented to reduce the likelihood of repeated incidents and continuously improve workplace safety. In 2024, TSU had two occupational injury cases requiring hospitalization, including one involving a contractor and one involving a plant employee. Taiwan Steel had no major occupational injuries for the entire year. A total of two cases were reported through the Occupational Safety and Health Administration's online reporting system.

Item		Taiwan Steel Union								Taiwan Steel Resource							
		2023		2023		2024		2024		2021		2022		2023		2024	
		Employees		Non-employees		Employees		Non-employees		Employees		Employees		Employees		Employees	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Occupational disaster statistics	Disabling frequency rate (FR)	0	0	0	0	15.75	0	16.4	0	0	0	0	0	0	0	9	0
	Disabling severity rate (SR)	0	0	0	0	89	0	131.0	0	0	0	0	0	0	0	70	0
	Frequency-severity indicator (FSI)	0	0	0	0	0.7	0	1.1	0	0	0	0	0	0	0	1	0
	Occupational disease rate (ODR)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Line-of-duty deaths	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note 1: The above occupational disasters exclude traffic disasters.

Note 2: The calculation of occupational disasters and absence rates are as follows:

Note 3: Disabling frequency rate (FR) = Number of disabling injuries × 1,000,000 / Total man-hours (rounded to three decimal places).
Disabling severity rate (SR) = Total days of disabling injuries × 1,000,000 / Total working hours (rounded to three decimal places).
Total injury index (FSI) = $\sqrt{}$ ((SR × FR) / 1000) (rounded to three decimal places).

Note 4: The subsidiary Taiwan Steel Resources Corporation currently does not have an occupational health and safety management system, and there were no reports filed through the Occupational Safety and Health Administration's network reporting system for Taiwan Steel Union and Taiwan Steel in 2023.

Note 5: 2024 total working hours: Taiwan Steel Union employees – 210,360 hours/year; non-employees – 38,944 hours/year; Taiwan Steel employees – 151,176 hours/year; non-employees – 5,936 hours/year.

Note 6: Non-employees refer to workers whose work and/or workplace is controlled by the organization, including those supervised by the person in charge of the workplace and contractors. Note 7: Employee category data for Taiwan Steel Union and Taiwan Steel is sourced from occupational accident declaration records; non-employee category data is estimated based on the annual number of plant entries × 8 hours.

Accident statistics and the reporting system	2021	2022	2023	2024	Remark
Occupational health and safety management system	0	0	0	2	No. of accidents surveyed
Occupational Safety and Health Administration (OSHA) online reporting system (Occupational disaster reporting by business units)	2	0	0	2	Reporting according to Article 37 of the Act for Protecting Worker of Occupational Accidents (Hospital stay for 1 person or more)

6.5 Human rights

Taiwan Steel Union follows the OECD principles and adheres to the internationally recognized human rights standards such as the United Nations' Universal Declaration of Human Rights, Global Compact and International Labor Organization Conventions. Relevant content of regulations have been implemented to provide a fair workplace and a safe work environment, respect human rights at the workplace and ensure information security. The human rights policy is announced on the company's website, and TSU conducts policy commitment training through the website.

Human rights Policy

Human Rights Policy Survey Items	TSU's Implementation	Risk Subjects	Survey Results
Providing a Fair Working Environment	No unfair or discriminatory treatment based on gender, race, socioeconomic status, nationality, age, marital status, family status, language, religion, political affiliation, appearance, height, or disability.	All employees	Gender-friendly workplace Elimination of discrimination in compliance with regulations
Providing a Safe Working Environment	Prioritize employee safety and health by implementing ISO 14001 and ISO 45001. Continuously improve the work environment and hygiene conditions to reduce occupational risks and protect employees' physical and mental health.	All employees	Compliance with relevant workplace safety regulations
Respecting Workplace Human Rights	Comply with government labor laws, do not employ child labor, and prevent excessive overtime or overwork. Maintain open communication channels, hold regular labor-management meetings to safeguard mutual rights and interests, and foster a harmonious workplace.	All employees	No child labor, no forced labor, compliance with the minimum wage system
Implementing Information Security	Respect the privacy of stakeholders and ensure the lawful collection and use of personal data. Maintain a comprehensive information security management system to control data access and prevent leakage of customer information.	All employees	Compliance with relevant information security regulations

Human Rights Due Diligence

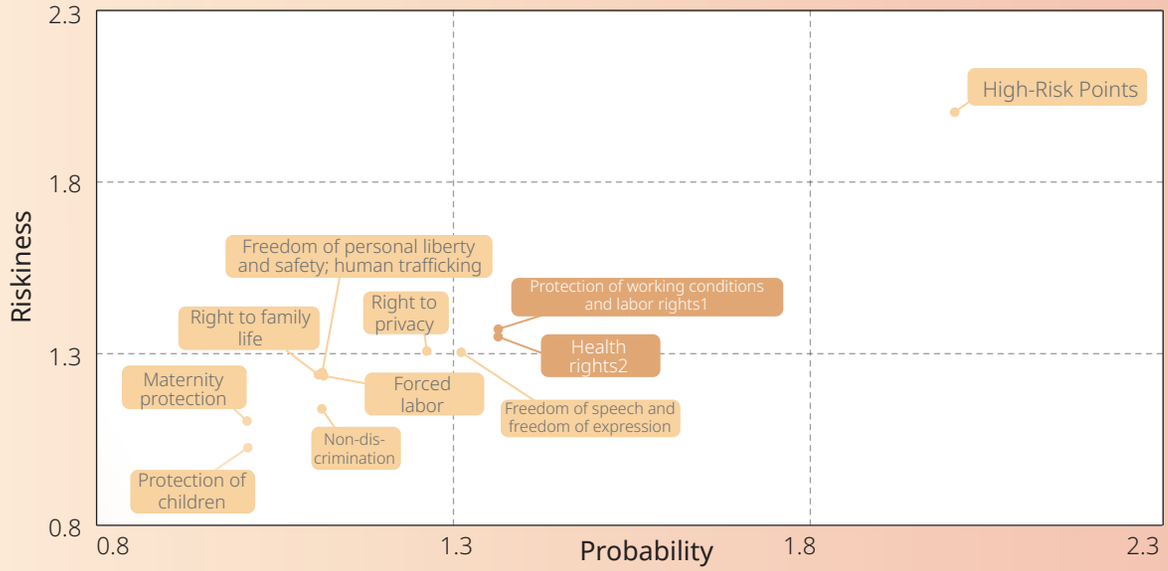
In 2024, a company-wide "Human Rights Due Diligence" was conducted. The scope of the investigation covered all production and operation sites. Based on the investigation results, improvement measures were proposed targeting employees, suppliers and contractors, communities, and customers, in order to reduce the likelihood of human rights risks. The human rights due diligence is conducted at least once every three years to identify significant human rights issues, review the management status of human rights issues, formulate improvement plans and remedial and preventive measures, and publicly disclose the due diligence report.

