

2024

TSRC
Sustainability Report

台橡股份有限公司
TSRC CORPORATION

Contents

About the Report 03

Letter from the CEO 04

Company Information 05

ESG Strategy 06

Awards and Recognitions 10

ESG Stories 11

Chapter 1 | About TSRC 13

1.1 Industry Position 14

1.2 Sustainable Management and Material Topics 17

Chapter 2 | Environmental 30

2.1 Towards Carbon Neutrality 32

2.2 Energy Management 46

2.3 Enhance Waste Management 50

2.4 Water Resource Optimization 56

2.5 Environmental Management 60

2.6 Design Green Products 66

Chapter 3 | Social 70

3.1 Strengthen the Organization's Sustainability Capabilities 72

3.2 Improve Health, Safety & Wellbeing of Employees 81

3.3 Enhance Social Engagement 100

Chapter 4 | Governance 104

4.1 Strengthen Corporate Governance 105

4.2 Develop Innovation Momentum 121

4.3 Enhance Supply Chain Management 129

Appendix 134

Participation in Industry Associations and Non-Profit Organizations 135

Comparison of Changes in Material Topics to the Previous Year 137

Remediation and Management of Negative Impacts 139

Definition of Significant Instances of Non-compliance and HSE Severe Incidents 144

Sustainability Data 145

GRI Standards Index 169

SASB Index 182

Task Force on Climate-related Financial Disclosures (TCFD) Comparison Table 185

Information Disclosure Required by Taiwan Stock Exchange 186

Independent Third-Party Assurance and Verification Statement 188

Cover Story

TSRC has long been committed to sustainable development by following the philosophy of “attentive care”. Whether it is environmental protection, social care, or employee care and cultivation, we have carefully nurtured these subjects as one would a small sapling, slowly and with care. TSRC has always believed that only attentive care is able to build a positive and warm workplace environment that empowers employees to develop a sense of belonging, display their strengths, and innovate, creating a vital force for shared prosperity with both the natural environment and society.



About the Report

This is the 2024 sustainability report of TSRC Corporation (hereinafter referred to as "TSRC") and discloses TSRC's environmental (E), social (S), governance (G), and sustainability plans and implementation. The report is compiled based on the GRI Standards, discloses information according to chemical industry standards of the Sustainability Accounting Standards Board (SASB), and discloses climate-related risks and opportunities according to the framework recommended by the Task force on Climate-related Financial Disclosures (TCFD). In order to ensure the report's accuracy and completeness, it has been jointly prepared by the ESG Work Team and other related departments. The ESG Section has compiled the information in this report, after which it has been verified by a third party, and submitted to the Board of Directors for approval after being reviewed and confirmed by the Executive Leadership Team.

Reporting Period and Frequency

This report covers the period from January 1, 2024 to December 31, 2024, which is consistent with the reporting period of the Company's financial statements. The Company prepares and discloses a sustainability report once a year. This report will be published by the end of June 2025, and the Chinese and English versions will be uploaded to the Market Observation Post System pursuant to regulations. Each version (Traditional Chinese, English, and Simplified Chinese) will also be uploaded to the Sustainable Development section of the Company's website.

Scope of Reporting

This report covers the environmental, social, governance, and economic practices and results of TSRC Corporation (including the global headquarters, Kaohsiung Factory, and Gangshan Factory); six subsidiaries with substantial operations (Shen Hua Chemical Industrial Co., Ltd., TSRC (Nantong) Industries Ltd., TSRC-UBE (Nantong) Chemical Industry Co., Ltd., TSRC (Shanghai) Industries Ltd., TSRC (Vietnam) Co., Ltd., and TSRC Specialty Materials LLC); and two trading subsidiaries (Polybus Corporation Pte Ltd and TSRC (Lux.) Corporation S.à.r.l). The reporting boundary is consistent with all manufacturing and operational entities included in the consolidated financial statements. The information and material topics disclosed in this report do not vary from different entities and are not adjusted for minority shareholders' interests. All entities report ESG data and information to headquarters on a regular basis. The global headquarters of TSRC is located in Taipei City, Taiwan. For readers to understand the titles of related organizations, explanations are provided below:

Shen Hua Chemical	Refers to Shen Hua Chemical Industrial Co., Ltd.
Nantong Industrial	Refers to TSRC (Nantong) Industries Ltd.
TSRC-UBE	Refers to TSRC-UBE (Nantong) Chemical Industrial Co., Ltd.
Shanghai Industrial	Refers to TSRC (Shanghai) Industries Ltd.
TSRC Corporation	Refers to TSRC Corporation located in Taiwan, including the global headquarters located in Taipei, Kaohsiung Factory, and Gangshan Factory.
TSRC	Refers to Shen Hua Chemical, Nantong Industries, TSRC-UBE, Shanghai Industries, TSRC (Vietnam) Co., Ltd., TSRC Specialty Materials LLC, global headquarters, Kaohsiung Factory, Gangshan Factory, Polybus Corporation Pte Ltd (hereinafter referred to as "Polybus"), and TSRC (Lux.) Corporation S.à.r.l (hereinafter referred to as "TSRC (Lux.)"). The terms TSRC, TSRC Group, and the Group are used interchangeably in this Report.

Restatements of Information

Chapter 2: Environmental Data (waste materials, air pollutant emissions), Chapter 3: Social Data (employee benefits expenses), and Appendix: Sustainability Data (Collective Bargaining Agreements) were revised due to changes in data calculation criteria. For more detail on the reasoning and actual changes, please refer to the notes included below affected charts.

Third-party Verification and Assurance

The third-party verification and assurance of this report is conducted with the consent of the Executive Leadership Team, and the results are reported to the Board of Directors. The report with the verification and assurance are published after approval from the Board of Directors.

The Company engaged SGS Taiwan to provide assurance for the report in accordance with the GRI Standards and SASB Standards at AA1000 Type 2 moderate assurance engagement. The TCFD information disclosed by TSRC also has assurance by SGS. All statements are provided in the report's Appendix.

KPMG Taiwan was engaged to provide limited assurance for four SASB indicators in the report in accordance with the Assurance Standard No. 3000 "Assurance Engagement of Examinations or Audits of Non-historical Financial Information" (established according to ISAE 3000 Revised) issued by the Accounting Research and Development Foundation. The independent assurance statement issued is provided in the report's Appendix.

This report can be downloaded at: https://www.tsrc.com.tw/sustainability/downloads/

Contact

We welcome any advice/ suggestion or inquiries for TSRC ESG plans or implementation.

ESG Section, TSRC Corporation

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Letter from the CEO

While inflation slowed and the global economy stabilized in 2024, the Russo-Ukrainian War and Israeli-Palestinian conflict keep exacerbating geopolitical risks, resulting in greater uncertainty. In terms of industry dynamics, the petrochemicals industry still faces price competition driven by excess production capacity and increased production and operating costs, impacting corporate profits. It is also worth noting that the rise in global temperatures has exceeded the 1.5°C threshold for the first time. Frequent climate disasters, including the floods in Spain, high temperatures in India, drought in South Africa, strong typhoons in Asia, and hurricanes in the United States, have had varying degrees of impact on the environment, human life, and corporations.

In the face of this host of external challenges, TSRC has maintained operations at a steady pace and adopted flexible operating strategies. Through optimizing our production processes and product portfolios, we have been able to mitigate market impacts. In 2024, we achieved outstanding performance in our synthetic rubber business by tapping into demand from the Asian automotive market. While our advanced materials business operations continue to suffer from industry headwinds, performance nevertheless managed to exceed that of the previous year, stabilizing the Group's overall finance performance. Likewise, TSRC has continued to promote important ESG actions in order to lay a solid foundation for sustainable operations, strengthen climate resilience for our production locations, and prioritize employee rights and corporate governance, thereby enhancing the Company's competitiveness.

The following important strategic ESG goals have been achieved in 2024 so far:

Strengthening climate resilience

The Group makes increased efforts to reduce carbon emissions year after year. We have been able to reduce the Group's direct and indirect emissions (Scopes 1 and 2) by using low-carbon fuels, installing solar power generation and cogeneration systems, optimizing our production processes, and increasing renewable energy use. These carbon reduction achievements have exceeded our original goal of reducing GHG emissions by 7.5% in 2024 compared to the base year. At the same time, we have improved water resource usage by enhancing wastewater treatment facilities in factories and increasing the use of reclaimed water. This has allowed the Group to achieve a wastewater recycling rate of 27% and a reclaimed water usage rate of 23%.

Prioritizing employee safety and health

We adhere to the philosophy of “putting people first” and firmly believe that our employees are our most important asset. TSRC has been devoted to ensuring employee safety and health as a key priority, and has for many years striven to establish a culture of safety. We have taken action to improve safety awareness and habits across the Company, and the concrete results of our efforts are reflected in the Group's 2024 Total Recordable Incident Rate (TRIR). Additionally, we have also provided opportunities for improving employee cohesion through establishing interactive platforms, gatherings, training and education sources, and community environmental protection activities, allowing employees to better understand the Company's key values and participate in corporate activities. Through employee engagement surveys, we have been able to confirm that employees feel a growing sense of belonging at the Company, and that this trend continues to improve.

Enhancing product competitiveness

We are committed to developing sustainable products, and as part of this commitment we have obtained the ISCC Plus sustainable product certification for our Kaohsiung Dashe Plant, launched customer products made from renewable raw materials, expanded production of products used in the manufacture of high-efficiency green tires, accelerated the sale of new medical purpose products, developed the use of medical grade post-consumer recycled (PCR) raw materials, and manufactured rTPE products. In terms of operational management, we have responded to the importance of corporate cyber security by not only continuing to strengthen information security protection measures, but also obtaining ISO 27001 certification, increasing customers' trust in our operations and products.

Looking towards the future, in the face of economic uncertainty, frequent climate disasters, and industry challenges, TSRC will not only continue to improve production capacity and utilization, but also actively develop new product markets and focus on high-value transformation, achieving sustainable development strategic goals, and mitigating the impact of climate risks. In like manner, we hope to join hands with partners across the value chain to foster mutually beneficial relationships with the environment and society, fulfilling our commitment towards corporate sustainable management.

CEO *Joseph Chai*

Company Information

Industry
Rubber industry

Paid-in capital
NT$8,257,099,780

Company Name
TSRC Corporation (TWSE-listed company)

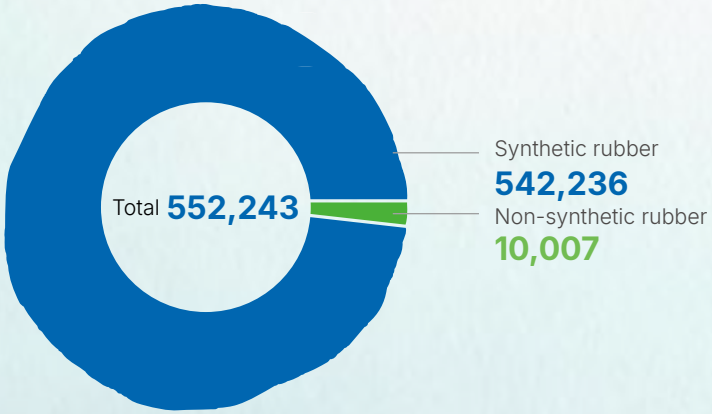
Address of corporate headquarters
18F, No. 95, Sec. 2, Dunhua S. Rd., Taipei City

Address of the business manufacturing site
No. 2, Singgong Rd., Dashe Dist., Kaohsiung City

Number of employees
1,658[Note]

Note: Permanent full-time employees.

Output volume of main products in 2024 (Unit: metric tons)



Mission and Vision

Mission

Be an essential partner to our customers, a socially responsible member of the community, and an enterprise committed to innovation, sustainable growth, and excellence

Vision

A global specialty materials company that enriches the quality of life for humanity through innovative technologies and creates sustainable value and returns for stakeholders

Core Values

Integrity, Innovation, Teamwork, Excellence, Accountability

ESG Strategy

In response to the global trend toward promoting ESG and the increasingly severe climate change, TSRC held an ESG Consensus Building Workshop in 2021 led by the ESG Steering Committee, which gathered relevant executives from headquarters and production sites. Based on global ESG development trends, the United Nations Sustainable Development Goals (SDGs), and benchmark ESG strategic planning cases and practices from the chemical and related industries, the Committee came up with TSRC's prioritized SDGs, including: SDG 3 Good Health and Well-being, SDG 6 Clean Water and Sanitation, SDG 7 Affordable and Clean Energy, SDG 8 Decent Work and Economic Growth, SDG 9 Industry, Innovation and Infrastructure, SDG 12 Responsible Consumption and Production, SDG 13 Climate Action, and SDG 17 Partnerships for the Goals. Please refer to the Company's website for specific details on how TSRC is implementing these prioritized SDGs. Furthermore, the ESG steering committee also integrated the Company's long-term vision and core business goals to develop a specific blueprint framework for ESG strategy in the next decade. The framework is based on the main axis of "Strengthening Governance," "Promoting Environmental Protection," and "Enhancing Positive Social Impact," covering 9 major areas and 24 targets. They will be reviewed based on short-term (2023), medium-term (2025), and long-term (2030) milestones to actively strengthen the ESG performance of TSRC through a positive and practical attitude.



Environmental

- Coexist with the Earth's ecosystem, take action in response to global carbon reduction trends, and invest in developing green manufacturing processes
- Lift product value and be the first choice for clients to reduce environmental impact and carbon emissions
- Develop innovative circular economy business model and strengthen energy and resource use efficiency



Social

- Pursue the common good of human beings and build a safe and healthy environment for employees
- Create a friendly workplace and cultivate employees with multiple competencies
- Maintain good communication with stakeholders, support local environment, and increase social engagement



Governance

- Implement corporate governance and integrate long-term strategies and operational plans
- Build a corporate culture encouraging innovation and create a diversified business portfolio
- Build operational resilience and cooperate with business partners to create shared values



Environmental

In response to the international trend of carbon reduction and energy and resource shortages, TSRC cherishes Earth's resources and has set active carbon reduction goals to achieve carbon neutrality. We are accelerating the use of renewable energy, reclaimed water, and renewable raw materials and are also developing products and services that can help customers reduce their energy and resource use. With innovative thinking and business partnerships, we are working together with our associates to enter the low-carbon economy era.

The status of achievement in 2024

	Corresponding Corporate Indicator for SDGs	★ Achievements in 2024	2024 Goals	2025 Goals	2030 Goals	Corresponding Chapter
Towards Carbon Neutrality	SDG 13 Reduce total carbon emissions (Scopes 1+2;Base year: 2021)	Total emissions reduced by **9.44%** compared to base year	Total carbon emissions reduced by **7.5%** compared to base year	Total carbon emissions reduced by 10% compared to base year	Total carbon emissions reduced by 22.5% compared to base year	2.1.2 Greenhouse Gas Management
	SDG 7 Increase the use of renewable energy	Renewable energy accounted for **7.55%** of total electricity consumption	Renewable energy accounted for **7.5%** of total electricity consumption	Renewable energy accounted for 10% of total electricity consumption	Renewable energy accounted for 30% of total electricity consumption	2.2 Energy Management
Water Resource Optimization	SDG 6 Increase wastewater recycling	Increased wastewater recycling to **27%** of total volume of wastewater	Increase wastewater recycling to **26%** of total volume of wastewater	Increase wastewater recycling to 36% of total volume of wastewater	Increase wastewater recycling to 40% of total volume of wastewater	2.4.2 Water Reuse and Recycling
	SDG 6 Increase reclaimed water utilization	Increased reclaimed water utilization to **23%** of total water consumption	Increase reclaimed water utilization to **23%** of total water consumption	Increase reclaimed water utilization to 34% of total water consumption	Increase reclaimed water utilization to 40% of total water consumption	2.4.2 Water Reuse and Recycling
Reduce the Carbon Footprint of Products	SDG 9 SDG 12 Develop eco-friendly products	Develop new-generation synthetic rubber for green tires/shoe materials to reduce carbon emissions by around **420,000 mt** (calculation based on sales volume)	Develop new-generation synthetic rubber for green tires/shoe materials to reduce carbon emissions by around **350,000 mt**	Develop new-generation synthetic rubber for green tires/ shoe materials to reduce carbon emissions by around 300,000 mt	Develop new-generation synthetic rubber for green tires/ shoe materials to reduce carbon emissions by around 1,500,000 mt	2.6.1 Lifecycle Green Design
		Completed assessment of feasible plans for green foaming products. Developed various product applications, including using the material for production of slippers, shoe midsoles, and bra inserts, and provided these products to customers for evaluation and testing	Develop eco-friendly foaming products	Develop eco-friendly foaming products that can be recycled	Develop eco-friendly foaming products that use renewable materials and offer greater recyclability	2.6.1 Lifecycle Green Design
		Developed styrenic block copolymers (SBC) for medical, shoe, elastic film and modified plastic products, and recyclable thermoplastic elastomer (rTPE) material. Our products have successfully entered the market, **achieving sales of 1,300 mt**	Develope styrenic block copolymers (SBC) for medical, shoe, elastic film and modified plastic products, and recyclable thermoplastic elastomer (rTPE) material. These products can be recycled, reducing medical waste	Develop new types of styrenic block copolymers (SBC) to help customers reduce process energy consumption and eliminate the use of organic solvents	Develop TPE products for medical use able to reduce medical waste by 10% compared with previous generation products	2.6.1 Lifecycle Green Design
	SDG 7 SDG 13 Product process optimization	Optimized the manufacturing process of TPE products and reduced the use of vapor, achieving carbon emissions reduction by **3,230 mt** CO_2e in 2024 compared to 2022	Optimize the manufacturing process of TPE products and reduce use of steam (total cumulative reduction of **2,130 mt** CO_2e compared to 2022)	Optimize manufacturing process of TPE products to reduce electricity and energy consumption (total cumulative reduction of 3,230 mt CO_2e compared to 2022)	Reduce the electricity and energy consumption of TPE products (total cumulative reduction of 9,000 mt CO_2e compared to 2022)	2.2 Energy Management
	SDG 12 Use renewable materials[Note 1]	Engaged in small-scale procurement from renewable materials suppliers	Continue looking for suitable renewable raw material suppliers and expand customer demand	Renewable raw materials account for 5% of total raw materials procurement	Renewable raw materials account for 15% of total raw materials procurement	2.6.1 Lifecycle Green Design
	SDG 9 SDG 12 Increase sustainable products[Note 2]	• Sustainable product portfolio accounted for **15.2%** of total sales • Develop rTPE products that use post-consumer recycled (PCR) plastics as raw materials and obtain Global Recycled Standard (GRS) certification	Have the sustainable product portfolio account for **16.2%** of total sales	Have the sustainable product portfolio account for 20% of total sales	Have the sustainable product portfolio account for 40% of total sales	2.6.1 Lifecycle Green Design

Note 1 : TSRC renewable materials: (1) Agriculture-based (2) Bio-based (3) Waste from other products

Note 2 : TSRC sustainable products: (1) Reduce: Reduce product carbon emission intensity/products able to reduce environmental impact/products that help customers reduce energy consumption during production process (2) Recycle: Recyclable products (3) Renewable: Products made from renewable materials (4) Replace: Products that can safely replace other products

Social

To enhance corporate competitiveness, TSRC will continue to strengthen ESG development and talent cultivation, promote multifaceted career development and knowledge learning, and enhance TSRC's long-term sustainable value through cooperation and exchange between industry, government, and academia. Employee safety and health are key elements of TSRC's stable operation, and we will continue to optimize the global operating environment and strengthen the care for employees' physical and mental health to enhance their sense of belonging and engagement. We will exert a positive influence to extend our concern to human society, dedicate greater effort to sustainability education and social welfare related to chemistry, and benefit local education and community prosperity.