TSU conducts the investigation process in accordance with the OECD Due Diligence Guidance for Responsible Business Conduct.

Results of Human Rights Due Diligence

TSU established questionnaire items for each category of stakeholders to identify risks related to various issues. Stakeholder categories include: employees (including subsidiaries), suppliers and contractors, communities, and customers. Based on the likelihood and severity of human rights issues, the high-risk issues of each category of stakeholders were assessed. According to the investigation results, no high-risk issues were found for any category of stakeholders. The top two risk issues for each category are as follows:

- **Employees:** Protection of work and labor conditions, and health rights.
- **Contractors and Suppliers:** Child protection and non-discrimination.
- **Communities and customers:** Freedom of speech and expression for customers, and customer privacy rights.



Note: High risk is defined as a likelihood of occurrence and severity of 2 points or more.

Mitigation and Preventive Management Measures

Employees

Risk Scenario Description	Management Mitigation and Preventive Measures
Working and Labor Conditions: The working environment or labor conditions do not meet regulations or are unequal, resulting in employees' basic work rights (such as working hours, wages, health and safety, equal pay for equal work) not being guaranteed.	1. Provide comprehensive occupational safety and health management and legally compliant safe machinery and equipment in accordance with the Occupational Safety and Health Act and the Occupational Safety and Health Facilities Regulations, to ensure workers' health and safety. 2. Implement working hours systems in accordance with legal requirements, and do not force labor or require excessive overtime. 3. Establish a salary scale to ensure equal pay for equal work for all employees.
Health Rights: Employees do not receive sufficient operational training and safety education, or work overtime in a high-pressure environment without the provision of legal health measures, negatively affecting their physical and mental health.	1. Implement the ISO 45001:2018 Occupational health and safety management system, and set a zero-accident target and various management performance indicators. 2. Conduct general health examinations and special operation health examinations for all employees annually, and provide employees with annual health examinations and on-site consultations by occupational physicians (or nurses), as well as implement health classification management in accordance with regulations. 3. Provide new employees with safety and health education and training, and job-appropriate professional training before starting work; provide on-the-job employees with occupational safety and health education and training in accordance with regulations. 4. Provide employees with personal protective equipment to safeguard their health. 5. Conduct regular monitoring of the work environment and publicly announce the results.

Mitigation and Preventive Management Measures

Contractors and Suppliers

Risk Scenario Description	Management Mitigation and Preventive Measures
Child Protection: Illegal employment of workers under the legal working age, or requiring underage workers to participate in dangerous/harmful operations.	1. Formulate a code of conduct for contractors and suppliers, including commitments to restrictions on the use of child labor. 2. Stipulate the prohibition of child labor in contracts.
Non-Discrimination: Discrimination by the enterprise or within its value chain, such as in the selection of suppliers or customers, based on factors unrelated to performance, including nationality, race, gender, age, political orientation, or physical disability.	1. Formulate a code of conduct for contractors and suppliers, requiring respect for labor and human rights.

Communities and Customers

Risk Scenario Description	Management Mitigation and Preventive Measures
Customer – Freedom of Speech and Expression: Failure to establish safe and effective channels for customers to express their opinions, or using coercive means such as litigation, intimidation, or threats to endanger the personal safety, work, or life of those expressing opinions.	1. Establish a customer complaint management process. 2. Set up an "Illegal or Unethical Behavior Reporting System" on the official website.
Customer – Right to Privacy: Reasonably protect the personal data and privacy of any parties engaged in business dealings. Personal data must be collected, stored, processed, transmitted, and shared in compliance with privacy and information security laws and regulatory requirements.	1. Establish a comprehensive information security management mechanism to control data access and prevent customer data leakage.

Effectiveness Monitoring and Tracking

For the follow-up on due diligence implementation, TSU examines and reviews the effectiveness of mitigation and preventive management measures every three years through the Sustainable Development Committee.

External Communication and Complaints

To protect the human rights of employees and value chain partners from infringement or negative impacts, and to ensure their right to submit complaints, reports, or grievances regarding any actions that may infringe human rights or cause negative impacts, as well as to request remedies for any such actions, TSU has established channels for submitting complaints, reports, or grievances.
Illegal or Unethical Behavior Reporting System: https://www.tsutw.com.tw/contactus.php

07 Chapter Social Inclusion

Taiwan Steel Union supports the social care of the communities where it operates. Community impact assessments were conducted at the beginning of the facility builds. There are also ongoing community engagements.

Management of Material Topics of Social Inclusion

Material Topics: None

Social inclusion policy

- The percentage of community donations is included into the commitment in Environmental Impact Statement (EIS). NT$150 is contributed to the good neighbors account for each ton of EAFD reused. Monthly remittances are made to the accounts dedicated to Shengang Township and Xianxi Township for use by township offices.
- The Union adopts windbreak forest, maintains ecological environment and performs environmental cleaning and plant protection, in order to provide an excellent and rick ecological environment for animals and plants. In addition, the Union also mitigates the operating burden of the industrial park management center, in order to allow resources to be effectively utilized for other public spaces, green management and utilization.
- All environmental monitoring items and monitoring results are disclosed transparently on the company's official website on a quarterly basis for download by all parties. In addition, a single contact window is provided for nearby township offices and local residents to give feedback on matters of concern and for relevant groups to make inquiries at any time, in order to alleviate public concerns regarding environmental safety.

Social inclusion target

Social expenses as % of net income: at least 1.0%.

Social inclusion effectiveness assessment

Through the annual sustainability report, the effectiveness and result are tracked and assessed continuously.

Social inclusion actions

- Promoted community care plan and program.
- Promoted circular economy and environmental education.
- Adopted local windbreak forests and street lamps.
- Sponsored student bus for Keliao community.
- Supported local cultural and arts events.
- Supported local sports development.

4.7 Assurance that all students acquire necessary knowledge and skills to contribute to sustainability

Stakeholder engagements

Regular or irregular communication and interaction are conducted through the stakeholder engagement mechanism, and the information is disclosed in the sustainability report, on relevant platforms, or on the Company website.

Social inclusion highlights

Circular economy education
In 2024, a total of 199 people participated in the circular economy education visit promoted by TSU.

Sponsorships for local wind break forests
Environmental cleaning and vegetation maintenance, to provide a good ecosystem to flora and fauna of the windbreak forests.

Highest percentage of social expense in history
In 2024, the total social expense was NT$21,027 thousand, accounted for 2.5% of the net income after tax, demonstrating the Union's commitment to the society return and to the fulfillment of corporate social responsibility.

Comprehensive community impact assessment
Environmental monitoring and disclosure, categorization of monitoring items, formation of environmental monitor plans and assessment of transportation impact.

Keliao community buses
Safe transportation for young students and senior citizens.

7.1 Community impact assessment

Taiwan Steel Union supports the social concerns of the communities where it operates. Community impact assessments were conducted at the beginning of the facility builds. This includes environmental monitoring and disclosure, categorization of monitoring items, formation of environmental monitor plans and assessment of transportation impact.

Strict environmental monitoring and transparent disclosure

Taiwan Steel Union strictly monitors the environment according to the environment assessment and commitment. There are a total of 10 categories and 21 items for monitoring. All the environmental monitoring data is published quarterly at Taiwan Steel Union for downloads.

Taiwan Steel Union monitoring information

Environmental monitoring plan

Monitoring categories	Monitoring frequency	Monitoring locations
Groundwater	Operating period (once per month)	One upstream location and one downstream location of the factory site
Rainwater	Operating period (once per month)	Two rainwater storage tanks
Effluents	Operating period (once per month)	Effluent outlets on the factory site
Soils	Operating period (once per quarter)	One location for the operational processing zone inside the factory
Waste gases	Operating period (once per quarter)	Flue gas outlet (Two locations, P001 for No. 1 Kiln, P003 for No. 2 Kiln)
Slag	Operating period (once per quarter)	Temporary storage area for slag
Air quality in peripheral area	Operating period (once every six months)	One upwind location, one downwind location of the factory site
Dioxin in the air	Once per quarter	South of the plant (next to the office), one station each at the Keliao community and Xianxi Elementary School.
Dust fall	Operating period (once per month)	Three test stations, one at the factory site, on Qingan Road's side, and between Qingan North Road and Zhangbin Road
Zinc oxide	Operating period (once every six months)	Zinc oxide packing area

Note 1: Inspection once per quarter on chloride salt, salinity, TDS and BOD of groundwater
Note 2: Inspection once every six months on arsenic in soils and dioxin

Transportation impact

A transportation impact analysis was conducted on West Coast Expressway, adjacent to our factory. The current traffic status indicates the road's level of service is between A and B, in a good condition.

7.2 Community concerns

We center social concern projects and schemes based on local community needs. This includes the transportation for community safety and sponsorship for the maintenance of windbreak forests in the local industrial park.

Safety transportation for the community

In addition to community donations, Taiwan Steel Union has been sponsoring the coach buses and event activities of the local Keliao community for NT$1 million each year. This provides safe transportation for young students and senior citizens and promotes community events.

Sponsorship for streetlamps of Xianxi Township

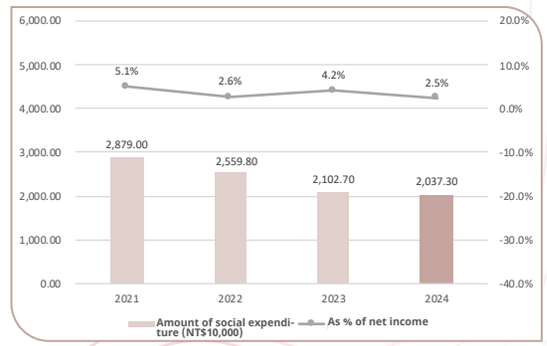
Taiwan Steel Union participates in the sponsorship program organized by Xianxi Township for streetlamps. We sponsor 10 streetlamps of Xianxi Township each year, to help the township office maintain the safety and illumination of the streets at night and lighten up the roads for community residents going home.