✓ The status of achievement in 2024

	Corresponding Corporate Indicator for SDGs	★Achievements in 2024	2024 Goals	2025 Goals	2030 Goals	Corresponding Chapter
Strengthen the Organization's Sustainability Capabilities	SDG 8 SDG 17 Enhance organization-wide ESG development and employee competency	Since 2022, 907 employees have been trained under training projects	✓ Provide multifaceted competency training to 850 cumulative employees since 2022	Improve the organization's ESG development and provide multifaceted competency training to 950 employees[Note]	Improve the organization's ESG development and provide multifaceted competency training to 1,500 employees	3.1 Strengthen the Organization's Sustainability Capabilities
		• Adopted a carbon management system • Completed implementation of the LMS - TSRC Group Online Learning Management System • Continued building relationships with suppliers of ESG information systems and maintained discussions with suppliers on detailed system requirements	✓ Assess the adoption of ESG information systems	Enhance the organization's ability to integrate ESG information systems	Enhance the organization's ESG performance analysis capability	3.1 Strengthen the Organization's Sustainability Capabilities
	SDG 17 Sustainable collaboration programs with business partners or outside institutions	• Participated in the annual Chem Career job fair for the chemicals industry organized by National Taiwan University, and engaged in exchanges with university students and newcomers on chemical product applications and the industry • Collaborated with the Youth Bureau, Kaohsiung City Government to invite young students to visit the TSRC Kaohsiung Factory • Participated in the 2024 KPMG Leadership Forum, where the CEO attended as a speaker, and exchanged and shared our industry sustainability experience with senior executives, directors, supervisors, and accountants from other TWSE/TPEX-listed companies in various sectors • 1,907 participants in total attended the activities above	✓ Achieve ≥800 participants (cumulative) for academic or technology exchange with business partners or outside institutions	Achieve ≥1,000 participants (cumulative) for academic or technology exchange with business partners or outside institutions	Achieve ≥5,000 participants (cumulative) for academic or technology exchange with business partners or outside institutions	3.3.2 Industry-Academic Collaboration
Improve Health, Safety & Wellbeing of Employees	SDG 8 Enhance global workplace safety in the global operating environment	Achieved Total Recordable Incident Rate (TRIR) of 0.11	✓ Achieve TRIR ≤0.3	Achieve TRIR <0.3	Achieve TRIR <0.3, and achieve at least one year with zero recordable injuries	3.2.1 Occupational Health and Safety
	SDG 8 Strengthen employee engagement	• The 2024 Employee Engagement Survey found an employee approval rate of 80.8% • Achieved an Employee Net Promoter Score (eNPS) of 16.2% in 2024 (increase of 12.6% compared to 2023)	✓ Achieve approval rate of 72% in the Employee Engagement Survey	Achieve approval rate of 72% in the Employee Engagement Survey	Achieve approval rate of 75% in the Employee Engagement Survey	3.2.3 Human Rights and Labor-Management Communication
	SDG 3 SDG 8 Enhance employee physical and mental care	Organized physical and mental health activities or lectures, with a total of 4,541 participants (cumulative) since 2022	✓ Have ≥800 employees (cumulative) participate in physical and mental health activities or lectures	More than half of all global operating sites provide physical and mental consulting services	Have all global operating sites provide physical and mental consulting services	3.2.1 Occupational Health and Safety
Enhance Social Engagement	SDG 17 Support environmental protection and social care programs	≥1,471 volunteers (cumulative) have participated in social care or environmental protection activities among global employees since 2022	✓ ≥450 volunteers (cumulative) for social care or environmental protection activities among global employees	≥600 volunteers (cumulative) for social care or environmental protection activities among global employees	≥1,000 volunteers (cumulative) for social care or environmental protection activities among global employees	3.3.1 Social Impact
	SDG 9 SDG 17 Promote science sustainability education programs	Organized scientific events which attracted a total of 779 participants (cumulative)	✓ Organize scientific events which attract ≥150 total participants (cumulative)	Organize scientific events which attract >300 total participants (cumulative)	Organize scientific events which attract ≥1,000 total participants (cumulative)	3.3.2 Industry-Academic Collaboration

Note: To remain in line with how the Group has implemented this initiative, the targeted number of employees for receiving multiple-competency training has been changed from a total percentage to a specific number of people.

Governance

TSRC is committed to establishing a sound governance framework and improving management and supervision mechanisms. We adhere to the principle of ethical corporate management, implement ethical norms in daily operations, and comply with relevant laws and regulations. We also continuously monitor the risks and challenges faced by our global operations and have developed a resilient and flexible supply chain to ensure the stability of our products and services. We actively innovate, develop products, and enhance service value, becoming the best partner for our customers and promoting the sustainable growth of the Company.

✓ The status of achievement in 2024

	Corresponding Corporate Indicator for SDGs	★ Achievements in 2024	2024 Goals	2025 Goals	2030 Goals	Corresponding Chapter
Strengthen Corporate Governance	SDG 17 Enhance risk & crisis management	• Completed assessment and disclosure of climate-related risks and opportunities • Integrated climate risk factors into risk management • Reported material risk management mechanisms to the Board of Directors and disclosed the implementation status in the sustainability section of the Company's website	✓ Refine climate risk management mechanisms, protection measures, and timely disclosure	Strengthen risk monitoring and improve operation management via digital management systems	Continuously improve risk management and crisis response mechanisms	2.1.1 Climate Resilience 4.1.3 Risk Management
Integrate Sustainability and Business Strategies	SDG 9 Build new sustainable business	Continue to evaluate investment opportunities into new business	✓ Continue to evaluate and develop new business investment opportunities	New businesses contribute ≥5% of total revenue	New businesses contribute ≥10% of total revenue	4.2 Develop Innovation Momentum
	SDG 9 Develop innovation momentum	New products accounted for **18%** of total revenue in 2024	✓ Continue developing new products	New products will account for ≥15% of revenue	Continue increasing new product revenue share	4.2 Develop Innovation Momentum
	SDG 9 SDG 12 SDG 17 Enhance value of customized services[Note]	Sales of easy-to-process synthetic rubber increased by **34.7%** compared to 2021	✓ Increased the sales of easy-to-process synthetic rubber by more than **23%** compared to 2021, and evaluated other solutions for customized services	Increase the sales of easy-to-process synthetic rubber by 20% compared to 2021, and pilot other new customized products or services	Increase the sales of easy-to-process synthetic rubber by 50% compared to 2021, and begin selling other new customized products or services	4.2 Develop Innovation Momentum 2.6.1 Lifecycle Green Design
Build Resilient Operations	SDG 17 Accelerate reduction of supplier's greenhouse gas emissions	Out of the top 50 suppliers in terms of annual procurement amount, 34 suppliers have conducted greenhouse gas inventories or have implemented greenhouse gas reduction targets, plans, and actions	✓ Promoted the reduction of greenhouse gas emissions by the top 50 suppliers in terms of annual procurement amount, and established targets and action plans	Promote the reduction of greenhouse gas emissions (by the top 50 suppliers in terms of annual procurement amount), and establish targets and action plans	Promote the reduction of greenhouse gas emissions from all suppliers, and establish targets and action plans	4.3.1 Supplier Management
	SDG 17 Strengthen supply chain integrity	Global local procurement of raw materials reached **74%** of total procurement spending, and we continued to seek out suitable suppliers for locally sourced renewable raw materials	✓ Global local procurement of raw materials will reach **70%** of total procurement spending, and we developed suitable suppliers for locally sourced renewable raw materials	Global local procurement of raw materials will reach 75% of total procurement spending, and we will seek out suitable suppliers for locally sourced renewable raw materials	Global local procurement of raw materials will reach 80% of total procurement spending, and we will seek out suitable suppliers for locally sourced renewable raw materials	4.3.2 Green and Local Procurement

Note: TSRC customized services: (1) Easy processibility: Help customers reduce production processes to save energy or resource consumption (2) Eco-friendly packaging: Help customers reduce carbon emissions in transportation and logistics process (3) High-value application: Collaborate with value chain partners, provide solutions, and assist customers in entering the green industry chain (4) Other services.

Sustainability Results and Recognition

Awards and Recognition

Sustainalytics
ESG Risk Rating (Industry Group: Chemicals): Medium

Taiwan Alliance for Net Zero Emission
Net Zero Label
Green Level

Carbon Disclosure Project (CDP)
Climate Change: B
Water Security: B

R&D 100 Awards
2024 R&D 100 Awards

SGS ESG Awards
SGS ESG Award
Sustainable Governance Award

Business Weekly
Top 100 Carbon Competitiveness ranking in 2024

The 11th Corporate Governance Evaluation (2024)
6~20%

MSCI ESG Rating
A rating

EcoVadis Sustainability Rating
2024 Sustainability Evaluation
TSRC Group, TSRC-UBE
Silver Medal
TSRC Specialty Materials LLC
Platinum Medal

Taiwan Corporate Sustainability Awards (TCSA)
Sustainability Report - Traditional Manufacturing: Class 1 Gold
Overall Performance: Taiwan Corporate Sustainability Excellence Award

Outstanding Achievements for Environment and Safety Performance

Occupational safety

TSRC Corporation
- Recognized by the Occupational Safety and Health Administration, Ministry of Labor as excellent enterprise in "Disclosure of Occupational Health and Safety Indicators in Corporate Sustainable Reporting"

Kaohsiung Factory
- Awarded the "Safety Label for Confined Space Operations" from the Labor Standards Inspection Office, Labor Affairs Bureau, Kaohsiung City Government

Eco-friendliness

Kaohsiung Factory
- Outstanding performance in Joint Defense Against Butadiene Disasters drills

Nantong Industrial, TSRC-UBE
- Recognized as "Odorless Enterprise" by Nantong Ecological Environment Bureau

Nantong Industrial, Shen Hua Chemical
- Received Grade A in the Jiangsu Province 2024 High-Pollutant Weather Key Industry Performance Evaluation

ESG Story 1

New approach towards carbon reduction, making changes more powerful

ESG Strategy | Environmental | Social | Governance

Since establishing a sustainability strategy in 2021, TSRC has actively promoted carbon reduction efforts and set short-, medium-, and long-term carbon reduction goals. We expect carbon emissions to decrease by 22.5% in 2030 compared to 2021, and in order to achieve this target, we have called on employees across all levels to jointly brainstorm feasible carbon reduction plans and opportunities, from top to bottom and internal to external levels, as well as encourage employees to participate in various carbon reduction activities.

Since TSRC is in the manufacturing industry, carbon reduction efforts have focused on the Group's Scope 1 and Scope 2 carbon emission hotspots. We have therefore committed to optimizing production processes, replacing high-energy consumption equipment, installing solar power generation facilities, and using low-carbon fuels, in order to actively reduce the direct and indirect carbon emissions generated during the manufacturing process.

Likewise, we have not overlooked potential opportunities for reducing carbon emissions in our daily operations. Taking the environmental carbon emissions and water consumption derived from daily operations into consideration, we have looked to reduce environmental burden of carbon emissions while improving our operational efficiency and reducing operational costs. Important carbon reduction achievements are as follows:

Striving for Excellence, Uncovering the Secrets to Reducing Carbon Emissions

TSRC is fully aware of the challenges posed by carbon reduction. We plan to optimize production processes through continuously improving process technologies by following our product development strategy. Not only does each production site continuously and actively manage energy and resource efficiency, but TSRC has also optimized production processes through different phases, in hopes that TSRC can stand at the forefront of the industry when it comes to carbon reduction.

Phase1

Optimize existing processes: Reduce steam consumption by recycling the solvents used in high-energy liquid rubber production processes. As of the end of 2024, this has reduced carbon emissions by 3,230 $mtCO_2e$.



Solvent Recycling Tank

Phase 2

Significantly improve production capabilities: Since large amounts of steam is required during the production phase to remove solvents, TSRC has utilized high-efficiency heat exchange processes and improved decentralized production facilities to increase the solvent removal rate from liquid rubber, significantly reducing steam consumption. This two-phase optimization has greatly reduced TSRC's carbon emissions from production processes, and we estimate to be able to save 9,000 $mtCO_2e$ by 2030 based on our estimated production capacity.



High-efficiency Heat Exchange and Decentralized Facilities

In a Sustainable Future, Efficiency Gains are Driven by Digital Innovation

Our everyday lives have been quietly changed by the advent of the digital era. TSRC's daily operations see multiple contracts being carried out each day, and the process of reviewing, amending, printing, and signing these agreements consumes tens of thousands of paper sheets, electricity, and ink. Apart from spending these resources, international delivery of physical contracts also leads to increased document courier costs, time consumption, and higher carbon emissions.

Imagine the amount of resources, electricity, transportation, and time required to establish a contract, from initial draft to final completion. TSRC Group introduced an electronic signature system in 2023, reducing the time needed to complete signing a contract to an average of 1.5 days from initial review. Starting from 2023 and as of the end of 2024, TSRC Group has also reduced resource consumption by 5,150 paper sheets, reduced 314 kg of carbon emissions, economized 3,287 liters of water, and saved 133 kg of wood, based on data automatically recorded by the system.

In like manner, the adoption of the electronic signature system has enabled TSRC employees across different regions to perform administrative work more effectively, and significantly reduce the cost of communicating with external stakeholders.

User feedback

In the past, it used to take at least one week to complete a contract and get the other party to sign it. Throughout the process, you would have to keep track of progress and spend time hurrying it along, which takes up considerable working time and adds to administrative costs. With this system, the contract management process becomes much more efficient, and the time taken is reduced by more than 70%. This electronic signature system is super helpful!

Loyal user
Karen, Corporate Development Department

Drink in Hand, Gourmands Go Crazy

In recent years, Taiwan's hand-shaken beverages and coffee culture have become deeply ingrained in people's lifestyles, with their fragrant scent permeating every street corner a testament to this emerging food culture. Seeing this emerging trend, TSRC considered how the craze can be leveraged to contribute to the environment. Thus, the sustainability action cup was born.

In 2024, TSRC worked with suppliers in the cultural and creative industry and with small local Taiwanese farmers and manufacturers to turn bamboo scrap materials left over from agricultural processing into 100% natural Carbon Reduction Cups, through an innovative new "bamboo-cycle" technology. These cups not only give off a faint bamboo fragrance, but are also made from 100% natural materials, making it an eco-friendly product able to decompose naturally.

These cups can hold all types of cold and hot drinks, while also being biodegradable.

These Carbon Reduction Cups are made from 100% natural bamboo fiber, and each cup reduces the carbon footprint of the product by 1.5kg compared to a cup made from PP plastic materials. Multiplying these figures by the number of cups made by TSRC in 2024, the entire initiative reduced carbon emissions by 52,500 kg. However, this initiative is not merely a carbon reduction figure, but also represents TSRC's endeavor to protect the land we live on, and our valuable participation in environmental sustainability activities. Likewise, the results of our efforts have been shared for our employees and external stakeholders to use, helping inject some elements of sustainability into Taiwanese beverage culture.



Carbon Reduction Cup

ESG Story 2

Warmth, Right from the "Heart"

ESG Strategy | Social | Governance

TSRC has always believed in “putting people first,” and that building an excellent team will lead to outstanding performance. Teamwork is one of TSRC's most important assets and the main driving force behind TSRC's innovation. Facing the future, we can only be sure that “change is constant”. Our long-term organizational goal is to carefully build an unrivalled team at TSRC, one with the organizational resilience to overcome challenges and the courage to innovate. We believe this is the best way to prepare for changes and challenges from the external environment.

While different generations possess different awareness and hold different views. TSRC believes in devoting care towards bringing together the hearts of every employee, allowing all TSRC staff to work with peace of mind and lead healthy lifestyles. Doing so benefits all parties and creates a brighter future for TSRC.

In 2024, TSRC sought to convey the “One Team, One TSRC” philosophy through the Company's major activities, meetings, education and training, and opportunities for employee interaction. While no one is individually perfect in the big TSRC family, we are proud of having the best team. TSRC continuously strives for innovation, which becomes our unbeatable competitive advantage.

Inspiring and Motivating Global Meetings

TSRC values global employee exchanges. Through major conferences such as the Global Leadership Meeting or the Business Unit Global Meeting, we hope that the limited meeting time and space provided can allow attendants to not only come together to create innovative new ideas, but also facilitate mutual understanding between employees from different regions and roles, together helping TSRC to find better solutions and strategic directions for the future.

In 2024, we held the three-day “2024 Global Leadership Meeting”, where a total of 50 mid-level and senior managers from the United States, Europe, Taiwan, and Nantong, China shared cross-functional strategies and engaged in discussions on the topic of company transformation, including the three key factors of innovation, strategic product portfolios, and employe. We also extended discussion topics to sustainability issues, and invited important external value chain partners to share their experience with the challenges and transformations related to corporate sustainable management. Prominent figures in Taiwan's circular economy field were also invited to share their views on the importance and applicability of implementing a circular economy transformation for TSRC's strategic philosophy.

However, this three-day event not only serves to stimulate the ideas of TSRC employees, but also provides a good opportunity to inspire the TSRC team and encourage collaboration across different generations, languages, genders, and nationalities. Through fierce bowling competitions, we gave employees a chance to relax and unwind from the stress of sitting in conference rooms for long hours, and also allowed our team to break past cultural and language barriers. This global meeting encouraged each employee to contribute their skills while cooperating and making the greatest possible contributions to the team, in line with the meeting's ultimate goal of motivating TSRC employees to “work as a team to create sustainability value.”



Global Leadership Meeting



Team Cohesion Bowling Tournament

Celebration: Food, Prizes, and Joy

TSRC has always valued each opportunity to interact with employees. We want employees to have fun during events and find attending these activities meaningful.

TSRC devotes care towards designing each company event, including event activities, prizes, and catering. For example, we make employees the focus of our annual company party, Women's Day party, and other celebration events. TSRC always strives to meet the needs and expectations of every generation, and the TSRC motto of “A Company with the Warmth of Home” is not just a slogan for us, but describes the genuine feelings and rewards that we want each of our events, no matter big or small, to provide.





Chapter 1

About TSRC

1.1 Industry Position 14

1.2 Sustainable Management and Material Topics 17

1.1 Industry Position

TSRC Corporation (hereafter referred to as "TSRC") was founded in 1973 and was the only synthetic rubber producer in Taiwan at the time. Today, TSRC has become a leading player in the synthetic rubber industry in Asia. TSRC targets the global market in its R&D and technology, and is expanding the introduction of international core technology with strong capabilities. The Company continues to develop customized products with excellent and stable quality, in order to expand the product application and sales volume. TSRC actively innovates and develops high-value-added products, including synthetic rubber products and polymers widely used in tires, personal care, and medical materials. TSRC continues to discover customer needs and has expanded our sales network in Asia, Europe, and the Americas to provide clients with consistent and reliable solutions.