Sponsorship for maintenance of windbreak forests in the local industrial park

Taiwan Steel Union supports the cleaning and maintenance of the local environments. We adopt windbreak forecasts in the local industrial park for environmental cleaning and vegetation maintenance. The windbreak forest serves as a great habitat for flora and fauna and enriches the ecosystem resources. Hopefully this assists Changhua Coastal Industrial Park in the utilization of resources from the companies onsite and reduces the burden of the government. It enables effective management and use of public spaces and green spaces, beautifies the surroundings of the Union, and boosts the morale and efficiency of employees. The involvement from companies is encouraged in order to establish a common ground and achieve the expected benefits of adoption of windbreak forests. Under the maintenance by Taiwan Steel Union, the windbreak forest has become a beautiful park and a comfortable place for relaxation of the public.

Social expenses

Taiwan Steel Union denotes to the local communities according to the reuse volume of EAFD. We also sponsor buses for the Keliao community and the maintenance of the windbreak forest. Starting in 2018, we helped to assist the processing of illegally dumped EAFD on Xinfeng Seaside. In 2024, the total social expense was NT$20,037 thousand, accounted for 2.5% of the net income after tax. Taiwan Steel Union endeavors to return to the society and fulfill our corporate social responsibility.



Assist Datong Elementary School in Xianggong Township, Changhua County with campus greening


感謝狀

感謝

台灣鋼聯股份有限公司

協助線化校園

熱心公益　惠我師生

特贈此狀　以表謝忱

彰化縣 伸港鄉 大同國民小學

中華民國 113 年 12 月 17 日

Sponsorship of the Tzu-Hsin Charity Association blood donations


台灣省 慈音

感謝狀

台灣省人民團體線字省社二立字第 781127 號
慈總感字第 03 號

謹謝台灣鋼聯股份有限公司

贊助本會【113 年度捐血活動】

熱心公益，贊襄良多

特頒此狀，以申謝忱

臺灣省慈音愛心慈善會

理事長 陳柏慶

線西會長 黃麗卿

中華民國 113 年 08 月 04 日

Sponsored the physically challenged children of Happy Work Taiwan


樂作創益

樂作謝字第 113002 號

感謝狀

台灣鋼聯股份有限公司

熱心公益關懷身心障礙樂兒

全力付出不遺餘力

特贈此狀以表謝忱

社團法人台灣樂作創益協會

秘書長 陳愛琴

桃園市桃園區大興西路二段6號17樓之1　03-3011-626

中華民國 一一三 年 一 月十六日

Sponsorship of Down Syndrome Foundation R.O.C.


財團法人中華民國唐氏症基金會

感謝狀

(113)唐基謝字第 00000775 號

感謝　台灣鋼聯股份有限公司

成為唐氏症者及其家庭在

成長路上重要的扶持力量

崇德善行，奉獻良多

特以此狀，敬表謝忱

董事長 林正侯

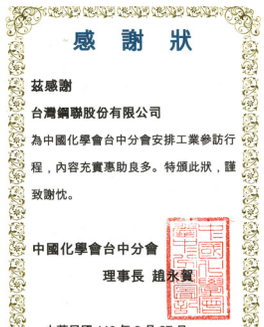
中華民國 一一三 年 十二 月 十一 日

7.3 Circular economy education

Taiwan Steel Union promotes the education on circular economy. We invite students and colleges and universities to visit the Union for career development, in order to allow students to have greater understanding of the domestic resource recycling and environmental protection industry. Onsite practical observation sessions are provided for Class A and Class B waste treatment and removal personnel training courses, enabling trainees entering the environmental protection industry to gain a practical understanding of processing control technologies and operational management models. Our arranged tours advocate the importance of environmental conservation and resource recycling and promote the efficient use of resources. In addition to academia, visits are also offered to industry and government agencies. In 2024, a total of 199 person-visits were made to the plant to gain hands-on experience in circular economy practices.

Visit from foreign customers

Visit to Chemical Society Located in Taichung



感 謝 狀

茲感謝

台灣鋼聯股份有限公司

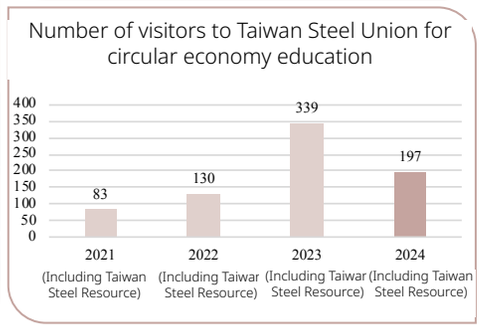
為中國化學會台中分會安排工業參訪行程，內容充實惠助良多。特頒此狀，謹致謝忱。

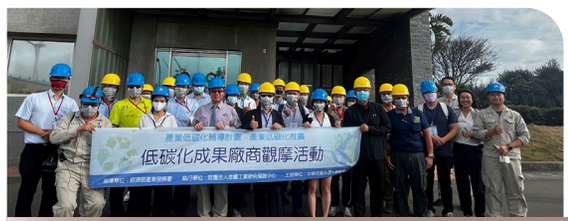
中國化學會台中分會

理事長 趙永賀

中華民國 113 年 8 月 27 日

Visit to Chemical Society Located in Taichung





Industry Development Administration's Industry Low-Carbonization Assistance Program - Low-Carbonization Results Observation Event for Suppliers

Customer Technology Exchange

Visit from Japanese customers

Visit to ZGH

Visit to Tunghai University

Appendix

ISO 26000 Guidance on Social Responsibility

ISO 26000 topics relevant to Taiwan Steel Union	Taiwan Steel Union's report chapters and contents
Acknowledgement and understanding of corporate social responsibility	Report Message from Management
Identification and involvement of stakeholders	Chapter 1: Sustainability Management
Organizational governance	Chapter 2: Sustainability Corporate Governance
Human rights	Chapter 6: Happy Workplace
Labor practice	
Environment	Chapter 5: Green Manufacturing Process
Fair practice	Chapter 1: Sustainability Management
Community involvement and development	Chapter 7: Social Inclusion
Action plans	Material Topics Management in Each Chapter of the Report
Communication of social responsibility	Communication through annual reports and website pages
Review and enhancement of corporate social responsibility	Sustainable Development Committee has been established to implement corporate governance and public welfare maintenance operation according to department functions and scopes, and the committee also monitors day-to-day ESG activities, depending on requirements and legal regulations.
Relation between organizational characteristics and social responsibility	Taiwan Steel Union operates a 100% recycle and reuse process, and provides proper treatment channel for hazardous wastes outputted by electric arc furnace steel making industry and converts such wastes into valuable products. thereby contributing efforts in the resource utilization and circular economy in Taiwan and the rest of the world. Chapter 4 Value Chain Management

Sustainability Accounting Standards Board SASB - Disclosure Guidelines for the Metals and Mining Industry

TOPIC	CODE	METRIC	2023 Value or Explanation	2024 Value or Explanation	Relevant Chapter
GHG emissions	EM-MM-110a.1	Global Scope 1 total emissions (tons CO_2e)	73,130.9103	79,993	5.3 Operational ecosystem efficiency p.74~84
		Scope 1 emission control percentage (%)	88.61%	90.36%	
	EM-MM-110a.2	Discussion of long- and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Please see p68-69		
Air quality	EM-MM-120a.1	Carbon monoxide (CO) (T)	2,621	2,153	5.3 Operational ecosystem efficiency p.74~84
		Nitrogen oxides (NOx) (excluding N_2O)	14.99	13.69	
		Sulfur oxides (SOx) (T)	12.34	13.58	
		Particulate matter (PM_{10}) (T)	3.4400	2.1800	
		Mercury (Hg) (T)	0.00764	0.01492	
		Lead (Pb) (T)	0.0124	0.0077	
		Zinc (Zn) (T)	0.12922	0.10247	
		Cadmium (Cd) (T)	0.00023	0.00021	
		Volatile organic compounds (VOC) (T)	0.185	0.048	
		Dioxin (g)	0.019	0.017	
Energy management	EM-MM-130a.1	Total energy consumed (GJ)	857,334	912,333	5.3 Operational ecosystem efficiency p.74~84
		Percentage grid electricity (%)	7.86%	6.80%	
		Percentage renewable (%)	0%	0%	
Water management	EM-MM-140a.1	Total water withdrawn (M^3)	58,450	55,994	5.4 Water risk management p.85~88
		Total water consumed (M^3)	23,203	19,780	
		percentage of each in regions with High or Extremely High Baseline Water Stress (%)	0%	0	
	EM-MM-140a.2	Number of incidents of non-compliance associated with water quality permits, standards and regulations	0	0	
Waste and hazardous material management	EM-MM-150a.4	Total weight of non-mineral waste generated (T)	97,199	94,685	3.4 Increasing strength of the circular economy
	EM-MM-150a.5	Total weight of tailings produced (T)	N/A		
	EM-MM-150a.6	Total weight of waste rock generated (T)	N/A		
	EM-MM-150a.7	Total weight of hazardous waste generated (T)	932	793	
	EM-MM-150a.8	Total weight of hazardous waste recycled (T)	932	793	
	EM-MM-150a.9	Number of significant incidents associated with hazardous materials and waste management	0	0	
	EM-MM-150a.10	Description of waste and hazardous materials management policies and procedures for active and inactive operations	According to "ISO 14001 Warehouse inbound management regulations Order acceptance management regulations		

Disclosure Topic	Indicator No.	Indicator Item	2023 Value or Explanation	2024 Value or Explanation	Relevant Chapter
Impact of biological diversity	EM-MM-160a.1	Description of environmental management policies and practices for active sites	Environmental assessment and commitment to retain green land, plant trees, provide ecological environment and adopt windbreak forest		—
	EM-MM-160a.2	Percentage of mine sites where acid rock drainage is: (1) predicted to occur, (2) actively mitigated, and (3) under treatment or remediation	N/A		
	EM-MM-160a.3	Percentage of (1) proved and (2) probable reserves in or near sites with protected conservation status or endangered species habitat	N/A		
Human rights and community relations	EM-MM-210a.1	Percentage of (1) proved and (2) probable reserves in or near areas of conflict	7.1 Community impact assessment		6.5 Human rights 7.1 Community impact assessment
	EM-MM-210a.2	Percentage of (1) proved and (2) probable reserves in or near indigenous land	7.1 Community impact assessment		
	EM-MM-210a.3	Discussion on participation process and due diligence implementation related to human rights, indigenous rights and conflict area operation	6.5 Human rights		
		Discussion on the risk and opportunity processes related to management and community rights and interests	7.1 Community impact assessment		
		Number of times of non-technical delays and duration	0	0	
Community relations	EM-MM-210b.1	Discussion of process to manage risks and opportunities associated with community rights and interests	7.1 Community impact assessment		7.1 Community impact assessment
	EM-MM-210b.2	(1) Number and (2) duration of nontechnical delays	0	0	
Labor implementation	EM-MM-310a.1	Percentage of active workforce employed under collective agreements, classified into domestic and foreign employees	0	0	—
	EM-MM-310a.2	(1) Number and (2) duration of strikes and lockouts	0	0	
Employee health and safety	EM-MM-320a.1	(1) All-incidence rate, (2) fatality rate, (3) near miss frequency rate (NMFR)	N/A		—
		(4) average hours of health, safety, and emergency response training for (a) direct employees and (b) contract employees	22.2848	8.8011	