1.1.1 Globalization

TSRC is headquartered in Taiwan, and we seek to expand our global presence in Europe, Asia, and America. TSRC's global headquarters and two factories (Kaohsiung Factory, Gangshan Factory) are located in Taiwan, four subsidiaries are located in China (Shen Hua Chemical, Nantong Industries, TSRC-UBE, Shanghai Industries), the subsidiary TSRC Specialty Materials LLC is located in America, and TSRC (Vietnam) Co., Ltd. is in Vietnam, and trade and sales subsidiaries are located in Singapore and Luxemburg. TSRC also has joint ventures with Japan's UBE Corporation and Marubeni Corporation in BR factories, with Indian Oil Corporation in ESBR factories, with ARLANXEO in NBR factories.

Headquarters

- **TSRC Corporation Corporate headquarters** — Taipei City, Taiwan

Trade and Sales

- **Polybus Corporation Pte Ltd** — Singapore
- **TSRC (Lux.) Corporation S.à.r.l** — Luxembourg

Production Factory

TSRC Corporation Gangshan Factory	Kaohsiung City, Taiwan	Advanced Materials	**TSRC (Nantong) Industrial Co., Ltd**	Nantong City, Jiangsu Province, China	Advanced Materials
TSRC Corporation Kaohsiung Factory	Kaohsiung City, Taiwan	Advanced Materials, Synthetic Rubber	**TSRC (Shanghai) Industrial Co., Ltd**	Shanghai, China	Advanced Materials
TSRC (Vietnam) Co., Ltd.	Binh Duong Province, Vietnam	Advanced Materials	**TSRC-UBE (Nantong) Chemical Industry Co., Ltd**	Nantong City, Jiangsu Province, China	Synthetic Rubber
Shen Hua Chemical Industrial Co., Ltd.	Nantong City, Jiangsu Province, China	Synthetic Rubber	**TSRC Specialty Materials LLC** Office / Factory	Texas, USA / Louisiana, USA	Advanced Materials

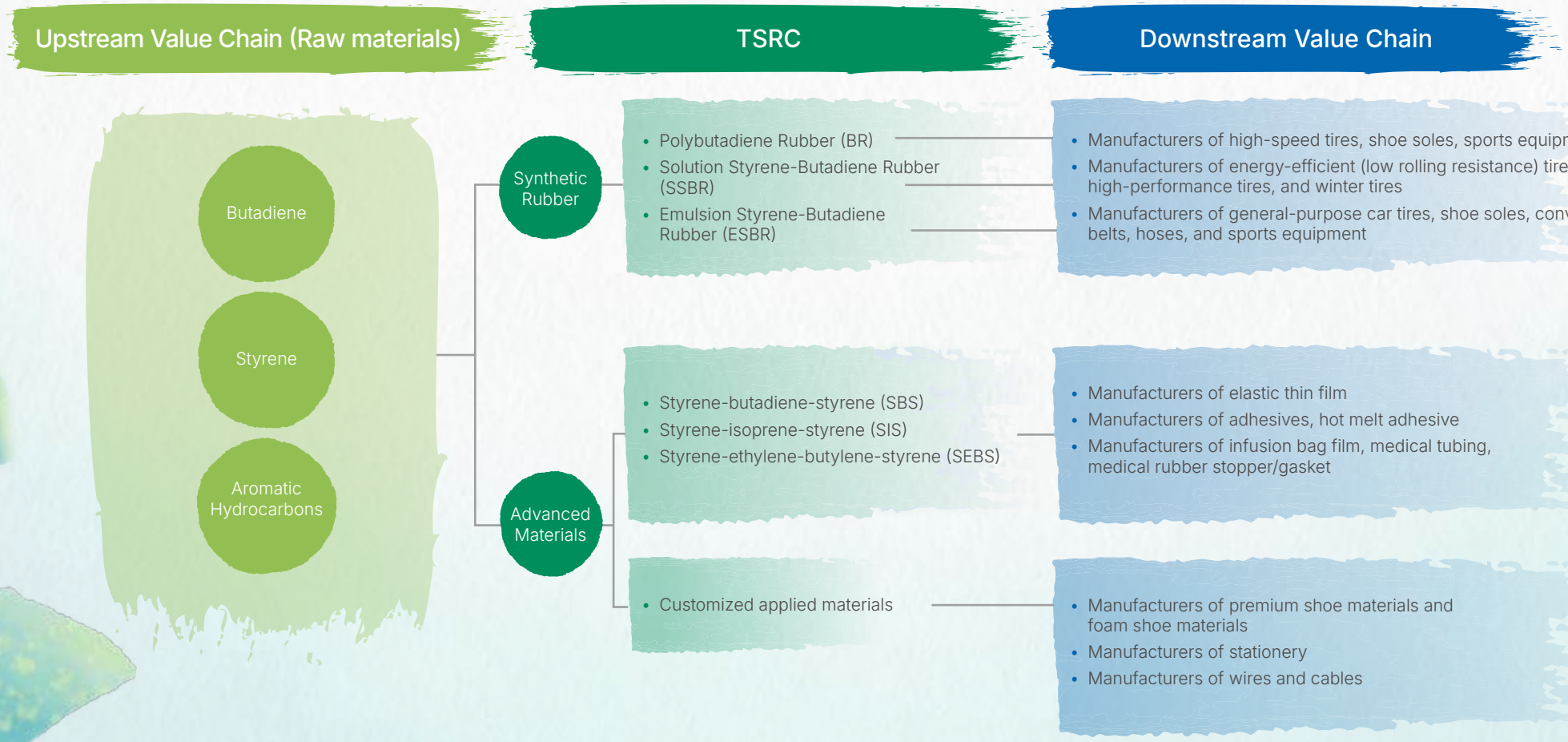
Note: TSRC (Vietnam) Co., Ltd. is responsible for the production of applied materials. Production and operations were stopped at the end of December 2024 to improve overall production efficiency and configuration.



1.1.2 Main Products and Applications

TSRC's rubber business unit is a global leader in synthetic rubber. In addition to the emulsion styrene-butadiene rubber (ESBR) and polybutadiene rubber (BR) products widely used in tires and rubber products, we have also developed solution styrene-butadiene rubber (SSBR) with low rolling resistance characteristics in response to the EU's promotion of green tire labels. TSRC is a world-leading manufacturer of styrene block polymers and downstream compound materials. We offer a diversified portfolio of products, including SBS products with butadiene as the compounding monomer, SIS products with isoprene as the compounding monomer, and hydrogenated SEBS products.

Main Products and Applications



Note 1: For more information about TSRC's product brands and applications, please refer to the TSRC website.

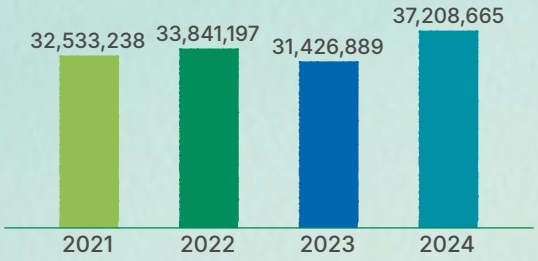
Note 2: Compared to the previous reporting year, TSRC did not add nor modify industry categories, value chains, and joint ventures in 2024.

1.1.3 Key Business Achievements

TSRC's business strategy and operational performance are reported regularly to the Board of Directors by the Executive Leadership Team, who supervises the operational performance and results. We held regular corporate briefings to explain the financial situation to shareholders and investors, and we adopt stakeholders' opinions and suggestions as a reference for operational strategy. For information on the operations of TSRC's Board of Directors and functional committees, and financial performance, please refer to section 4.1.1 Board of Directors and Functional Committees and TSRC's 2024 Annual Report.

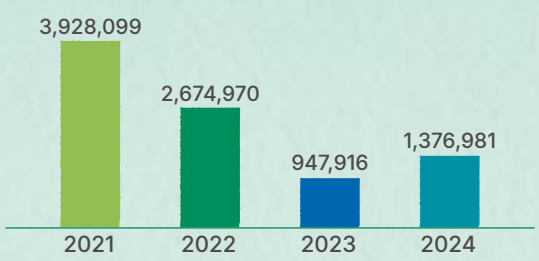
Business Overview

Unit: thousand NTD



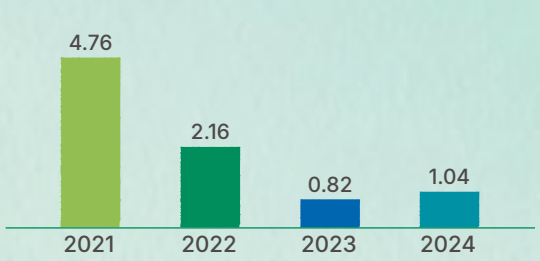
Consolidated revenue

Unit: thousand NTD



Net operating profit

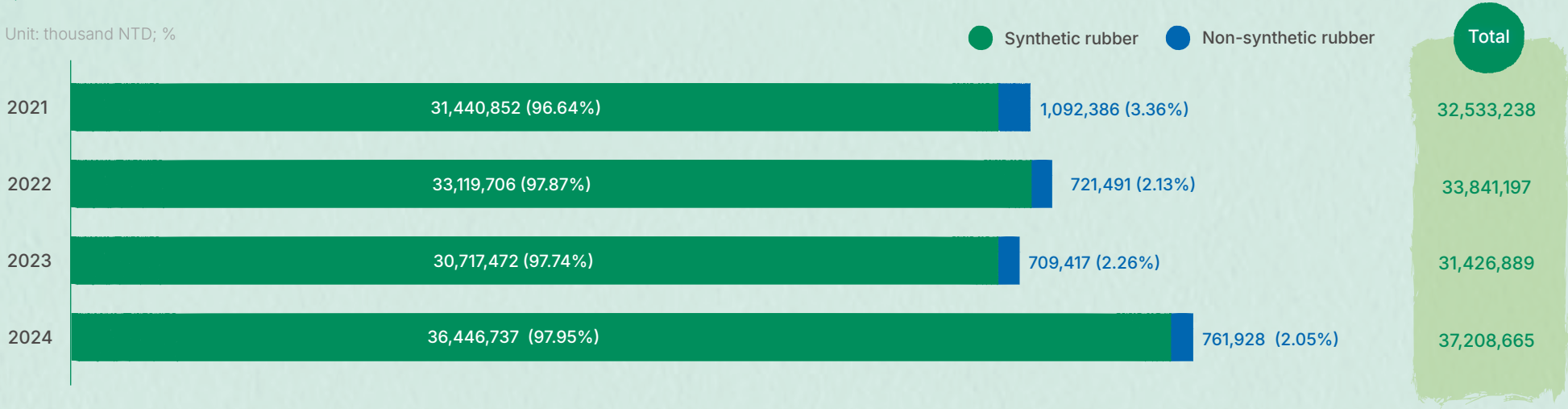
Unit: NTD



Earnings per share

Overview of Revenue from Products

Unit: thousand NTD; %



1.2 Sustainable Management and Material Topics

1.2.1 ESG Management Structure

ESG is a key element of TSRC's sustainable development efforts. The Group's "Sustainability Information Management Operating Procedures" describe the management processes for and operations carried out as part of our ESG management structure, responsibilities, and sustainability-related information. The TSRC Board of Directors, as the Company's highest governance body, has assigned the CEO to lead an eight-member Executive Leadership Team (also known as the ESG Steering Committee) consisting of the heads of each functional unit. The Committee is responsible for formulating ESG strategies and medium and long-term goals, establishing an ESG management framework, and proposing ESG plans, while reporting regularly to the Board of Directors.

The Board receives a report from the Executive Leadership Team at least twice a year on ESG implementation, and the Board continues to oversee and monitor sustainability performance, including the results of ESG goals, material actions, and the outcomes of stakeholder communications, providing the Executive Leadership Team with guidance for further improvement. In 2024, the Executive Leadership Team has reported on important ESG issues to the Board of Directors 5 times. Please refer to 4.1.1 Board of Directors and Functional Committees in this report for more information on the Board's oversight over ESG implementation.

To ensure the effective implementation of ESG strategies and goals, TSRC has established an ESG Section within the Corporate Development Department. This team is tasked with promoting TSRC's ESG initiatives and sustainable development efforts. It oversees the coordination of ESG activities, integrates information, develops action plans, manages related processes, evaluates performance, and proposes improvement plans.

Furthermore, to facilitate the implementation of ESG measures and monitor progress, TSRC has formed a cross-functional group named TSRC ESG Work Team. This group comprises members from each functional unit selected based on their ESG attributes. The TSRC ESG Work Team is responsible for implementing ESG measures monitoring progress and implementing suggestions from the Executive Leadership Team. It is divided into sub-groups focused on environmental, social, governance, and stakeholder maintenance issues, and regularly reports to the Executive Leadership Team on the progress and outcomes of its implementation efforts. By doing so, it assists the Executive Leadership Team in consistently monitoring ESG performance and achieving TSRC's short-, medium-, and long-term ESG goals.



ESG Management Structure Chart



1.2.2 Stakeholder Engagement

TSRC respects the perspectives and input of stakeholders, and has fostered open and effective communications to continuously enhance their interests. TSRC has identified six primary stakeholders based on our daily operations and adheres to the five principles outlined in the AA1000 Stakeholder Engagement Standard. These stakeholders are: employees and other workers, customers, local communities, shareholders/investors, suppliers, and government agencies/competent authorities. Stakeholders have access to a range of diverse communication channels (such as in-person meetings, telephone interviews, online meetings, etc.) based on their characteristics. Through these regular or ad hoc channels, TSRC is able to understand the actual and potential impact of our business operations on stakeholders, allowing for proactive measures to be taken to prevent and mitigate any adverse effects.

In particular, TSRC places a strong emphasis on engaging with employees and other workers, and customers. An employee engagement survey is conducted once every two years for TSRC employees, and these survey results are used as important indicators for improving the workplace environment and employee satisfaction. Following an analysis of the survey results, improvement plans are implemented to address any identified issues where further improvements are required. Please refer to 3.2.3 Human Rights and Labor-Management Communication for the results of the employee engagement survey. Additionally, the Executive Leadership Team (ELT) maintains regular communication with representatives from the Kaohsiung Labor Union to gain insight into employee needs and expectations. For customers, TSRC uses results from the annual customer satisfaction survey as an important indicator helping us to maintain product quality and excellent customer service. Please refer to 4.1.5 Customer Relations for the customer satisfaction survey results.

2024 Stakeholder Questionnaire Survey

TSRC conducts internal and external stakeholder questionnaires each year to understand the level of concern regarding ESG issues for the six groups of stakeholders we face, in the United States, Europe, Singapore, Vietnam, Taiwan, and Mainland China, where our subsidiaries and operating sites are located. These questionnaire results taken into consideration when TSRC selects material ESG topics, and also serves to ensure continuous and effective communication with stakeholders. Should there be a material issue, the Executive Leadership Team shall decide on how it is to be handled after a discussion, in order to provide a timely and effective response.

The questionnaire is available in both Chinese and English via an online platform. TSRC invites stakeholders to rank sustainability issues from the most important to least important based on their perception of “the impact of TSRC's actions on each issue” and “the impact of each issue on TSRC's business activities”. The questionnaire covers 7 environment-related issues, 6 society/people-related issues, and 7 governance-related issues, 20 different issues in total. In the 2024 Stakeholder Survey, a total of 784 questionnaires were collected, with 751 deemed valid (These valid responses comprised of 300 from employees and other workers, 4 from shareholders and investors, 376 from suppliers, 62 from customers, 1 from government agencies and competent authorities, and 8 from local communities). The questionnaires deemed invalid were due to having an undefined stakeholder category or being a repeat submission.

TSRC uses a weighted analysis method to summarize the topics of concern across all six stakeholder groups for 2024, divided into environmental, society/people, and governance categories:



Environmental

- Climate strategy and greenhouse gas emissions
- Waste and hazardous materials management
- Energy resources management



Society/People

- Occupational health and safety
- Diversity, equality and inclusion
- Talent development



Governance

- Governance, integrity and business ethics
- Legal compliance
- Sustainable innovation

TSRC Stakeholder Engagement Summary

Target of Engagement	Significance to TSRC	Topics of Concern	Engagement Channel and Frequency	2024 Engagement Results and Actions
Employees and other workers	Employees are one of TSRC's most important assets. Through their professional skills, they drive the continuous improvement of products and services.	**Environment** Climate strategy and greenhouse gas emissions **Society/People** Occupational health and safety **Governance** Compliance	**Multiple times per year/Irregular basis** • Communication meetings between functional supervisors and employees • Employee welfare committee meetings • Employee internal training courses • Health promotion seminars • Team building activities • Functions questionnaire • Employee complaints mailbox **Annually** • CEO communications meetings • Labor union representatives conference • Language training courses • Sustainability section of TSRC's website • Annual company party • Festival celebration events • Implemented employee assistance programs • Stakeholder Sustainability Questionnaire • Human rights due diligence questionnaire to better understand employee feelings	**Environment** • Conducted ESG training for employees belonging to relevant functional units to familiarize them with the development of important ESG trends, including human rights and sustainable supply chains **Society/People** • Conducted regular meetings of the Employee Welfare Committee and developed activities related to employee welfare • Conducted employee engagement surveys and continued to implement improvement plans based on survey results • Implemented 3 project training programs, including training on TSRC's leadership management model, training for newly-appointed supervisors and professional skills training to cultivate talents with multiple competencies • Continued to promote safety and health training and drills to ensure a safe workplace • Listened to comments and suggestions from employees in labor unions and informed employees on TSRC's operating situation • Provided employees with English courses to promote internal multinational communication and communication with external stakeholders • Provided employees with weekly health tips relevant to recent holidays or current events to increase employee healthcare awareness in daily life • Understood employee expectations through the Stakeholder Sustainability Questionnaire • Continued to monitor employee feelings towards human rights related issues and assess potential risks **Governance** • Held CEO communications meetings to help employees understand the Company's annual goals, operational performance, and strategic direction • Built a learning platform providing employees with important channels for continuous learning and allowing new employees to quickly understand the Company's culture and business • Organized 4 training courses on ethical corporate management, and provided written educational materials on insider trading prevention and Fair Trade Act compliance
Shareholders and investors	Shareholders and investors influence TSRC's operational decisions. TSRC continues to respond to shareholders' expectations through excellent operating performance and sustainability efforts.	**Environment** Climate strategy and greenhouse gas emissions **Society/People** Employment and human rights **Governance** Governance, integrity & business ethics	**Multiple times per year/Irregular basis** • Investor Service Mailbox on the TSRC website • The Market Observation Post System (MOPS) • Website updates and major news announcements, stakeholders' members section, ESG mailbox on TSRC website **Annually** • Convene 1 shareholder meeting per year • Hold at least 2 investor conferences each year which are simultaneously broadcast live • Stakeholder Sustainability Questionnaire	**Environment** **Society/People** **Governance** • Convened 1 shareholders' meeting and 2 investor conferences • Provided latest news updates on the TSRC website and MOPS from time to time • Understood shareholder views and opinions through speeches from shareholders at shareholders' meetings • Collected post-event questionnaires after investor conferences and compiled investor feedback and suggestions • Understood shareholder and investor expectations through the Stakeholder Sustainability Questionnaire