Disclosure Topic	Indicator No.	Indicator Item	2023 Value or Explanation	2024 Value or Explanation	Relevant Chapter
Business ethics	EM-MM-510a.1	Description of the management system for prevention of corruption and bribery throughout the value chain	Code of conduct and anti-corruption of the Union		—
	EM-MM-510a.2	Production in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index	Ranked No. 28 in Taiwan in 2023	Ranked No. 25 in Taiwan in 2024	
Major event risk management	EM-MM-540a.1	Tailings storage facility inventory table: (1) facility name, (2) location, (3) ownership status, (4) operational status, (5) construction method, (6) maximum permitted storage capacity, (7) current amount of tailings stored, (8) consequence classification, (9) date of most recent independent technical review, (10) material findings, (11) mitigation measures, (12) site-specific EPRP	N/A		—
	EM-MM-540a.2 EM-MM-540a.3	(1) TSummary of tailings management systems and governance structure used to monitor and maintain the stability of tailings storage facilities (2) Approach to development of Emergency Preparedness and Response Plans (EPRPs) for tailings storage facilities	N/A		—
Activity indicator	EM-MM-000.A	Production of (1) metal ores and (2) finished metal products	Crude zinc oxide of 51,490 tons	Crude zinc oxide of 51,145 tons	5.1 Environmental-friendly green manufacturing process
	EM-MM-000.B	Total number of employees, percentage contractors	107	109	5.3 Operational efficiency p.74

GRI content index

Instructions for use	Taiwan Steel Union Co., Ltd. has prepared this report in accordance with the GRI Standards The reporting period is from January 1, 2024 to December 31, 2024
Using GRI 1	GRI 1: Foundation 2021
Applicable GRI Standards	N/A

GRI Standards	Disclosure	Page number	Remark/Omission
GRI 2: General Disclosures 2021	2-1 Organizational details	30~32	
	2-2 Entities included in the organization's sustainability reporting	2	
	2-3 Reporting period, frequency and contact point	2	
	2-4 Restatements of information	-	None
	2-5 External assurance	2, 25, 124	
	2-6 Activities, value chain and other business relationships	30~34, 62~66	
	2-7 Employees	94~96	
	2-8 Workers who are not employees	96	
	2-9 Governance structure and composition	30~34	
	2-10 Nomination and selection of the highest governance body	30~34	
	2-11 Chair of the highest governance body	30~34	
	2-12 Role of the highest governance body in overseeing the management of impacts	30~34	
	2-13 Delegation of responsibility for managing impacts	30~34	
	2-14 Roles of the highest governance body in sustainability reporting	30~34	
	2-15 Conflicts of Interest	24、83	See Annual Report for Directors' Information-Three. Corporate Governance Report P.30
	2-16 Communication of critical concerns	32	
	2-17 Collective knowledge of the highest governance body	31	Three. Corporate Governance Report of the Annual Report P.60 Continuing Education of Directors
	2-18 Evaluation of the performance of the highest governance body	31	
	2-19 Remuneration policies	31	
	2-20 Process to determine remuneration	31	
	2-21 Annual total compensation ratio	95	
	2-22 Statement on sustainable development strategy	13	
	2-23 Policy commitments	107~109	
	2-24 Embedding policy commitments	107~109	
	2-25 Processes to remediate negative impacts	107~109	
	2-26 Mechanisms for seeking advice and raising concerns	107~109	
	2-27 Compliance with laws and regulations	24、83	
	2-28 Membership associations	32	
	2-29 Approach to stakeholder engagement	19~21	

GRI Standards Content Index: Specific Disclosures

Material Topics	Disclosure	Page number	Remark/Omission
GRI 3: Material Topics 2021	3-1 Guidance to determine material topics	22~25	
	3-2 Disclosures on material topics	22	

Economic material topics	Management of Material Topics and Indicators		Page number	Remark/Omission
Procurement practices GRI 204：2016	3-3 Management of Material Topics		58	
	204-1	Proportion of spending on local suppliers	63	
Taiwan Steel Union's self-defined material topics				
Circular Economy	3-3 Management of Material Topics		43~44	
	Reuse	Taiwan Steel Union's slag reuse rate	50	
Climate strategy	3-3 Management of Material Topics		27~28	
	TCFD	TCFD adherence	40~42	

Environmental material topics	Management of Material Topics and Indicators		Page number	Remark/Omission
Materials GRI 301：2016	3-3 Management of Material Topics		67~68	
	301-1	Materials used by weight or volume	71	
	301-2	Recycled input materials used	72	
	301-3	Reclaimed products and their packaging materials	72	
Energy GRI 302：2016	3-3 Management of Material Topics		67~68	
	302-1	Energy consumption with the organization	79~80	
	302-3	Energy intensity	79~80	
	302-4	Energy consumption reduction	79~80	
Emissions GRI 305：2016	3-3 Management of Material Topics		67~68	
	305-1	Direct (Scope 1) GHG emissions	75~78	
	305-2	Energy indirect (Scope 2) GHG emissions	75~78	
	305-3	Other indirect (Scope 3) GHG emissions	75~78	
	305-4	GHG emission intensity	75~78	
	305-5	Reduction of GHG emissions	75~77	
	305-6	Emissions of ozone-depleting substances (ODS)	-	
	305-7	NOx, SOx and other significant gas emissions	83	

Environmental material topics	Management of Material Topics and Indicators		Page number	Remark/ Omission
Waste GRI 306: 2020	3-3 Management of Material Topics		43~44	
	306-1	Waste generation and significant waste-related impacts	51~53	
	306-2	Management of significant waste-related impacts	51~53	
	306-3	Generation of waste	55	
	306-4	Waste diverted from disposal	55	
	306-5	Waste directed to disposal	55	

Social material topics	Management of Material Topics and Indicators		Linkage of page numbers	Remark /omitted
Occupational Health and Safety GRI 403:2018	3-3 Management of Material Topics		88~89	
	403-1	Occupational health and safety management system	99	
	403-2	Hazard identification, risk assessment and event investigations	105~106	
	403-3	Occupational health services	102~104	
	403-4	Worker participation, consultation, and communication on occupational health and safety	102~104	
	403-5	Worker training on occupational health and safety	103	
	403-6	Workers' health promotion	107	
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	100	
	403-8	Workers covered by the occupational health and safety management system	101	

Climate-related information of TWSE/TPEx-listed companies

1-1-1 Greenhouse Gas Inventory Information

Describe the emissions (metric tons of CO_2e), intensity (metric tons of CO_2e/million dollars), and data coverage for the last two years.

Scope of disclosure as per the Roadmap for Sustainable Development of Listed Companies:

(1) The parent company shall disclose inventory information starting in 2025.

(2) Subsidiaries included in the consolidated financial statements shall disclose inventory information starting in 2026.

The parent company has established a greenhouse gas inventory mechanism in accordance with the ISO 14064-1 greenhouse gas inventory standard issued by the International Organization for Standardization (ISO).

Taiwan Steel Union completed its greenhouse gas inventory and verification in 2025, fully understanding its greenhouse gas usage and emission status, and verifying the effectiveness of its reduction measures.

The greenhouse gas inventory data for the most recent two years are compiled based on the operational control approach and include the Company's greenhouse gas emissions. The details are as follows:

		2023		2024	
		Emissions volume (tons CO_2e)	Intensity (metric tons $Co_2e/_2e$/ revenue in NT$ million)	Emissions volume (tons CO_2e)	Intensity (CO_2e/revenue in NT$ million)
The Company	Scope 1	73,130.9103		79,961.1884	
	Scope 2	9,399.6703		8,166.8574	
	Subtotal	82,530.5810		88,128.0458	
All subsidiaries included in the consolidated financial statements	Scope 1	-		-	
	Scope 2	-		-	
	Subtotal	-		-	
Total		82,530.5810	42.43	88,128.0458	53.74

Note 1: Direct emissions (Scope 1, i.e., emissions directly from sources owned or controlled by the Company), energy indirect emissions (Scope 2, i.e., indirect greenhouse gas emissions resulting from the consumption of purchased electricity, heat, or steam), and other indirect emissions (Scope 3, i.e., emissions that occur as a consequence of the Company's activities but arise from sources not owned or directly controlled by the Company).

Note 2: The disclosure scope for Scope 1 and Scope 2 emissions shall follow the time line stipulated in Paragraph 2, Article 10 of these Guidelines. Disclosure of Scope 3 emissions is voluntary.

Note 3: Greenhouse gas inventory standards shall follow either the Greenhouse Gas Protocol (GHG Protocol) or ISO 14064-1 issued by the International Organization for Standardization (ISO).

Note 4: The intensity of greenhouse gas emissions may be calculated per unit of product/service or per revenue. However, at a minimum, the Company shall disclose the data calculated based on revenue (in NTD million).

1-1-2 Greenhouse Gas Assurance Information

Describe the emissions (metric tons of CO_2e), intensity (metric tons of CO_2e/million dollars), and data coverage for the last two years.

Scope of disclosure as per the Roadmap for Sustainable Development of Listed Companies:

(1) The parent company shall disclose assurance information starting in 2027.

(2) Subsidiaries included in the consolidated financial statements shall disclose assurance information starting in 2028.

The implementation status of the greenhouse gas inventory for the past two years is as follows:

The Company has established greenhouse gas assurance for its parent company in accordance with the ISO 14064-1 greenhouse gas inventory standard issued by the International Organization for Standardization (ISO). Starting from 2025, the Company will regularly verify the GHG emissions of the Company and its subsidiaries in the consolidated financial statements every year, to fully grasp the status of GHG use and emissions, and verify the effectiveness of reduction actions.

The Company's and its consolidated subsidiaries' greenhouse gas inventory assurance engagements for the past two years are as follows:

		2023	2024
		Emissions (metric tons CO_2e)	Emissions (metric tons CO_2e)
The Company	Scope 1	73,130.9103	79,961.1884
	Scope 2	9,399.6703	8,166.8574
	Subtotal	82,530.5810	88,128.0458
	Percentage of the inventory data disclosed in Section 1-1-1 above.	100%	100%
All subsidiaries included in the consolidated financial statements	Scope 1	-	-
	Scope 2	-	-
	Subtotal	-	-
	Percentage of the inventory data disclosed in Section 1-1-1 above.	-	-
Assurance Institution		SGS Taiwan Ltd.	SGS Taiwan Ltd.
Description of assurance		Reasonable assurance	Expect to complete third-party verification by the end of May 2025.
Assurance opinion/conclusion		Unqualified opinions	
Total		82,530.5810	88,128.0458

Note 1: In accordance with Paragraph 2, Article 10 of the relevant guidelines, if the Company does not obtain a complete greenhouse gas assurance statement before the publication of the annual report, it shall state, "The complete assurance information will be disclosed in the Sustainability Report." If the Company does not prepare a Sustainability Report, it shall state, "The complete assurance information will be disclosed on the Market Observation Post System (MOPS)," and the complete assurance information must be disclosed in the following year's annual report.