Target of Engagement	Significance to TSRC	Topics of Concern	Engagement Channel and Frequency	2024 Engagement Results and Actions
Suppliers	The raw materials and services provided by suppliers are the basis for TSRC's high quality products. TSRC and its partners pursue sustainable development to create a win-win situation.	**Environment** Climate strategy and greenhouse gas emissions **Society/People** Occupational health and safety **Governance** Compliance	**Multiple times per year/Irregular basis** • ESG mailbox on the TSRC website • Promotion of greenhouse gas reduction targets for suppliers • Annual interactive visits or meetings • Supplier Sustainability Self-Assessment Questionnaire **Annually** • Annual supplier evaluation • Stakeholder Sustainability Questionnaire	**Environment** **Society/People** • Regularly visited major suppliers for two-way communication • Completed annual global supplier audits • Suppliers signed and returned TSRC Group Supplier Code of Conduct, and responded to the Company's Sustainable Development Questionnaire **Governance** • Irregularly interviewed local suppliers and formed partnerships • Explored renewable raw materials suppliers • Understood supplier views and expectations through the Stakeholder Sustainability Questionnaires
Customers	Customer trust is the cornerstone of TSRC's sustainable operations. TSRC creates value for customers through innovative products.	**Environment** Climate strategy and greenhouse gas emissions **Society/People** Occupational health and safety **Governance** Sustainable innovation	**Multiple times per year/Irregular basis** • Customer meetings or interviews (email, telephone, video call) • Technology or industry seminars • Domestic and overseas exhibitions • Information disclosure on the TSRC website • Customer ESG audit • International ESG evaluation disclosure **Annually** • Customer satisfaction survey • Stakeholder Sustainability Questionnaire	**Environment** Discussed with customers to understand sustainable product needs **Society/People** • Provided timely responses to customers' ESG or sustainability questionnaires and explained TSRC's ESG strategy, goals, and action plans to customers • Cooperated with customers' ESG audits • Participated in the EcoVadis evaluation, allowing customers to directly access the results of TSRC's ESG performance evaluation **Governance** • Conducted the customer satisfaction survey each year to maintain high level of satisfaction • Business unit immediately responded to customers' questions and meet their needs • Conducted interviews to build long-term partnerships with customers • Understood customer views and expectations through the Stakeholder Sustainability Questionnaire
Government/ competent authorities	TSRC maintains smooth communication channels with the government to keep abreast of the latest policies and regulatory trends.	**Environment** Climate strategy and greenhouse gas emissions **Society/People** Diversity, equality, and inclusion (DEI) **Governance** Governance, integrity & business ethics	**Multiple times per year/Irregular basis** • Interviews (telephone calls, visits, meetings) • Participation in government laws and regulations promotion activities **Annually** • Stakeholder Sustainability Questionnaire	**Environment** • Attended carbon fee seminars organized by government agencies **Governance** • Responded to surveys for publicly listed company from the TWSE • Participated in seminars organized by the TWSE • Maintained close contact with the TWSE to inquire about and verify material information and announcements • Understood the views and expectations of the government/competent authority through the Stakeholder Sustainability Questionnaire
Local communities	Neighboring residents and local communities provided TSRC with diverse suggestions to drive TSRC's continuous efforts to reduce the potential or actual negative impacts of production activities and to actively expand a positive influence.	**Environment** Climate strategy and greenhouse gas emissions **Society/People** Occupational health and safety **Governance** Compliance	**Multiple times per year/Irregular basis** • Community visits • Industrial Park Manufacturers Association Meetings • Information on the TSRC website **Annually** • Industrial Park Service Center Meetings • Stakeholder Sustainability Questionnaire	**Environment** **Governance** • Visited local communities nearby the Kaohsiung Factory to understand their concerns **Society/People** • Actively participated in supplier association activities • Regularly sponsors school lunches for elementary schools in the Dashe District of Kaohsiung every year • Introduced visually impaired masseurs to support the employment of vulnerable groups in local communities • Donated unused laboratory equipment to academic institutions • Understood the views and expectations of local communities through the Stakeholder Sustainability Questionnaire

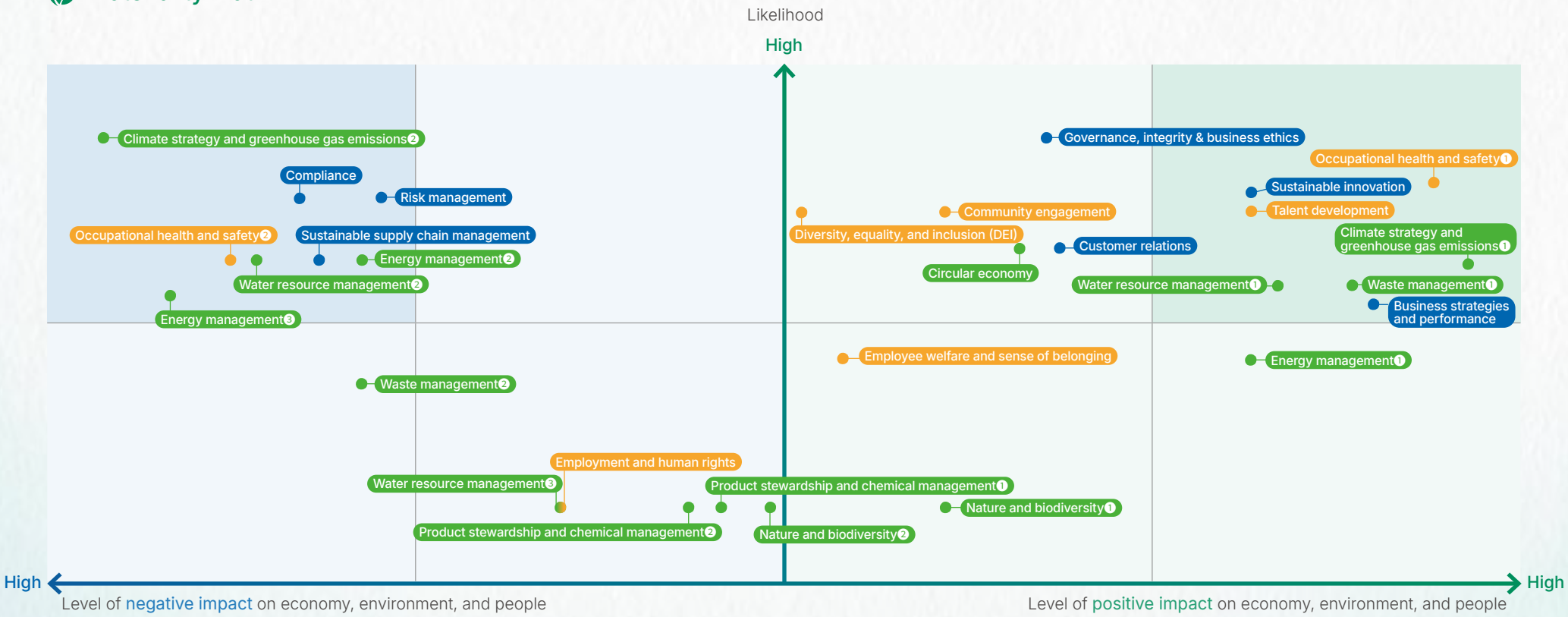
1.2.3 ESG Material Topics

TSRC follows the GRI Standards to analyze and identify material issues. Through the five steps of "identification, evaluation, analysis, examination, and approval," TSRC examines the substantive and potential impacts of daily operations on the economy, environment, and society/people, references the ESG topics that other international chemical companies are concerned about, and incorporates input from internal and external stakeholders to optimize TSRC's ESG management strategies and track and manage impacts.

Phase	Understand context and identify impacts	Assess significance	Analyze	Examine and Test	Approval
Process	TSRC takes the context of sustainability and business relationships into consideration. • Industry sustainability context: Uses the UNEP Chemicals Outlook, Sustainability Accounting Standards Board (SASB) standards, UN SDGs, industry regulations, and recommendations from external consultants as a reference. • Business relationships: TSRC referenced the material topics described in the most recent annual sustainability reports of 11 upstream and downstream benchmark peers and TSRC's ESG strategy and goals.	The TSRC ESG Work Team considers the scale and scope of the positive impacts, the scale and severity of the negative impacts, and the likelihood of occurrence to assess the significance of each impact.	TSRC calculates a significance value for 29 impacts by multiplying the scale of impact with the likelihood of occurrence. Positive and negative impacts are then divided into two groups and ranked by priority. The top 50% of impacts are designated as material impacts. These 29 impacts are consolidated by topic and integrated into 20 topics (including 7 environmental topics, 6 social topics, and 7 governance topics).	TSRC decides on material topics based on feedback from internal and external stakeholders. • Internal and external stakeholder engagement: Through the 2024 Stakeholder Questionnaire Survey and daily engagement activities, TSRC incorporates stakeholder opinions when deciding on material topics. • Executive Leadership Team Review: The TSRC Executive Leadership Team makes final decisions on material topics based on industry trends and business strategies, as well as feedback from internal and external stakeholders.	Material topics have been approved by the TSRC Executive Leadership Team in the ESG meeting in Jan 2025.
Outcome	A list of 29 potential and actual impacts	A materiality matrix of 29 impacts	• A list of material impacts • A list of 20 sustainability topics	A list of 11 material topics	

In 2024, TSRC identified 11 material topics, which are as follows: Climate strategy and greenhouse gas emissions, Energy management, Water resource management, Waste and hazardous substance management, Occupational health and safety, Talent development, Business strategies and performance, Risk management, Compliance, Sustainable innovation, and Sustainable supply chain management. To compare these results with the previous year, please refer to the Appendix for the Comparison of Changes to Material Topics to the Previous Year.

Materiality Matrix



Material Topics

Environment

- Climate strategy and greenhouse gas emissions
  - ① Reducing the carbon footprint of products
  - ② Greenhouse gas emissions
- Energy management
  - ① Using renewable energy
  - ② High energy consumption
  - ③ Use of fossil fuels
- Waste management
  - ① Waste reduction, reuse and recycling
  - ② Improper waste disposal
- Water resource management
  - ① Water recycling and reuse
  - ② High water consumption
  - ③ Improper treatment of wastewater

Society/People

- Occupational health and safety
  - ① Promoting workplace health and safety
  - ② Occupational injury
- Talent development

Governance

- Business strategies and performance
- Risk management
- Compliance
- Sustainable innovation
- Sustainable supply chain management

Concerned Topics

Environment

- Product stewardship and chemical management
  - ① Toxic chemical spills
  - ② Improper management of chemicals and labeling
- Circular economy
- Nature and biodiversity
  - ① Restoring natural ecosystems
  - ② Destruction of habitat and biodiversity

Society/People

- Diversity, equality, and inclusion (DEI)
- Community engagement
- Employee welfare and sense of belonging
- Employment and human rights

Governance

- Governance, integrity & business ethics
- Customer relations

Management of Material Topics

No.	Material topics	Positive/negative impacts on the economy, the environment and people (including on human rights)[Note]	Policies or Commitments	Impact on Value Chain (Upstream: Raw Material Manufacturing; TSRC Operations: Product Manufacturing; Downstream: Customers' Processing and Use; Local communities)	Actions and Corresponding Chapter
1	Climate strategy and greenhouse gas emissions	**Negative** Greenhouse gas emissions **Environment** TSRC's operations and suppliers emit greenhouse gases that cause climate change and impact the environment, ecology and biodiversity. **Society/People** TSRC's operations and suppliers emit greenhouse gases that cause climate change and related disasters, and damage the rights and interests of society and people. **Economy** TSRC's operations and suppliers emit greenhouse gases that cause climate change and related climate disasters, resulting in overall economic losses. **Positive** Reducing the carbon footprint of products **Environment** TSRC is committed to reducing the carbon footprint of our products in order to reduce GHG emissions and mitigate the negative impacts of climate change and the environment. **Society/People** TSRC provides customers with low carbon footprint products to help them meet their carbon reduction goals.	• TSRC ESG Strategy & Goals • Environmental Policies	✓ Raw Material Manufacturing ✓ Product Manufacturing ✓ Customers' Processing and Use ✓ Local communities ○ Raw Material Manufacturing ✓ Product Manufacturing ✓ Customers' Processing and Use ○ Local communities	• Promote energy-saving and low-carbon manufacturing process • Plan the use of renewable energy 2.1 Towards Carbon Neutrality

No.	Material topics	Positive/negative impacts on the economy, the environment and people (including on human rights)[Note]	Policies or Commitments	Impact on Value Chain (Upstream: Raw Material Manufacturing; TSRC Operations: Product Manufacturing; Downstream: Customers' Processing and Use, Local communities)	Actions and Corresponding Chapter
2	Energy management	**Negative** Use of fossil fuels **Environment** TSRC and its suppliers use fossil fuels in their operations, resulting in the continued extraction of fossil fuels. The extraction process can pose a threat to water sources and the ecosystem.	• TSRC ESG Strategy & Goals • Environmental Policies		• Promote energy-saving and low-carbon manufacturing process • Plan the use of renewable energy 2.2 Energy Management
		Negative High energy consumption **Environment** If TSRC consumes a significant amount of energy, it may have a crowding-out effect on the allocation of energy resource in the area of operation, resulting in the competent authorities expanding the construction of power plants or related facilities to meet the energy needs of industries and communities. It may have adverse effects on the environment, ecosystem and wildlife habitats. **Society/People** If TSRC consumes a substantial amount of energy, it may cause crowding-out effects on the allocation of energy resources, which may harm the rights and interests of local communities in the use of energy.			
		Positive Using renewable energy **Economy** If TSRC's demand for renewable energy increases, it will promote the development of renewable energy technologies and facilitate the development of the green chemical industry and transformation into a low-carbon economy. **Environment** If TSRC uses renewable energy to reduce its dependence on fossil fuels, it will help mitigate climate change and negative environmental impacts.			

No.	Material topics	Positive/negative impacts on the economy, the environment and people (including on human rights)[Note]	Policies or Commitments	Impact on Value Chain (Upstream: Raw Material Manufacturing; TSRC Operations: Product Manufacturing; Downstream: Customers' Processing and Use; Local communities)	Actions and Corresponding Chapter
3	Water resource management	**Negative** High water consumption **Environment** If TSRC has a high consumption of tap water, it may lead to crowding-out effects on allocated water resources in the area of operation, resulting in the competent authorities expanding the construction of reservoirs or water storage facilities to meet the water consumption of industries and local communities. The construction may adversely impact the environment, ecosystem, and wildlife habitats. **Society/People** If TSRC has a high consumption of tap water, it may lead to crowding-out effects on the allocation of water resources, which may harm the rights and interests of local communities in the use of water.	• TSRC ESG Strategy & Goals • Environmental Policies	○ ✓ ○ ✓	• Promote wastewater reuse • Increase reclaimed water usage percentage • Optimize wastewater treatment facilities 2.4 Water Resource Optimization
		Negative Improper treatment of wastewater **Environment** If the wastewater generated by TSRC is directly discharged without proper treatment, it may lead to environmental and water pollution and affect the balance of the ecosystem. **Society/People** If the wastewater generated by TSRC is directly discharged without proper treatment, it may affect the health of employees and local communities.		○ ✓ ○ ✓	
		Positive Water recycling and reuse **Environment** Increasing the wastewater recycling rate and the use of reclaimed water will reduce TSRC's tap water consumption, dependence on water resources, and impact on the ecological environment. **Economy** TSRC expanding reclaimed and recycled water usage promotes the development of reclaimed water technology and the transition to a green economy.		✓ ✓ ○ ✓	

No.	Material topics	Positive/negative impacts on the economy, the environment and people (including on human rights)[Note]	Policies or Commitments	Impact on Value Chain (Upstream: Raw Material Manufacturing; TSRC Operations: Product Manufacturing; Downstream: Customers' Processing and Use, Local communities)	Actions and Corresponding Chapter
4	Waste and hazardous substance management	**Negative** Improper waste disposal **Environment** If the waste generated by TSRC is disposed of or discharged without proper treatment, it will cause ecological impacts. **Society/People** If the waste generated by TSRC is discharged or discarded without proper treatment, it may affect the health of the local community.	• TSRC ESG Strategy & Goals • Environmental Policies		• Optimize the manufacturing process to reduce waste • Reuse and recycle waste 2.3. Enhance Waste Management
		Negative Toxic chemical spills **Environment** If TSRC produces harmful chemicals and discharges them into water or soil, it will cause the death of animals and plants, resulting in an ecological disaster. **Society/People** If TSRC discharges harmful chemicals into water or soil, the local community or end-users will be directly exposed to the toxic substances, resulting in physiological disorders or chronic poisoning through biomagnification and long-term accumulation in the human body.			
		Positive Waste reduction, reuse and recycling **Environment** TSRC promotes the recycling and reuse of waste to avoid the extraction of raw materials and to reduce the impact on the environment. By reducing waste generation, TSRC avoids the use of energy resources and potential ecological impacts of waste disposal.			

No.	Material topics	Positive/negative impacts on the economy, the environment and people (including on human rights)[Note]	Policies or Commitments	Impact on Value Chain (Upstream: Raw Material Manufacturing; TSRC Operations: Product Manufacturing; Downstream: Customers' Processing and Use; Local communities)	Actions and Corresponding Chapter
5	Occupational health and safety	**Negative** Occupational injuries **Society/People** If TSRC fails to properly manage occupational health and safety measures, this may result in occupational injuries and illnesses, affecting the labor rights and health of employees. **Positive** Promoting workplace health and safety **Society/People** TSRC continues to optimize the workplace environment and health measures to provide employees with a positive and safe workplace environment. **Economy** TSRC implements workplace health promotion measures to improve the health of employees and the overall productivity of the economies in which it operates.	• TSRC ESG Strategy & Goals • HSE Incident Reporting and Investigation Procedures • Contractor Management Rules • TSRC Group Supplier Code of Conduct	✓ ✓ ✓ ✓	• Established the TSRC HSE incident management mechanism • Established the TSRC global HSE awards 3.2.1 Occupational Health and Safety
6	Talent development	**Positive** Improving talent cultivation **Economy** TSRC provides comprehensive professional training courses and learning resources to cultivate talents in the chemical industry and help improve the overall competitiveness of the industry. **Society/People** TSRC provides on-the-job training and job coaching to assist employees with future career planning and development.	• TSRC ESG Strategy & Goals • Talent development policy	✓ ✓ ✓ ✓	• Launched 3 training projects • Implemented the LMS - TSRC Group Online Learning System 3.1.2 Talent Attraction and Empowerment
7	Business strategies and performance	**Positive** Good operational strategies and performance **Economy** TSRC's good operating strategies and continued profitability help revitalize the local economy and create economic momentum for the regions where our plants are located. **Society/People** TSRC continues to make profits, creating higher economic value and benefits for shareholders and employees.	• 2024 Investors Conference Presentation	✓ ✓ ✓ ✓	• Adopt a proactive pricing strategy • Utilize product portfolio advantage Letter from the CEO 1.1.3 Key Business Achievements 4.1.3 Risk Management
8	Risk Management	**Negative** Mismanagement of risk **Economy** If TSRC fails to properly manage finances, strategies, operations, industrial risks and climate risks, the Company will incur losses and affect the tax revenue and overall economic development of the region in which we operate. **Society/People** If TSRC's mismanagement of risks results in major violations or operating losses, it will damage the rights and interests of employees, shareholders, and customers.	• TSRC Enterprise Risk Management Policy	✓ ✓ ✓ ✓	• Develop and implement risk management actions • Monitor risk responses quarterly 4.1.3 Risk Management

No.	Material topics	Positive/negative impacts on the economy, the environment and people (including on human rights)[Note]	Policies or Commitments	Impact on Value Chain (Upstream: Raw Material Manufacturing; TSRC Operations: Product Manufacturing; Downstream: Customers' Processing and Use; Local communities)	Actions and Corresponding Chapter
9	Compliance	**Negative** Violation of laws and regulations **Environment** If TSRC violates environmental laws and regulations, causing environmental pollution or other negative effects and disrupting the ecological balance, TSRC will be subject to penalties imposed by the relevant authorities. **Society/People** If TSRC violates labor, human rights, or product labeling laws and regulations, it will be fined by the relevant authorities and the rights of employees, and customers will be harmed. **Economy** If TSRC violates corporate governance laws and regulations, resulting in ethical integrity and other governance-related failures that lead to the Company being fined by the relevant authorities, overall economic development and efficiency will be reduced.	• Corporate Governance Guidelines • Code of Ethics • Code of Business Conduct • Management Procedures for Insider Trading • Management Procedures for Antitrust Compliance • Environmental Policies		• Tracked updates to laws and regulatory • Held educational training courses and disseminated knowledge 4.1.4 Compliance
10	Sustainable innovation	**Positive** Sustainable innovation **Environment** TSRC provides innovative sustainable products that reduce energy and resource consumption and ecological impact. **Economy** TSRC possesses innovative sustainable technology, encouraging the rubber industry to promote low-carbon, waste-reducing and energy-saving production technologies, and stimulating the sustainable transformation of the entire industry and economy.	• TSRC ESG Strategy & Goals • Overview of the R&D Management Plan • Regulations on Research and Development Management • New Product Development and Management Regulations		• Promote energy-saving and carbon-reduction manufacturing process • Optimize manufacturing processes and technology • Increase innovative sustainable products 4.2 Develop Innovation Momentum
11	Sustainable supply chain management	**Negative** Mismanagement of the supply chain **Environment** TSRC's mismanagement of the supply chain has resulted in suppliers causing environmental pollution, damaging the ecological balance and quality of the environment. **Society/People** TSRC's mismanagement of the supply chain has resulted in labor rights violations by suppliers, causing harm to workers' rights and interests. **Economy** TSRC's mismanagement of the supply chain has resulted in suppliers being dishonest, corrupt, or fraudulent, affecting the development of the rubber industry and the overall economic efficiency.	• TSRC ESG Strategy & Goals • TSRC Group Supplier Code of Conduct • TSRC ESG Procurement Policy		• Annually screen suppliers for through a document or on-site assessment • Track how TSRC's top 50 suppliers have been implementing greenhouse gas reduction plans 4.3 Enhance Supply Chain Management

Note: The actual negative impact caused by TSRC and any complaints received in 2024, and the remedial measures adopted in response, are summarized in the Appendix under Remediation and Management of Negative Impacts.

Concerned Topics

These are topics which have not been categorized by TSRC as a material topic, but which are nevertheless highly relevant to the Company's operations. The key responses and management measures adopted for these topics are described below:

No.	Concerned Topics	Response/Management Measures	Corresponding Chapter
1	Product stewardship and chemical management	Established a hazardous and chemical substance management system to appropriately manage and ensure the safe use of chemical substances.	2.6.2 Product Stewardship and Chemical Management
2	Nature and biodiversity	Established rules which set aside a certain percentage of green space and vegetation at each TSRC plant, while still ensuring that plant workplace safety and normal operations remain unaffected. Also established policies for maintaining and managing the natural environment.	2.5.2 Ecosystem Preservation and Other Pollution Prevention
3	Circular economy	TSRC is committed to developing green and diverse products, adopting innovative R&D and energy-saving technologies during the production process, emphasizing product safety, and reducing the negative environmental impact of product life cycles.	2.6.1 Lifecycle Green Design
4	Diversity, equality, and inclusion (DEI)	Adhere to equal opportunity and diverse recruitment principles, promote a friendly workplace with diversity, equity, and inclusion (DEI), implement DEI programs for inclusive hiring of people with disabilities.	3.1 Strengthen the Organization's Sustainability Capabilities
5	Community engagement	Invest resources into, contribute to, and maintain close communications with the community. Promote chemistry education, exert a positive influence on society.	3.3 Enhance Social Engagement
6	Employee welfare and sense of belonging	To continuously increase TSRC's competitiveness in the labor market, we review overall employee remuneration and benefits every year, and make appropriate adjustments based on industry standards.	3.2.2 Employee Remuneration and Benefits
7	Employment and human rights	TSRC is committed to protecting human rights. We have established an “Human Rights Policy”, identified risks related to employee rights protection, established risk management measures to address these issues, and regularly assessed how effective these measures are, adjusting these measures based on the assessment results.	3.2.3 Human Rights and Labor-Management Communication
8	Governance, integrity & business ethics	Implement the “Code of Business Conduct” and “Code of Ethics”, regularly organize education, training, and talks to prevent illegal and unethical behavior, and incorporate ethical corporate management policies into the performance management systems of each department.	4.1.1 Board of Directors and Functional Committees 4.1.2 Ethical Corporate Management
9	Customer relations	Implement two customer relationship management strategies, one for local operations and the other for globalized operations. Establish standardized operating procedures to appropriately handle customers and become an important partner.	4.1.5 Customer Relations

Chapter 2

Environmental

In response to international carbon reduction trends and as the Earth's energy resources continue to become increasingly scarce, TSRC values all of the Earth's resources and has established carbon reduction strategies and goals to increase the use of renewable energy, reclaimed water, and recycled raw materials. We have also developed products and services able to help customers reduce their energy and resource consumption, and collaborated with our partners across the value chain to promote green innovation for the whole industry.

2.1	Towards Carbon Neutrality	32
2.2	Energy Management	46
2.3	Enhance Waste Management	50
2.4	Water Resource Optimization	56
2.5	Environmental Management	60
2.6	Design Green Products	66



Greenhouse Gas Emissions
-9.44%

Greenhouse gas emissions (Scope 1+2) decreased by 9.44% compared to base year (2021)
Exceeded original goal of reducing emissions by 7.5% by 2024

Renewable Energy Usage Rate
7.55%

Achieved the Group's goal of 7.5% renewable energy usage rate by 2024

Wastewater Recycling Rate
27%

Achieve the Group's goal of 26% wastewater recycling rate by 2024

Reclaimed Water Usage Rate
23%

Achieved the Group's goal of 23% reclaimed water usage by 2024

Hazardous Waste Recycling Rate
+6.48%

Hazardous waste recycling rate increased by 6.48% compared to previous year

Material topics

Climate Strategy and Greenhouse Gas Emissions, Energy Management, Waste Management, Water Resources Management

Material topics

Climate Strategy and Greenhouse Gas Emissions

Corresponding Chapter: 2.1.1 Climate Resilience | 2.1.2 Greenhouse Gas Management

Policy

- TSRC ESG Strategy & Goals
- Environmental Policies

Commitment

TSRC is dedicated to energy conservation and carbon reduction with the vision of achieving carbon neutrality.

Goals and Achievement	Achievements in 2024	2024 Goals	2025 Goals	2030 Goals
	✓ Total emissions decreased by 9.44% compared to base year	• Reduce total carbon emissions by 7.5% compared to 2021 (base year)	• Reduce total carbon emissions by 10% compared to base year	• Reduce total carbon emissions by 22.5% compared to base year

Actions Taken

- Refer to the recommendations of the Task Force on Climate-related financial Disclosures (TCFD) to regularly assess the risks, opportunities and financial impact of climate change.
- Established the Group's greenhouse gas reduction strategies, goals, and action plans.
- Set TSRC Group's renewable energy short, medium, and long-term goals and increased renewable energy use.
- Increased usage of renewable raw materials and provided customers with ISCC Plus-certified low-carbon sustainability products.
- Conducted greenhouse gas inventories each year and obtained ISO14064 certification.
- Conducted inventory of product carbon footprints and obtained ISO 14067 certification.
- Developed products that reduce environmental impact.
- Improved production efficiency and continued developing technologies for reducing energy consumption.

Processes to Track Effectiveness

- The Board of Directors is the highest governing body for climate-related issues. Apart from receiving operations reports from the Executive Leadership Team each quarter, the Board also considers whether TSRC operating locations have been affected by extreme climate disasters. Additionally, through the regular annual climate risk report the Board is also informed on the progress made by various countries on implementing climate change policies and how these actions affect the Company. The Board then in turn provides the Executive Leadership Team with suggestions.
- The Executive Leadership Team regularly reports to the Board on annual climate risk management. The performance goals set for senior managers also include goals related to climate risks, with the achievement of these goals linked to the performance bonuses awarded to managers.
- The ESG Work Team, appointed by the Executive Leadership Team, regularly assesses climate-related risks and opportunities, and proposes actionable plans and preventive measures.
- The ESG Work Team reports on the ESG implementation status to the Executive Leadership Team each quarter (including on the implementation of climate risk and opportunity goals, assessment and evaluation operations, and information disclosures made).
- Greenhouse gas inventory meetings are convened each quarter to track how these inventories are being conducted.

Stakeholder Engagement

- Provide investors with an overview of the climate risks and opportunities facing TSRC and of the Company's implementation of carbon reduction goals during the earnings call. At the same time, communicate with investors to understand their thoughts on the Company's carbon reduction targets and performance.
- Through requiring suppliers to sign the TSRC Group Supplier Code of Conduct, and assessing supplier greenhouse gas reduction plans, greenhouse gas inventories, and product carbon footprints, we encourage suppliers to join us in transitioning towards a low-carbon economy. As of the end of 2024, 97% of the Group's suppliers have signed this commitment, and 291 of the Group's major suppliers have been assessed.
- Explain to shareholders the Company's operations and key ESG strategy through shareholders' meetings, and provide opportunities for shareholders to express their views and suggestions on the Company's long-term development.
- Conduct annual stakeholder surveys to understand stakeholder opinions and the effectiveness of TSRC's actions.

2.1 Towards Carbon Neutrality

2.1.1 Climate Resilience

TSRC recognizes the impact of climate change on humanity and the environment, and the importance of climate issues on the Company's operations. Since 2021, TSRC has reviewed the Company's potential climate risks and opportunities based on the TFCD's climate-related financial disclosure framework, and we have implemented climate strategies and risk management measures to mitigate the impact of these risks. We hope that by seizing the opportunities presented by this climate transition, we can improve the Group's resource utilization rates and create new business opportunities.

TSRC has remained devoted to climate and carbon reduction efforts for many years, and has made significant progress since 2021. At the same time, TSRC has cooperated with the climate policies and roadmap laid out by the government to gradually mitigate the impact of climate change. We have continued to strengthen business resilience at each of our production locations, improving our ability to withstand climate disasters.

TSRC Climate Milestones

2021
- Established an ESG Sustainable Development Strategy Blueprint (including climate strategy) based on the UN SDGs
- In conjunction with TSRC's climate strategy, established short, medium, and long-term ESG goals (including climate goals) for the TSRC Group and implemented these goals after approval by the Board of Directors

2022
- In response to the global climate crisis and in line with the government's Pathway to Net-Zero Emissions in 2050 initiative, we have jointly issued a 1.5°C Climate Declaration alongside fellow member companies of the Chinese National Association of Industry and Commerce, Taiwan in order to achieve the Paris Agreement goal of limiting temperature increases to 1.5°C
- Disclose TSRC's climate risks and opportunities following the TFCD framework and recommendations

2023
- The TSRC Kaohsiung Factory and Shanghai Industries gradually completed installing solar power generation equipment, allowing us to generate our own renewable electricity
- Nantong Industries procured renewable energy
- The Group's renewable energy usage rate reached 6.1%, exceeding our annual goal

2024
- The Group's renewable energy usage rate reached 7.55%, exceeding our annual goal
- Launch sustainable products made from renewable raw materials
- Achieved a wastewater recycling rate of 27%, exceeding our annual goal

2025
- Reduce total carbon emissions by 10% compared to base year
- Have renewable energy account for 10% of total electricity consumption
- Increase wastewater recycling to 36% of total volume of wastewater
- Increase reclaimed water utilization to 34% of total water consumption
- Develop products with lower environmental impact, have renewable raw materials account for 5% of total raw materials procurement

2030
- Have renewable raw materials account for at least 15% of total raw materials procurement
- Reduce total carbon emissions by 22.5% compared to base year
- Renewables account for 30% of total electricity consumption
- Increase wastewater recycling to 40% of total volume of wastewater
- Increase reclaimed water utilization to 40% of total water consumption

TSRC Climate Management Organization Structure and Actions

Board of Directors (including the Audit Committee)
The highest governance body for climate management, regularly reviews assessments of the Company's climate risks and opportunities, response strategies, goals, preventive measures, and implementation.

Supervision and Governance ↓ / Report ↑

Executive Leadership Team (ELT)
The Climate Management Team verifies the Company's climate risks and opportunities, climate strategies, and action plans for mitigating the impact of climate risks, regularly reporting to the Board of Directors on the status of implementation.

Formulate strategies and goals ↓ / Report ↑

ESG Work Team
The Climate Risk Project Team promotes various climate risk and opportunity projects, and regularly reports to the Executive Leadership Team on the status of implementation for projects.

	TSRC Management Strategies and Action Plans	Implementation in 2024
Governance	The Board of Directors regularly monitors how the Group's climate strategies and risk management measures are being implemented.	✓ Through receiving quarterly operations reports from the Executive Leadership Team, the Board is informed about the operations at each production location, as well as climate disasters caused by extreme weather events (such as flooding caused by typhoons) which affect business operations, production, or raw materials supply. The Board then provides recommendations to the Executive Leadership Team. ✓ Received reports from the Executive Leadership Team in May and November 2024, which included information on climate transition and physical risk factors, the severity of climate risks, risk response strategies, established goals, improvement measures and action plans, and the actions taken in response to transition risks and opportunities.
	The Executive Leadership Team regularly reviews how operations addressing climate-related risks and opportunities have been implemented.	✓ Designated employees from the ESG Work Team and other related functional departments to conduct the annual climate risks and opportunities assessment, and confirmed the response plans and planned measures proposed by the ESG Work Team to be implemented. ✓ Regularly remained updated on how Taiwan is expected to implement a carbon fee system, and on the carbon pricing developments, rates, and roadmaps for other countries. Determined an internal carbon price based on announced carbon fees and the IEA 2023 report, and used this carbon price to estimate the level of impact that carbon fees would have on the Group's operations and finance. ✓ The ESG Work Team explained how important climate goals are being implemented to the Executive Leadership Team through ELT meetings each quarter. ✓ Important climate risk goals are linked to the Company's annual organizational goals and the Executive Leadership Team's individual performance goals, encouraging the organization and team to implement climate measures. ✓ Members of the Executive Leadership Team have often engaged in discussion with members of the ESG Work Team on important climate risk issues to determine response plans (such as on the carbon fees required for the Kaohsiung Factory, assessing the impact of flooding in Kaohsiung, the Group's carbon reduction plans, and assessing low-carbon processes). ✓ In September 2024, the ESG Work Team reported the results of the 2024 Climate Risk and Opportunities Assessment to the Board of Directors, after the report results have been confirmed by the CEO.
Strategy	Based on the TFCD recommendations, bring together different departments to discuss the Company's operations and determine short, medium, and long-term climate risks and opportunities.	Assess the severity of each climate risk based on its level of impact and likelihood of occurrence (occurrence schedule). Please refer to the section "Impact of and Response to Important Climate-Related Risks and Opportunities" for more details on specific response measures and actions.
	Analyze the potential operational and financial impact of material climate risks and opportunities for TSRC under the TCFD framework.	Please refer to the section "Financial Impact of Climate-Related Risks and Opportunities" for more details on the financial impact of material climate-related risks and opportunities.
	Analyze climate risks and assess carbon reduction goals and actions for different climate scenarios.	**Transition risks** Established carbon fee scenarios based on the 2023 World Energy Outlook report published by the International Energy Agency and the information publicly announced by the Taiwan Ministry of Environment. ✓ Net Zero Emissions by 2050 Scenario (NZE) ✓ Stated Policies Scenario (STEPS) **Physical risks** Used the Shared Socioeconomic Pathways (SSP) scenario provided in the Sixth Assessment Report (AR6) published by the United Nations Intergovernmental Panel on Climate Change (IPCC) as a reference for establishing scenarios for flooding, drought, strong winds, and high temperatures. ✓ AR6 SSP2-4.5 Low emissions scenario ✓ AR6 SSP5-8.5 High Greenhouse Gas Emissions Scenario Note: Different sets of climate data is used to determine the physical risks facing each factory under each climate scenario (Taiwanese factories: TCCIP downscaled climate forecasts; Overseas factories: IPCC-AR6-CMIP6 climate model simulations.)
	Encouraged suppliers to implement climate change mitigation plans and carbon reduction measures.	Collected and assessed data on the carbon emissions, product carbon footprints, and long-term carbon reduction plans of important suppliers, using this data as an important reference for helping TSRC to reduce Scope 3 emissions.
Risk Management	Establish a climate-related risk identification process based on the TCFD framework.	For more details on the climate change risk identification process, please refer to the section "Climate-Related Risks and Opportunities Identification and Management Process".
	Develop adaptation and mitigation strategies based on the identified climate-related risks.	The Executive Leadership Team assigned the ESG Work Team with assessing climate-related risks and opportunities and developing response strategies and actions, implemented after approval from the Executive Leadership Team.
	Integrate the climate risk identification process into the existing risk management process.	Incorporated important climate risk factors into the Company's risk management processes. Please refer to 4.1.3. Risk Management for more details on the Company's risk management.
Metrics and Targets	Establish climate change management indicators.	Establish indicators for adapting to and mitigating climate change on topics such as reducing total carbon emissions, increasing the use of renewable energy, increasing wastewater recycling, increasing reclaimed water utilization, and developing eco-friendly products. For more details, please refer to "Environmental Indicators, Goals, and Achievements".
	Conduct annual inventory of Scope 1, 2, and 3 greenhouse gas emissions and assess their impact on the Company's operations.	Continued to implement carbon reduction measures and increase the use of renewable energy based on the results of various inventories and assessments to effectively reduce greenhouse gas emissions. For more details, see "GHG Emissions and Carbon Emission Intensity Per Unit Product".
	Review climate management goals annually.	The Executive Leadership Team regularly reviews how climate change indicators and goals have been implemented and whether goals have been achieved, providing recommendations to help better achieve these goals and indicators. For more details, please refer to "Environmental Indicators, Goals, and Achievements". The performance goals set for senior managers are linked to climate change goals in order to improve the goal achievement rate. Please refer to 4.1.1. Board of Directors and Functional Committees for more details.

Climate-related Risks and Opportunities Identification and Management Process



Step 1
Propose list of risks and opportunities

- Taking into consideration the categories recommended by the TFCD, and the climate risks and opportunities that our industry peers are focusing on, and based on TSRC's operating characteristics and the location of our production sites, the ESG Work Team discusses and determines a list of risks and opportunities for TSRC.

Results

Listed 10 key climate risks and 6 climate opportunities based on the TFCD risk categories



Step 2
Assess risk impact and determine materiality

- The ESG Work Team discusses the impact of each risk on TSRC's upstream suppliers, TSRC's own operations, or on downstream customers, and determines the materiality of each risk based on their impact (including level of impact and likelihood of occurrence) through workshops.
- Create a risk and opportunity matrix, and establish various response plans and measures.

Results

Created a risk and opportunity matrix based on the level of risk impact and likelihood of occurrence, and designated prioritized risks



Step 3
Confirmation and approval of risks

- The ESG Work Team reports the results of the risk and opportunities assessment to the Executive Leadership Team.
- The Executive Leadership Team confirms and approves the important risks designated by the Group based on the assessment results, providing suggestions and implementing response plans to address these risks.
- The Executive Leadership Team reports these assessment results to the Board of Directors (including the Audit Committee).