Note 2: The institution assuring shall comply with Taiwan Stock Exchange Corporation and the relevant requirements for the assurance of sustainability reports issued by Taipei Exchange.

Note 3: For disclosure content guidelines, please refer to the best practice examples provided on the Corporate Governance Center website of the Taiwan Stock Exchange.

1-2 Greenhouse gas reduction goals, strategies and concrete action plans

Specify the greenhouse gas reduction base year and its data, the reduction targets, strategy and concrete action plan, and the status of achievement of the reduction targets.

1. Greenhouse Gas Reduction Baseline Year and Reduction Targets

Parent Company Taiwan Steel Union Carbon Reduction Targets

To achieve the five-year phased approach set out in the Climate Change Response Act, the central competent authority, in consultation with the central industry-specific authorities, sets the control targets for each phase. The Ministry of Environment, in consultation with the central industry-specific authorities, has set Taiwan's third-phase (2026–2030) Nationally Determined Contributions (NDCs) emissions reduction target at "24% ± 1%" for 2030. Based on the NDC reduction scenario, TSU has established a reduction plan, using 2012 as the baseline year, and has implemented related carbon reduction action plans. As of 2024, greenhouse gas emissions have been reduced by 30% compared with the 2012 baseline year.

2. Greenhouse Gas Reduction Strategies and Concrete Action Plans

TSU has newly set key performance indicators and targets for greenhouse gas management, including: the national phase control total emissions target, the Scope 1 emission intensity target (metric tons CO2e/metric ton of waste), and the Scope 2 emission intensity target (metric tons CO2e/metric ton of waste). The performance indicators and targets are presented in the following table. On April 22, 2022, TSU announced its net-zero carbon emission strategy and roadmap for waste resource recycling and reuse. The strategy includes measures such as using alternative reducing agents, adopting renewable energy, replacing diesel with electric vehicles, promoting energy management, adjusting processes, and implementing carbon capture and storage, to achieve the reduction targets.

KPIs and targets in GHG management	
Key Performance Indicators	Short-, medium- and long-term goals
Total emission target based on national phased control (compared to the base year reduction %)	30% reduction by 2024 31% reduction by 2025 34% reduction by 2030
Scope 1 emission intensity target (metric tons CO_2e/metric tons of waste treatment)	2025 target: 0.56 2030 target: 0.53
Scope 2 emission intensity target (metric tons CO_2e/waste treatment)	2025 target: 0.064 2030 target: 0.062

Note 1: In accordance with the schedule specified under Paragraph 2, Article 10 of the relevant guidelines, the reporting of Scope 1 and Scope 2 emissions shall be conducted accordingly.
Note 2: The base year shall be the year in which the greenhouse gas inventory is completed based on the boundary of the consolidated financial statements. For example, pursuant to the provisions of Paragraph 2, Article 10 of these Guidelines, companies with paid-in capital of less than NT$5 billion shall complete the inventory for the 2025 fiscal year by 2026; thus, 2025 shall be designated as the base year. If a company completes the inventory of its consolidated financial statements earlier, the earlier year may be used as the base year. Data for the base year may be calculated using either a single year or the average of multiple years.
Note 3: For disclosure content guidelines, please refer to the best practice examples provided on the Corporate Governance Center website of the Taiwan Stock Exchange.

AA 1000 v3 External Assurance Statement

ASSURANCE STATEMENT

SGS TAIWAN LTD.'S REPORT ON SUSTAINABILITY ACTIVITIES IN THE TAIWAN STEEL UNION CO., LTD.'S SUSTAINABILITY REPORT FOR 2024

NATURE AND SCOPE OF THE ASSURANCE

SGS Taiwan Ltd. (hereinafter referred to as SGS) was commissioned by TAIWAN STEEL UNION CO., LTD. (hereinafter referred to as TSU) to conduct an independent assurance of the Sustainability Report for 2024. The assurance is based on the SGS Sustainability Report Assurance methodology and AA1000 Assurance Standardv3 Type 1 Moderate level during 2025/04/09 to 2025/06/03. The boundary of this report includes TSU Taiwan operational and production or service sites as disclosed in TSU's Sustainability Report of 2024. The boundary is the same as TSU's consolidated financial statements.

SGS reserves the right to update the assurance statement from time to time depending on the level of report content discrepancy of the published version from the agreed standards requirements.

INTENDED USERS OF THIS ASSURANCE STATEMENT

This Assurance Statement is provided with the intention of informing all TSU's Stakeholders.

RESPONSIBILITIES

The information in the TSU's Sustainability Report of 2024 and its presentation are the responsibility of the directors or governing body (as applicable) and the management of TSU.

Our responsibility is to express an opinion on the text, data, graphs and statements within the scope of assurance based upon sufficient and appropriate objective evidence.

ASSURANCE STANDARDS, TYPE AND LEVEL OF ASSURANCE

The assurance of this report has been conducted according to the AA1000 Assurance Standard (AA1000AS v3), a standard used globally to provide assurance on sustainability-related information across organizations of all types, including the evaluation of the nature and extent to which an organization adheres to the AccountAbility Principles (AA1000AP,2018).

Assurance has been conducted at a type 1 moderate level of scrutiny.

SCOPE OF ASSURANCE AND REPORTING CRITERIA

The scope of the assurance included evaluation of quality, accuracy and reliability of specified performance information as detailed below and evaluation of adherence to the following reporting criteria:

Reporting Criteria Options	
1	AA1000 Accountability Principles (2018)
2	GRI (With Reference to)

TWLPP 5008 Issue 2502