Results

Climate risk and opportunity assessment results, climate action goals and indicators, response plans and measures



Step 4
Disclosure and continuous management

- Prepare an explanation for these climate risks and opportunities based on the assessment results, and disclose this information to the public.
- Regularly track the climate actions being implemented and report to the Executive Leadership Team on progress made towards achieving targets and metrics.

Results

Disclosed climate risks and opportunities in the Sustainability Report, on the TSRC website, and in the annual report. Receive regular updates on achievement of climate targets and metrics

Climate-related Risks and Opportunities

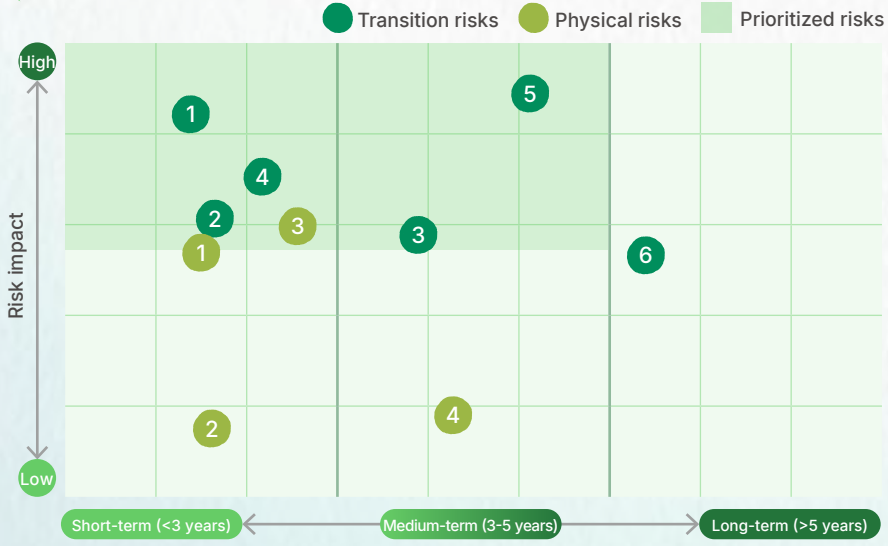
TSRC identifies climate-related risks and opportunities every three years, and assesses whether adjustments need to be made to the potential impact and likelihood of occurrence for the risks and opportunities identified in past years, confirming if risk mitigation or adaptation measures are effective. At the same time, climate risk assessment results are integrated into the Company's existing risk management processes. We look to promote a low-carbon transition and improve the Company's operational resilience by focusing on four aspects: governance, strategy, risk management, and metrics and targets.

In 2024, TSRC conducted a new climate risk assessment for the year. Using the past assessment results as a basis, we collected data on external environmental trends and changes, and also took the Company's actual business operations and strategic development into consideration to establish a list of risks after a comprehensive review and assessment. The list identified 10 climate-related risks and 6 climate-related opportunities. After assessing the impact of these risks on our value chain (suppliers, our own business operations, customers), we determined the severity of each risk and when they are likely to occur (likelihood of occurrence). Through the Group's climate actions and establishing response and preventive measures, we have reduced the impact of transition risks and mitigated the potential impact of climate disasters.

Additionally, we have designated 7 climate risks to be prioritized, pursuant to the criteria for defining prioritized risks in the TSRC Risk Management Operating Procedures. The actions we took to address climate issues include not only taking inventory of our existing response strategies and adaptation measures, but also proposing climate actions or measures to address risks based on the scope of their impact and their duration.

Compared to the 6 transition risks, 6 physical risks, and 5 climate-related opportunities identified in 2023, we identified a total of 6 transition risks, 4 physical risks, and 6 climate opportunities in 2024. There were no significant changes to transition and physical risk factors across these two years. However, we have adjusted the names of some identified risks and opportunities, in order to better reflect the actual impact and influence that these risks and opportunities have on the Company's business operations. For more details on these differences, please refer to the 2024 TCFD Report on the TSRC website.

Climate Risk Matrix



Climate Opportunity Matrix



Transition risks

1. Carbon tax/fee
2. Increasing sustainability regulations
3. Changes in customer behavior or preferences
4. Increased raw materials costs
5. Development of low-carbon transition technologies
6. Company reputation

Physical risks

1. Flooding
2. Strong winds
3. Drought
4. High temperature

Climate opportunities

1. Increase energy usage efficiency
2. Improve water resource usage
3. Energy transition
4. Implement more circular economy concepts
5. New product development
6. Enhanced product competitiveness

Note: TSRC has integrated climate-related risks into our corporate risk management system, and has listed the climate-related risk factors be designated as prioritized risks (in the green boxes of the risk matrix) based on the criteria stated in the Risk Management Operating Procedures.

Impact of and Responses to Important Climate-related Risks and Opportunities

	Climate risks	Potential impact	Climate opportunities	Potential influence	Responses, strategic goals, and key actions
Transition risks	Carbon fee/tax	The government imposes a carbon fee, carbon tax, or carbon border adjustment mechanism to limit total greenhouse gas emissions, leading to an increase in the Company's operating costs.	• Increase energy usage efficiency • Energy transition • Implement more circular economy concepts	• Continue implementing carbon reduction plans and using renewable energy sources, reducing the amount of carbon fees paid in Taiwan and the rising electricity costs paid each year • Increase recycling of waste heat and wastewater to reduce energy and resource consumption	**Goals** • Reduce the Group's greenhouse gas emissions (Scope 1 + Scope 2) by 10% in 2025 compared to the base year (2021), reduce by 22.5% by 2030. • Have renewable energy account for 10% of the Group's energy consumption by 2025, have it account for 30% by 2030. • Have renewable raw materials account for 5% of total raw materials procurement by 2025, have it account for 15% by 2030. **Specific Actions Taken in 2024** • Continued purchasing energy-saving equipment to replace more energy-consuming equipment for our factories in Taiwan and Nantong China, improving energy efficiency. • Installed solar power generation facilities at our Kaohsiung Factory, and used cogeneration equipment to significantly reduce the amount of power purchased from external sources, reducing carbon emissions. • Optimized the TPE production process, reducing steam consumption per unit product and indirectly reducing carbon emissions from energy consumption. • Collected data on the carbon footprints of primary and auxiliary raw materials, using this data as an important reference when evaluating our low-carbon products portfolio. **Future years** • Continue optimizing processes to reduce steam consumption per unit product. • Increase procurement of renewable energy and low carbon steam. • Replace high energy consuming equipment and continue reducing energy consumption. • Evaluate feasible plans to reduce Scope 3 emissions, reducing product carbon footprints.
	Increase in sustainability regulations - Renewable energy usage	Due to regulatory demands or requirements from local government policies, our Taiwan and Nantong subsidiaries increase their usage of renewable energy resources, leading to higher energy procurement costs and higher maintenance costs for renewable energy generation equipment.	• Energy transition • Enhanced product competitiveness	Use renewable energy and reduce product carbon footprints to meet customer requirements for low carbon products	**Goals** • Have renewable energy account for 10% of the Group's energy consumption by 2025, have it account for 30% by 2030. **Specific Actions Taken in 2024** • Installed solar power generation equipment at the Kaohsiung Factory, and signed a letter of intent to purchase renewable energy from renewable energy suppliers, ensuring that future energy needs are met. • Nantong Industries procured renewable energy sources. **Future years** • Our three subsidiaries in Nantong, China will continue increasing procurement of renewable energy, and evaluate whether solar power generation equipment can be installed.
	Changes in customer behavior or preferences	Raw material procurement costs increase due to providing low carbon products, products with smaller carbon footprints, or using renewable raw materials, in order to meet customer requirements.	• New product development • Enhanced product competitiveness	Sales of new products or low-carbon products can increase the Group's revenues and market competitiveness	**Goals** • Have new products account for 15% of revenue by 2025. • Have sustainable products account for 20% of total sales by 2025, and 40% by 2030. • Have renewable raw materials account for 5% of total raw materials procurement by 2025, and 15% by 2030. **Specific Actions Taken in 2024** • The Kaohsiung Factory has continued to obtain ISCC Plus certification, and has begun selling products made from renewable raw materials. • Nantong Industries optimized processes to reduce steam consumption per unit product and reduce the product carbon footprint. • Received the Ecovadis Silver medal, enhancing customer trust. **Future years** • Continue to develop renewable raw materials market. • Continue obtaining ISCC Plus certification for all production locations. • Continue evaluating supplier carbon reduction plans in order to effectively reduce TSRC's Scope 3 carbon emissions. • Reduce product energy consumption through process optimizations.

	Climate risks	Potential impact	Climate opportunities	Potential influence	Responses, strategic goals, and key actions
Transition risks	Raw material costs increase	Suppliers have to pay Taiwan carbon fees, leading to higher raw material procurement costs. Procure renewable raw materials.	• New product development • Enhanced product competitiveness	Increased revenue and market competitiveness from sales of new products	**Goals** • Same as goals stated for "Changes in customer behavior or preferences". **Specific Actions Taken in 2024** • Focused on developing market for sustainable products, establishing product pricing strategies, and enhancing product competitiveness. **Future years** • Continue evaluating development of market for sustainable products, improving revenue and market competitiveness.
	Development of low-carbon transition technologies	Continue developing carbon reduction process technologies or energy-saving equipment alongside expanding production capacity. Continue to enhance measures for developing and attracting talent in order to support the low-carbon transition.	• Implement more circular economy concepts • New product development • Enhanced product competitiveness	Reduce carbon emissions through recycling wastewater from the production process, deriving increased benefits from implementing a circular economy and increasing product value	**Goals** • Same as goals stated for the "Carbon fee/carbon tax". **Specific Actions Taken in 2024** • Optimized the product manufacturing processes used by Shen Hua Chemical and Nantong Industries to reduce steam consumption per unit product. **Future years** • Continue optimizing processes and reduce product steam consumption. • Continue developing new carbon reduction technologies. • Evaluate opportunities for industry-academia collaboration. • Improve sustainability-related employee competencies and provide related education and training.
Physical risks	Drought	Backup water sources are established for our factories in order to avoid having water shortages interrupt production and business operations, leading to higher annual maintenance costs for water pipes. Water outage policies for Kaohsiung results in operational conditions for the production line needing to be adjusted, leading to financial losses.	• Implement more circular economy concepts • Improve water resource usage	• Use water resources more efficiently and reduce demand for fresh water through wastewater recycling • Improve the wastewater circulation system to reduce amount of wastewater discharged	**Goals** • Increase proportion of wastewater recycled to 36% by 2025, and 40% by 2030. • Increase reclaimed water utilization to 34% of total water consumption by 2025, and 40% by 2030. **Specific Actions Taken in 2024** • Completed installing backup pipelines at the Kaohsiung Factory. **Future years** • Continue improving wastewater recycling system equipment installed at the Kaohsiung Factory, Nantong Industries, and TSRC-UBE.
	Flooding	Flooding damages factory equipment and product inventory, which may lead to business interruptions and financial losses. Insurance premiums increase, or insurance payout conditions become stricter. Flood prevention and drainage pipelines need to be maintained each year, increasing annual maintenance costs.	• Mainly related to mitigating impact from risks and strengthening operations	Strengthen operational resilience	**Goals** • Establish emergency response plans for unexpected emergencies in order to protect employee safety and mitigate potential losses. **Specific Actions Taken in 2024** • Disaster prevention and response measures were adopted for the Kaohsiung Factory after experiencing the two typhoons, Typhoon Kraton and Typhoon Gaemi, reducing impact from climate disasters. **Future years** • Establish flood mitigation plans or equipment, and continue implementing disaster prevention and response measures.

Financial Impact of Climate-related Risks and Opportunities

TSRC assesses the impact of identified risks and opportunities, and uses this information as an important reference when determining how to mitigate risks and capitalize on opportunities.

Potential financial impacts of transition risks

mainly refer to the costs incurred by the Group's low-carbon transition (including costs related to reducing greenhouse gas emissions), such as costs resulting from Taiwanese carbon fees, capital expenditures on energy-saving and carbon reducing equipment and technological improvements, purchasing green power, and purchasing low-carbon raw materials.

Potential financial impacts of physical risks

mainly refer to equipment maintenance costs or capital expenditures invested into improving the Company's climate resilience (such as for drought and flood prevention). Drought prevention expenditures include costs for building an improved wastewater recycling system and purchasing backup water sources. Flood prevention expenditures mainly include operating costs for maintaining factory equipment and water drainage pipelines.

Estimated financial benefits of climate opportunities

include the amounts saved on lower electricity fees due to energy efficiency improvements made to factory facilities, lower wastewater treatment costs due to more efficient use of water resources, and increased revenues from sustainability products.

Climate Risk Scenario Analysis

Considering that each different climate scenario would impact TSRC differently in the future, we have sought to understand and manage future climate risks through assessing each of the transition and physical risks posed by different climate scenarios. At the same time, we have established different climate response measures and actions based on these assessment results, reducing operational risks. The scenario analysis of transformation risk in 2024 is based on “carbon fee/carbon tax”, which has the most significant impact on TSRC's risks. Additionally, as extreme weather becomes an increasingly serious issue, TSRC has worked with external teams of experts to specially identify 4 physical risks for further analysis - drought, flooding, strong winds, and high temperature. We consider the level of risk that each of these disasters may pose, and implement measures in advance to prevent these risks at our production sites.

Risk Scenario Analysis

Risk category	Source	Risk Definition	Risk analysis
Transition risks	**Baseline year** • Scope 1 and Scope 2 emissions for the Group in 2021 **Climate Scenarios** • The estimated future carbon fee rates publicly announced by the Taiwan Ministry of Environment • International Energy Agency (IEA) report	**Carbon fee/tax** • Considers the development, implementation schedule, and implementation method of carbon fees in other countries confirmed to be implementing carbon fees in the future and which have an impact on the TSRC Group's operations • Currently, only Taiwan has announced concrete and specific carbon fee policies	**Operating location** Kaohsiung Factory **Climate scenarios** 2 scenarios (NZE and STEPS) **Time of occurrence** 2025-2030 (Short-, medium-, and long-term)
Physical risks	**Base period** • Historical climate simulation data from the Central Weather Agency and CMIP-6 **Climate Scenarios** • Observed data - Central Weather Agency (Taiwan), CMIP6 Historical run (areas outside Taiwan) • Estimated data - TCCIP (AR6) (Taiwan), IPCC-AR6 (areas outside Taiwan)	**Flooding, drought, strong winds, high temperature** • Considers information released by foreign and domestic government institutions and related research literature, and TSRC's past experience with disasters • Flooding: Flood alert threshold values set by the Taiwan Water Resources Agency, flood potential • Drought: SPI-3 precipitation index • High temperature: 36 degrees Celsius • Strong winds: Grade 8 wind speeds	**Operating location** All factories **Climate scenarios** 2 scenarios (SSP 2-4.5, SSP5-8.5) **Time of occurrence** Short-term (within 3 years), medium-term (3-5 years), long-term (more than 5 years)

Note: After a risk scenario analysis, we have assessed high temperatures and strong winds to have a relatively low impact on TSRC production locations. For more details on the analysis results, please refer to the 2024 TCFD Report on the TSRC website.

Transition Risk - Carbon fee/carbon tax

The main assessment item for the transition risks section is the risk posed by carbon fee/carbon tax, as it is the risk with the most significant impact on TSRC. We have taken into consideration the direction of greenhouse gas controls, and used the Stated Policies Scenario (STEPS) and the Net Zero Emissions scenario (NZE) defined by the International Energy Agency (IEA), and the future carbon fee rates announced by the Taiwan Ministry of Environment to assess the potential impact on our business operations.

Carbon fee/tax

Climate Scenarios

International Energy Agency (IEA)
- Net Zero Emissions by 2050 Scenario (NZE)
- Stated Policies Scenario (STEPS)

Analysis Method

Compared the difference between taking no proactive carbon reduction actions and continuing to implement the Group's carbon reduction goals

Assessment of Analysis Results and Response

The financial impact on TSRC under the NZE scenario will be greater than that under the STEPS scenario. Using carbon prices under the NZE scenario as an example, should TSRC implement greenhouse gas reduction actions, including adopting low-carbon fuel for manufacturing operations, renewable energy usage measures, and energy efficiency improvement measures, we would be able to reduce the financial impact from carbon costs compared to if TSRC stopped continuing to implement carbon reduction management measures. By 2030, carbon costs would drop from being 1.2% of our revenue to less than 1%.

Potential financial impact

Unit: Financial impact measured as a percentage of revenue (%)

Analysis method	Climate Scenarios			
	2025		2030	
	STEPS scenario	NZE scenario	STEPS scenario	NZE scenario
No carbon reduction actions	0.1%	-Note 2	0.5%	1.2%
Continue implementing the Group's carbon reduction	≤0.1%	-Note 2	≤0.4%	≤1%

Note 1: As of now, considering that only Taiwan has announced a relatively clear carbon policy out of all the regions where TSRC has established operating locations, TSRC has mainly focused on assessing the financial impact of Taiwan's carbon fees, and we have not assumed preferential rates for scenario. As the carbon pricing policies and implementation for other production locations (such as those in China and the United States) still remain unclear. We shall continue monitoring these developments and incorporate updates accordingly.

Note 2: Carbon fee rates for Taiwan are based on the NT$300 rate announced by the Ministry of Environment in 2024, and this rate has been incorporated into our analysis for the Taiwan STEPS scenario. Based on the implementation details, this fee shall begin to be collected from 2025 onwards, and the rate will be fixed for two years. This fee is expected to increase to NT$1,800 by 2030. Under the NZE scenario, there is no need to establish a separate NZE scenario for 2025 since we are already in the STEPS scenario for that year and carbon fee rates are fixed for 2 years. Based on the implementation details, and taking the IEA WEO 2023 report into consideration, we have estimated carbon fees to be NT$4,410 (approximately US$140) for 2030 based on estimates for fees in developed economies, and used this rate for our scenario analysis.

Note 3: Currently, TSRC's products are not subject to the EU's Carbon Border Adjustment Mechanism (CBAM) in its first phase, meaning that the mechanism will have no effect on TSRC products in the short term. We will update our assessment of the financial impact on TSRC product exports to Europe after the EU has announced a timeline for implementing additional product restrictions.

Note 4: The Group's carbon reduction actions include utilizing low-carbon fuels for production, cogeneration equipment, and solar power generation installations to increase the use of renewable energy. TSRC will also continue expanding the use of energy saving equipment in order to improve energy efficiency.

Physical Risks - Drought

In consideration of the growing impact of climate risks on our business operations, TSRC has identified four physical risks - drought, flooding, high temperatures, and strong winds, in order to uphold our mission to maintain stable business operations. Through a scientific analysis, we have analyzed these four physical risks and their impact on TSRC factory operations under different climate scenarios. In particular, drought poses the most significant risk. TSRC continues to monitor these risks and improve response measures.

Drought

Risk Category

Chronic

Climate Scenarios

United Nations Intergovernmental Panel on Climate Change (IPCC)
- AR6 SSP2-4.5 Low Greenhouse Gas Emissions Scenario
- AR6 SSP5-8.5 High Greenhouse Gas Emissions Scenario

Analysis Method

SPI-3 Precipitation index (The rainfall for three consecutive months compared to the average for the same period)

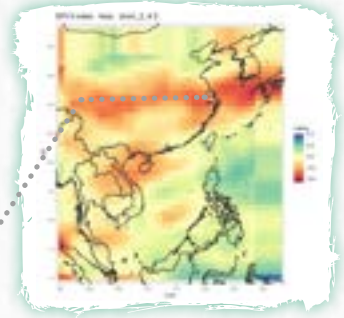
Assessment of Analysis Results and Response

Analysis Results
- Under the SSP2-4.5 scenario, the probability of drought for Jiangsu Province, where Shen Hua Chemical, Nantong Industries, and TSRC-UBE are located, may increase in the short-term. In the long-term, our factories in the Taiwan region also face a significant risk of drought.
- Under the SSP5-8.5 scenario, our factories in Taiwan and Vietnam would face relatively higher drought risks in the medium and long- term. The key water reservoirs supplying Southern Taiwan have also exhibited a clear trend towards lower water levels, indicating that TSRC should prioritize implementing drought adaptation measures for Taiwanese factories.

Response Measures
- Continue optimizing water resource usage, increase the proportion of wastewater recycled, and increase amount of reclaimed water used.
- In order to address water risks at the Kaohsiung area, TSRC's Kaohsiung Factory has actively engaged in water resource sharing initiatives with the neighboring Dashe Industrial Park. TSRC has also worked together with major suppliers (such as CPC), which, in addition to maintaining its own water demand in times of poor water conditions, has set up water pipelines with TSRC and provided part of TSRC's water resources to combat drought and tide over water restrictions together.

Note: The drought risk analysis method uses SPI-3 precipitation index data, and indicates the difference between the rainfall in the area for the past three consecutive months compared to the average for this same period. A negative value indicates less rainfall than average and a higher chance of drought, while a positive value indicates more rainfall and a lower chance of drought. The current analysis results only take into consideration droughts caused by climate and precipitation factors. Whether a drought actually occurs also depends on the status of local water reservoirs and policy-related factors.

SSP2-4.5 Scenario

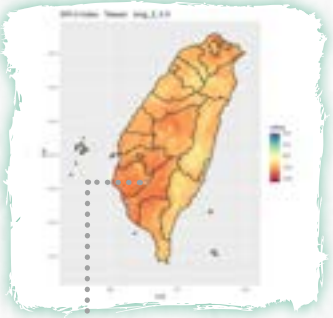


Short-term: <3 years

The probability of drought in Jiangsu Province, where Shen Hua Chemical, Nantong Industries, and TSRC-UBE are located, may increase slightly compared to previous periods

Medium-term: 3-5 years

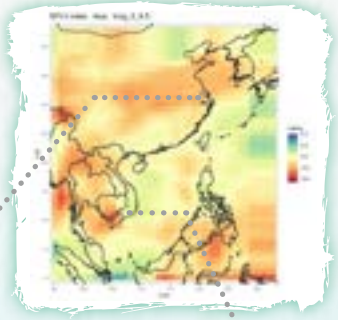
In Vietnam, where TSRC (Vietnam) is located, the probability of drought may increase slightly compared to previous periods



Long-term: >5 years

In the Kaohsiung area where the Kaohsiung Factory and Gangshan Factory are located, drought will become more of an issue in the long-term future

SSP5-8.5 Scenario

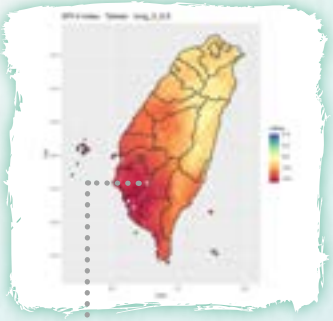


Long-term: >5 years

The probability of drought in Jiangsu Province, where Shen Hua Chemical, Nantong Industries, and TSRC-UBE are located, will increase slightly in the long-term compared to previous periods

Long-term: >5 years

In Vietnam, where TSRC (Vietnam) Company Limited is located, the probability of drought will increase slightly in the long-term compared to previous periods



Long-term: >5 years

In the Kaohsiung area where the Kaohsiung Factory and Gangshan Factory are located, the possibility of drought will increase compared to previous periods

Note: In the SSP2-4.5 and SSP-8.5 scenarios, TSRC Specialty Materials LLC which is located in the United States will not face significant risks of drought.

Physical Risks - Flooding

Considering the rising intensity of typhoons and torrential rain, all of TSRC's factories face the possibility of flooding due to extreme weather. TSRC has therefore attached importance to monitoring flooding risk under different climate scenarios, in order to ensure that flood prevention measures are in place to prevent extreme weather events from interrupting business operations.

Flooding

Risk Category

Acute

Climate Scenarios

United Nations Intergovernmental Panel on Climate Change (IPCC)
- AR6 SSP2-4.5 Low Greenhouse Gas Emissions Scenario
- AR6 SSP5-8.5 High Greenhouse Gas Emissions Scenario

Analysis Method

Taiwan Factories

Flood alert threshold values defined by the Taiwan Water Resources Agency

Overseas Factories

Flood alert triggered if daily rainfall reaches 99th percentile rainfall volume

Assessment of Analysis Results and Response

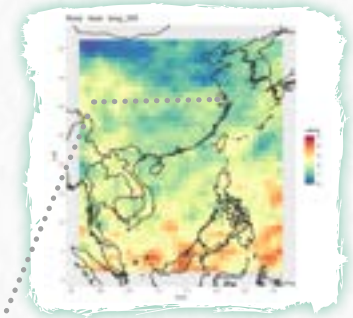
Analysis Results
- Under the SSP2-4.5 scenario, factories in Jiangsu Province experience trends towards rising flood risk over the medium to long-term, while factories in other regions are unaffected.
- Under the SSP5-8.5 scenario, factories in the United States and Vietnam experience a trend of a rise in torrential rain frequency.

Response Measures

Actively enhance the flood prevention drainage systems and response measures for production locations facing increased flooding risks, and establish systems for allocating manpower during disasters in order to reduce the impact on business operations from extreme weather events in the future.

Note: The flood alert threshold values set by the Water Resources Agency, Ministry of Economic Affairs, are used to analyze flood risk for the Kaohsiung and Gangshan Factory. For factories in other global regions, we used the threshold value for torrential rain (top 1% rainfall), a commonly-used international metric, to conduct our analysis.

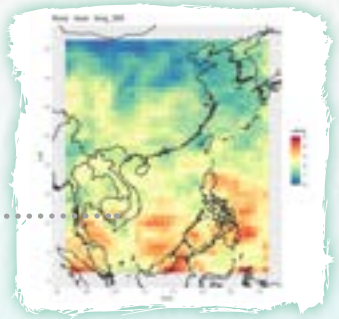
SSP2-4.5 Scenario

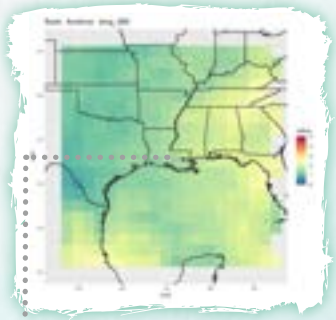


Long-term: >5 years

Compared to past periods, the possibility of drought in the long-term for Jiangsu Province, where Shen Hua Chemical, Nantong Industrial, and TSRC-UBE are located, is higher than in the short-term

SSP5-8.5 Scenario





Long-term: >5 years

The possibility of flooding has slightly increased in the regions where TSRC (Vietnam) Company Limited and TSRC Specialty Materials LLC (USA) are located, compared to the past periods.

Note: The risk of flooding for China and Taiwan regions did not change significant, though the frequency of flooding increased slightly.

★2024 Special Report on Climate Disasters Caused by Typhoons

- Typhoon Gaemi impacted Taiwan in July 2024, bringing over 500 mm of extreme rainfall to the Kaohsiung area in a single day. This exceeded the flood prevention standards which the local drainage systems were built for, and in combination with the annual astronomical tide, led to flooding across many areas of Kaohsiung. TSRC's Kaohsiung Factory initiated emergency response measures, and as the factory is located relatively far from the river, it was not affected by the torrential rain causing waterways to spill over. The typhoon only caused a few scattered flooding issues at the factory. Some employees were unable to commute to work, but business operations were not interrupted.
- Typhoon Krathoon impacted Taiwan in October 2024, making it the first typhoon in 47 years to enter Taiwan from Kaohsiung, with the last being Typhoon Thelma in 1977. The Kaohsiung City area experienced grade 13 winds, and during the typhoon period the factory experienced a few scattered flooding issues, with equipment being damaged by the strong winds. Production operations remained unaffected, and business operations were not interrupted.
- TSRC's Kaohsiung Factory and Gangshan Factory were affected by typhoons twice in 2024, but due to our advance disaster prevention measures and comprehensive disaster response measures, our operations and production activities remained stable during each typhoon. For more details, please refer to the 2024 TCFD Report on the TSRC website.

2.1.2 Greenhouse Gas Management

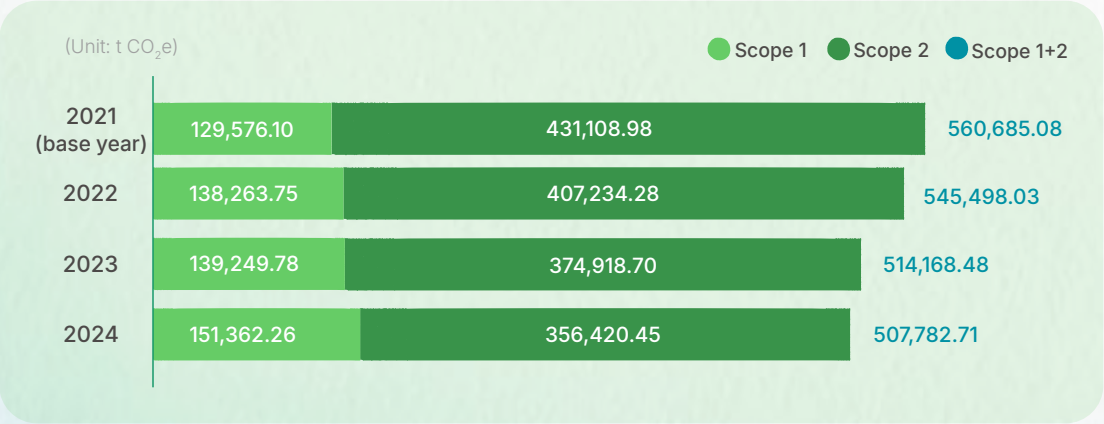
In response to global climate action, TSRC has set a vision to achieve carbon neutrality. With the year 2021 as the base year, TSRC aims to reduce Scope 1 and 2 greenhouse gas emissions by 10% in 2025 and 22.5% in 2030. TSRC will continue to invest in green manufacturing processes and increase the use of renewable energy while actively implementing energy conservation and carbon reduction measures.

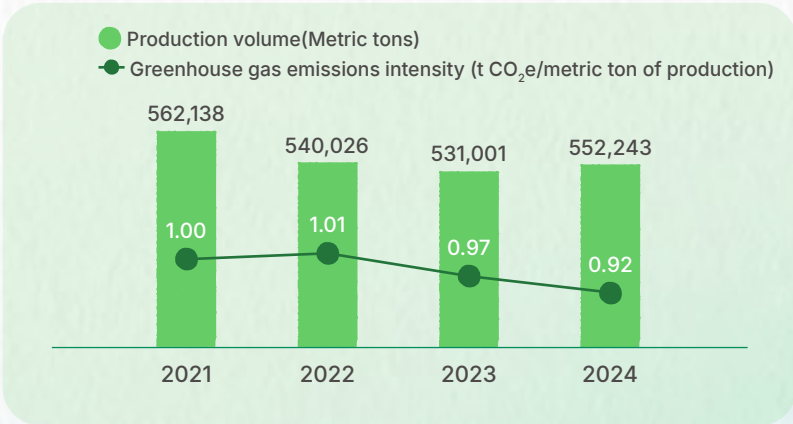
Greenhouse Gas Inventory

Direct Emissions and Indirect Emissions from Energy Use (Scope 1 + Scope 2)

In 2024, TSRC's total Scope 1 and 2 greenhouse gas emissions were 507,782.71 metric tons of carbon dioxide equivalent, a decrease of 9.44% from the 2021 base year. TSRC did not adopt any carbon offset measures in 2024. The main reduction is due to the reduction of the power coefficient of purchased non-renewable energy sources in Scope 2, the use of installed solar power generation equipment, and increases to equipment energy efficiency. The Kaohsiung Factory, Shen Hua Chemical. and Nantong Industries achieved the most significant results. In 2024, TSRC's Scope 1+2 carbon emission intensity per unit product decreased slightly to 0.92 t CO_2e per metric ton of product compared to the base year of 2021.

GHG Emissions and Carbon Emission Intensity per Unit Product





Note 1: This table includes seven types of greenhouse gases: carbon dioxide, methane, nitrous oxide, HFCs, PFCs, sulfur hexafluoride, and nitrogen trifluoride. GWP values for 2021 are based on IPCC AR5, and GWP values for 2022-2024 are based on IPCC AR6.

Note 2: Scope 1 emissions are calculated using emissions factors and the mass balance calculation method. Scope 2 and 3 emissions are calculated using emissions factors, and the factors used in this table are as follows:

- Taiwan: Global business headquarters, Kaohsiung Factory and Gangshan Factory: Uses emission factors published by the Taiwan Environmental Protection Agency (version 6.0.4).
- China: 2021-2023: Shen Hua Chemical, Nantong Industries, and TSRC-UBE uses China's provincial electricity emission factors, the United Nations Intergovernmental Panel on Climate Change (IPCC) assessment reports, and the Shanghai Bureau of Ecology and Environment [2022] No. 34 The notice of Shanghai Ecological Environment Bureau on the adjustment of emission factor values related to the city's greenhouse gas emission accounting guidelines. 2024: Based on the information announced by the competent authority in China and due to differences in operations between different factories, we have used the China average carbon dioxide emissions factor for electricity (not including electricity from market-traded non-fossil fuel energy) of 0.5856 kg CO_2/kWh for Nantong Industries, and the China average carbon dioxide emissions factor for electricity of 0.5366 kg CO_2/kWh, as well as data from the United Nations IPCC assessment report, for Shen Hua Chemical, TSRC-UBE, and Shanghai Industries.
- Vietnam: TSRC (Vietnam) Company Limited: Uses the electricity emission factors published by Vietnam's Ministry of Industry and Trade and Ministry of Natural Resources and Environment and the IPCC assessment reports.
- USA: TSRC Specialty Materials LLC: Uses the US Environmental Protection Agency database and the IPCC assessment reports.

Note 3: Pursuant to the ISO14064-1:2018 standards, the Greenhouse Gas Verification Statement disclosed that Shen Hua Chemical, Nantong Industries, TSRC-UBE, and Shanghai Industries all cited the China average carbon dioxide emissions factor for electricity (not including electricity from market-traded non-fossil fuel energy) of 0.5856kg CO_2/kW, resulting in the TSRC Group having 360,432.32 metric tons CO_2e of Scope 2 emissions for 2024.

Note 4: The 2021-2024 reporting boundary covers all factories and subsidiaries identical to the reporting scope in the financial statements. The operational control approach is adopted in accordance with ISO14064-1:2018. Verification conducted by DNV GL Business Assurance Co., Ltd. (DNV) in 2024. Data is rounded to the second decimal place. Please refer to the TSRC website for the Verification Statement.

Other Indirect Emissions (Scope 3)

Since 2021, TSRC has complied with ISO 14064:2018 to identify and screen other indirect emissions according to the materiality criteria, and to inventory other material indirect emissions, including Category 3 (indirect GHG emissions from transportation) and Category 4 (indirect GHG emissions from products used by an organization).

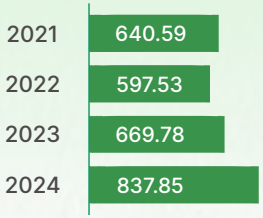
Other Indirect Greenhouse Gas Emissions in 2024

Category 3: Indirect greenhouse gas emissions from transportation

Emissions from upstream transportation and distribution (major raw materials)

Description: Emissions from inland transportation of major raw materials for which each site pays its own transportation costs

Emissions (Unit: t CO_2e)



Category 4: Indirect greenhouse gas emissions from products used by an organization

Emissions from product procurement (major raw materials)

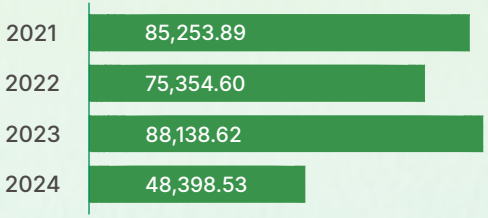
Description: Emissions from upstream production activities of major raw materials as defined by each site

Emissions (Unit: t CO_2e)



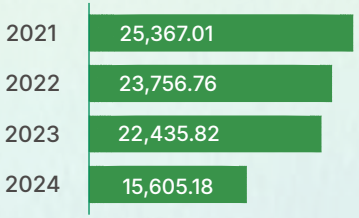
Emissions from energy resource-related activities (Excluding Category 1 and Category 2)

Description: Emissions from upstream production activities of natural gas, fuel oil, water and electricity purchased for use at each site



Emissions from the removal and disposal of waste from operations

Description: Emissions from the removal and treatment of solid and liquid waste from the organization



Note 1: This table includes seven types of greenhouse gases: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride. The GWP value for 2021 is from IPCC AR5, and the GWP value for 2022-2024 is from IPCC AR6.

Note 2: The reporting boundary of this table covers all factories and subsidiaries identical to the reporting scope in the financial statements. The operational control approach is adopted in accordance with ISO14064:2018. Verification conducted by DNV GL Business Assurance Co., Ltd. (DNV) in 2024. Data is rounded to the second decimal place.

Greenhouse Gas Emissions Reduction

As a manufacturer of specialty chemicals, TSRC prioritizes reducing Scope 1 and Scope 2 greenhouse gas emissions, optimizes processes and utility systems, and enhances green process innovations. In response to the Scope 1 reduction strategy, TSRC has stopped using coal-fired boilers since 2020 to reduce emissions from coal use, while adjusting the fuel used in boilers at all factories to replace fuel oil with natural gas. No fuel oil was used across the entire TSRC Group. From 2022 onwards, TSRC has reduced the use of boiler fuel through steam reduction measures. In the future, TSRC will continue to reduce Scope 1 emissions by regulating steam consumption. Scope 2 emissions are reduced through saving energy resources, improving energy efficiency, and reducing the amount of electricity purchased from external sources. Together with using more renewable energy sources, we have further decreased Scope 2 emissions. Please refer to 2.2 Energy Management for more details on our actions to improve energy efficiency and increase renewable energy use. Regarding Scope 3 emissions and product use, TSRC encourages suppliers to reduce their carbon footprint and continues to develop sustainable and environmentally friendly products. TSRC is continuously developing carbon offset programs as part of our long-term goal to achieve carbon neutrality.

2024 TSRC Greenhouse Gas Reduction Measures and Performance

Direct Emissions (Scope 1) and Indirect Emissions from Energy (Scope 2)

Direct greenhouse gas emissions and indirect greenhouse gas emissions (from purchased energy and steam)

- In 2024, TSRC implemented a total of 9 energy conservation and efficiency improvement action plans, saving 2,250,308 kWh of electricity and 1,999 tons of steam, reducing emissions by a total of 1,758 tons of carbon dioxide equivalent.



Other Indirect Emissions (Scope 3)

Indirect Greenhouse Gas Emissions (Value Chain)

The reasons for the increase in Category 3 are as follows:

1. Shen Hua Chemical, TSRC-UBE, and TSRC Specialty Materials LLC increased production, resulting in an increase to the amount of raw materials procured, leading to a 25.09% increase to upstream transportation emissions compared to 2023.

The reasons for the decrease/increase in Category 4 are as follows:

1. The Kaohsiung Factory generates its own electricity from cogeneration equipment, allowing it to greatly reduce the amount of electricity purchased. Emissions were also calculated for Shen Hua Chemical, Nantong Industries, TSRC-UBE, and Shanghai Industries using the general upstream electricity emissions factors published by the competent authority in China in the 2023 Announcement of Carbon Footprint Factors for Electricity, which were 77% lower compared to the ecoinvent emissions factors used in 2023, leading to a 45.09% decrease in emissions from energy resource-related activities (natural gas and purchased electricity).
2. Shen Hua Chemical, Nantong Industries, TSRC-UBE, and Shanghai Industries used the wastewater treatment emissions factors reported in the China Products Carbon Footprint Factors Database, which were 30.6% lower compared to the emissions factors used in 2023, and leading to a 30.45% decrease in emissions from the removal and disposal of waste.
3. Increased production output, leading to an increase in raw materials procurement and a 3.71% increase in emissions from product procurement compared to 2023.

Material topics

Energy Management

Corresponding Chapter: 2.2.1 Energy Use | 2.2.2 Energy Conservation and Carbon Reduction

Policy

- TSRC ESG Strategy & Goals
- Environmental Policies

Commitment

TSRC is committed to promoting energy conservation and carbon reduction. TSRC optimizes process operations and utility systems, and invests in high-efficiency equipment as the main carbon reduction strategy, gradually improving energy efficiency.

Goals and Achievement	Achievements in 2024	2024 Goals	2025 Goals	2030 Goals
	✓ Renewable energy accounted for 7.55% of TSRC Group's total electricity consumption ✓ Shen Hua Chemical, Nantong Industries, TSRC-UBE, and TSRC (Vietnam) Company Limited all achieved their annual energy conservation targets	• Renewable energy accounted for 7.5% of TSRC Group's total electricity consumption • The Kaohsiung Factory reduced electricity consumption by 750 MWh and steam consumption by 250 tons • Shen Hua Chemical electricity use per unit product ≤310 kWh/ton and steam use per unit product ≤1.14 ton/ton • Nantong Industries' comprehensive energy consumption was ≤42,900 (tce), and comprehensive energy consumption per unit product was ≤0.588 (tce/ton) • TSRC-UBE's comprehensive energy consumption was 26,100 (tce), and comprehensive energy consumption per unit product was ≤0.390 (tce/ton) • Shanghai Industries' electricity use per unit product was <415 kWh/ton in summer and <410 kWh/ton in non-summer • TSRC (Vietnam) Company Limited's electricity use per unit product was ≤1,100 (kWh/ton)	• Renewable energy accounted for 10% of the Group's total electricity consumption • The Kaohsiung Factory reduced electricity consumption by 750 MWh and steam consumption by 250 tons • Shen Hua Chemical electricity use per unit product ≤310 kWh/ ton and steam use per unit product ≤1.14 ton/ ton • Nantong Industries' comprehensive energy consumption was ≤41,000 (tce), and comprehensive energy consumption per unit product was ≤0.584 (tce/ton) • TSRC-UBE's comprehensive energy consumption was 26,500 (tce), and comprehensive energy consumption per unit product was 0.379 (tce/ton) • Shanghai Industries' electricity use per unit product was <415 kWh/ton in summer and <410 kWh/ton in non-summer	• Renewable energy accounted for 30% of TSRC Group's total electricity consumption

Actions Taken	• Improve product manufacturing efficiency and reduce energy consumption. • Increase the use of renewable energy. • The Kaohsiung Factory and Shanghai Industries analyzed the reasons for failing to meet energy conservation goals, and implemented adjustments, controls, and took action to address these issues.
Processes to Track Effectiveness	• At least once a year, the Board receives a report from the Executive Leadership Team (ELT) on the implementation of the Group's sustainable risk management (including energy management). • The ESG Task Force reports quarterly to the ELT on the effectiveness of energy management and implementation. • In accordance with the ISO 50001 management system standard, regular energy management meetings are held quarterly for each factory to track energy use efficiency. • The ESG Task Force tracks the energy usage status of each factory monthly to ensure that relevant energy usage indicators are met. • Manufacturing factories summarize the energy consumption rate per unit of product each month, and explains how they have consumed energy. If there is excess consumption, explanations should be provided to track down the reasons and improve the situation.
Stakeholder Engagement	• Continuously seek collaborations with the value chain, business or industry partners to improve the Group's energy efficiency.

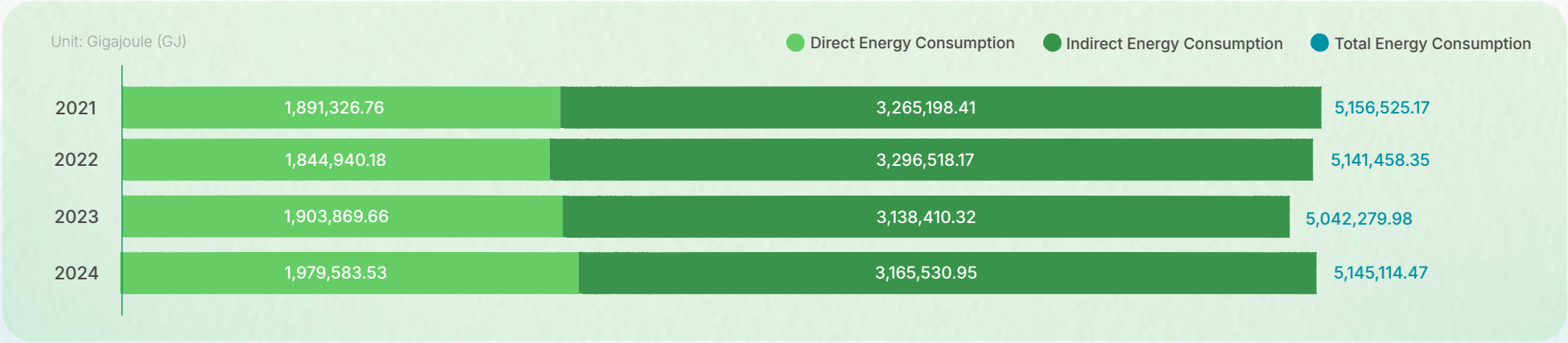
2.2 Energy Management

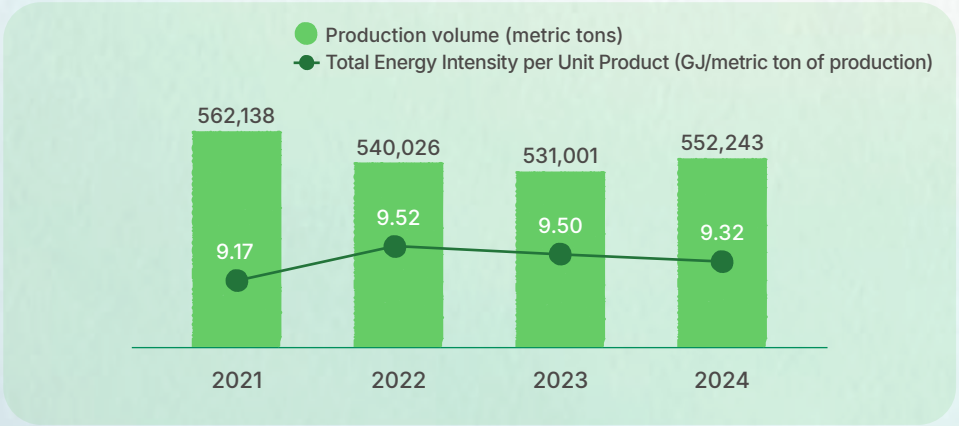
To reduce the environmental impact of greenhouse gas emissions, TSRC has established energy conservation and carbon reduction goals and plans, and continued to implement energy conservation measures. Through improving energy efficiency, reducing energy consumption, increasing the use of renewable energy, and convening regular energy management meetings to track energy efficiency, we hope to reduce our carbon emissions.

2.2.1 Energy Use

TSRC Group's total energy consumption in 2024 was 5,145,114.47 GJ. While TSRC's production output in 2024 increased by 4.00% compared to 2023, energy consumption only increased by 2.04% compared to 2023. Energy intensity per metric ton of production was 9.32 GJ/metric ton, a decrease of 1.89% compared to the previous year, and showing an effective improvement to energy efficiency. For more information on the energy consumption of our factories and subsidiaries, please refer to the Appendix Sustainability Data.

Energy Consumption





Note 1: Direct energy consumption includes: Bituminous coal, fuel oil, plant diesel, natural gas, liquefied petroleum gas (LPG), gasoline, and recycled butadiene. Bituminous coal and fuel oil were not used for the 2021-2024 period.

Note 2: Indirect energy consumption includes: Purchased electricity (including renewable and non-renewable), purchased steam, and self-generated electricity (including renewable).

Note 3: Total energy consumption=internal energy consumption = direct energy consumption + indirect energy consumption. Includes both renewable and non-renewable energy sources.

Note 4: Total energy intensity per unit product=total energy consumption (GJ)/ production output (metric tons).

Note 5: The graph is rounded to the second decimal place.

Note 6: The table uses the following conversion units:

- 1 kWh = 1 kWh;1W = 1 Joule/second (J/S);1,000 kWh = 1,000kW*3,600 seconds/hour = 3,600,000 KJ = 3,600 MJ
- For the 2023-2024 data, except for Nantong Industries and TSRC-UBE, which were calculated based on 2.96626 GJ of heat required to vaporize one metric ton of water, the other factories were calculated based on 2.26 GJ of heat required to vaporize one metric ton of water.

2.2.2 Energy Conservation and Carbon Reduction

Direction 1: Low-Carbon Processes

TSRC is committed to promoting energy conservation and carbon reduction. All of our factories optimize their process operations and utility systems and invest in high-efficiency equipment as the main direction of carbon reduction, reducing electricity and steam consumption by replacing energy-consuming equipment, installing energy-saving devices, and installing steam extraction and heat recovery technologies. In 2024, we conserved a total of 2,250,308 kWh (8,101 GJ) of electricity, 1,999 metric tons (5,682 GJ) of steam, and reduced annual carbon emissions by 1,758 metric tons of carbon dioxide equivalent.

Optimizing Process Operations

TSRC promotes the optimization of process operations to achieve energy conservation and carbon reduction targets by adjusting parameters and operating methods.

- Configurations for cooling water pumps were timely adjusted based on changes to the heat load. High-powered pumps are activated during periods of high heat load, while a configuration of one low-powered and one high-powered cooling pump was used for periods with lower heat load, optimizing energy usage efficiency. This allowed us to reduce electricity consumption, improve energy efficiency, and reduce purchased electricity by 210,000 kWh (756 GJ), while ensuring that production operations remain unaffected.
- Factories based in higher latitude regions used steam heat tracing pipeline systems during periods with severe cold temperatures. Through optimizing this heating pipeline system, and adjusting steam pressure based on actual requirements, we were able to optimize energy efficiency and reduce steam consumption by 1,648 metric tons (4,888 GJ).
- Continuously optimized production processes to reduce steam consumption by 140 metric tons (316 GJ).

In total, 210,000 kWh (756 GJ) of electricity and 1,788 metric tons (5,205 GJ) of steam was conserved, with annual carbon emissions reduced by 687 metric tons of CO_2 equivalent.

Optimizing Utility Systems

For lighting systems, air conditioning systems, and other utilities, TSRC uses a combination of equipment replacement and optimized operating conditions to save electricity.

- Reduced the purchased electricity by 1,589,505 kWh (5,722 GJ) by installing solar power generators.
- Optimized the operation of the cooling tower, replacing existing fixed-frequency cooling fans with variable-frequency fans, and adjusted speed in response to the heat load. This allowed us to conserve energy, and reduce purchased electricity by 48,384 kWh (174 GJ).
- Adopted internal ceramic coating techniques for the water pumps used for cooling tower circulation, improving pump performance efficiency and reducing electricity consumption. Achieved energy savings of 69,099 kWh (249 GJ) of purchased electricity.
- Integrated chilled water into the installation area, reducing electricity consumption. Achieved energy savings of 320,000 kWh (1,152 GJ) of purchased electricity.

Total electricity savings of 2,026,988 kWh (7,297 GJ) and annual emissions reduction of 1,031 metric tons of CO_2 equivalent.

Investing in High-Efficiency Equipment

TSRC actively invests in highly energy-efficient process equipment to reduce energy consumption and carbon emissions per unit product.

- Adopted new high-efficiency steam traps, reducing the amount of steam emissions lost and increasing steam heating efficiency, in turn reducing annual steam consumption by 211 metric tons (477 GJ).
- Optimized configurations for raw material pumps, replaced designs which utilized multiple small pumps with a single large pump, and also used newer more energy efficient pumps, increasing energy usage efficiency and saving 13,320 kWh (48 GJ) of purchased electricity each year.

In total, 13,320 kWh (48 GJ) of electricity and 211 metric tons (477 GJ) of steam was conserved, with annual carbon emissions reduced by 40 metric tons of CO_2 equivalent.

Note 1: 1 kWh = 1 kWh;1W = 1 Joule/second (J/S);1,000 kWh = 1,000kW*3,600 seconds/hour = 3,600,000 KJ = 3,600 MJ

Note 2: Except for Nantong Industries and TSRC-UBE, which were calculated on the basis of 2.96626 GJ of heat required to vaporize one metric ton of water, the other factories were calculated on the basis of 2.26 GJ of heat required to vaporize one ton of water.

Direction 2: Renewable Energy

TSRC has made plans for installing solar panels and entering into renewable energy purchase agreements, purchasing renewable energy certificates, or implementing other methods at production sites in Taiwan and China to gradually increase the ratio of renewable energy used.

From 2023 onwards, our subsidiary Nantong Industries has signed a contract with power suppliers to purchase green power and green power certificates. The subsidiary used 17,664,960 kWh of renewable energy and purchased 939,000 kWh of green power certificates in 2024.Pursuant to Taiwan's Renewable Energy Development Act and the Regulations for the Management of Setting up Renewable Energy Power Generation Equipment of Power Users above a Certain Contract Capacity, TSRC has completed the installation of solar power generation facilities at the Kaohsiung Factory at the end of 2023. In 2024, the Factory began using 1,589,505 kWh of solar power. Beginning in 2024, TSRC's subsidiaries in China will increase the proportion of renewable energy used to achieve annual renewable energy use goals.



Kaohsiung Factory solar panels



Shanghai Industries solar panels



Shen Hua Chemical solar panels at new factory site

Direction 3: Improving Energy Efficiency

TSRC's continues to implement measures to improve energy efficiency and reduce energy consumption across our global operations. In addition to innovating low-carbon processes and replacing process equipment to achieve carbon reduction targets, our key factories and subsidiaries (Kaohsiung Factory, Shen Hua Chemical, Nantong Industries, TSRC-UBE) have also set annual energy conservation goals. By 2024, only the Kaohsiung Factory and Shanghai Industries have not yet met their goals, with all other factories having successfully achieved their goals. The main reason why these factories failed to meet their goals was due to having older and more energy-consuming equipment on the production line, and adjustments made to the factory's operational model which required more electricity and steam consumption.

Energy Conservation Goals and Achievements of TSRC Key Factories and Subsidiaries

	Kaohsiung Factory	Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited
Energy Conservation Goals for 2024	• Reduce electricity use by 750 MWh/year[Note] • Reduce steam use by 250 tons/year	• Electricity use per unit product ≤310 (kWh/ton) • Steam use per unit product ≤1.14 (ton/ton)	• Comprehensive energy consumption ≤42,900 (tce) • Comprehensive energy consumption per unit product ≤0.588 (tce/ton)	• Comprehensive energy consumption ≤26,100 (tce) • Comprehensive energy consumption per unit product ≤0.390 (tce/ton)	• Summer electricity use per unit product <415 (kWh/ton) • Non-summer electricity use per unit product <410 (kWh/ton)	• Electricity use per unit product ≤ 1,100 (kWh/ton)
Achievement in 2024	• Reduced electricity use by 1,969 MWh/year • Reduced steam use by 211 tons/year	• Electricity use per unit product 2.98 (kWh/ton) • Steam use per unit product 1.07 (ton/ton)	• Comprehensive energy consumption = 39,378.41 (tce) • Comprehensive energy consumption per unit product of 0.575 (tce/ton)	• Comprehensive energy consumption = 25,803.58 (tce) • Comprehensive energy consumption per unit product 0.378 (tce/ton)	• Summer electricity use per unit product of 445 (kWh/ton) • Non-summer electricity use per unit product of 412.8 (kWh/ton)	• Electricity use per unit product of 819.39 (kWh/ton)
Description and Improvement Plan	• Purchased a new type of steam trap. Currently still making adjustments, as overly large exhaust pores will use up larger amounts of steam, while pores that are too small will make it harder for pellets to dry out.	✓ Goal achieved	✓ Goal achieved	✓ Goal achieved	1. The non-summer electricity consumption rate is due to there being a lower number of working days as a result of the Spring Festival in February, and a higher share of electricity consumption from auxiliary equipment, air compressors, environmental equipment, and public utilities equipment after being turned back on. Upgraded the high-availability main power generator for the production line to a newer and more efficient generator. 2. Electricity consumption for the summer increased due to switching to using water chillers for the workshop cooling system for 3 months during this period, resulting in higher electricity consumption and a failure to achieve goals for the summer period. We will manage the use of water chillers in the summer and enforce different temperature ranges for the summer.	✓ Goal achieved

Note: The electricity consumed by the Kaohsiung Factory is purchased electricity.

ISO 50001 Certification

TSRC refers to the ISO 50001 energy management system structure and adopts the PDCA model to periodically analyze energy use and consumption at major production sites, and conducts checks on process efficiency and system regulations to ensure energy efficiency in all TSRC factories to achieve the goal of energy control and efficiency improvement. Kaohsiung Factory, Nantong Industries, and TSRC-UBE have obtained ISO 50001 certification.

Material topics

Waste Management

Corresponding Chapter 2.3.1 Waste Management

Policy

- TSRC ESG Strategy & Goals
- Environmental Policies

Commitment

TSRC optimizes the process to precisely control material input and reduce waste generation. TSRC promotes the recycling of by-products within each factory itself and explores the utilization of waste off-site by collaborating with upstream and downstream value chain partners and other industries. All measures aim to transform waste into valuable resources, and implement the concept of circular economy.

Goals and Achievement	Achievements in 2024	2024 Goals	2025 Goals	2030 Goals
	✓ VOCs: 364.59 metric tons ✓ Total waste: 5,941.26 metric tons	• VOCs: 427.53 metric tons[Note] • Total waste: 6,154.93 metric tons Note: Adjusted values for 2024 goals based on the production volume of the most recent year.	• Achieve waste recycling rate of 54% • Number of ECR (Error Cause Removal) improvement proposals addressing waste management issues ≥ 10	• Achieve waste recycling rate of 56% • Number of ECR improvement proposals addressing waste management issues ≥ 60

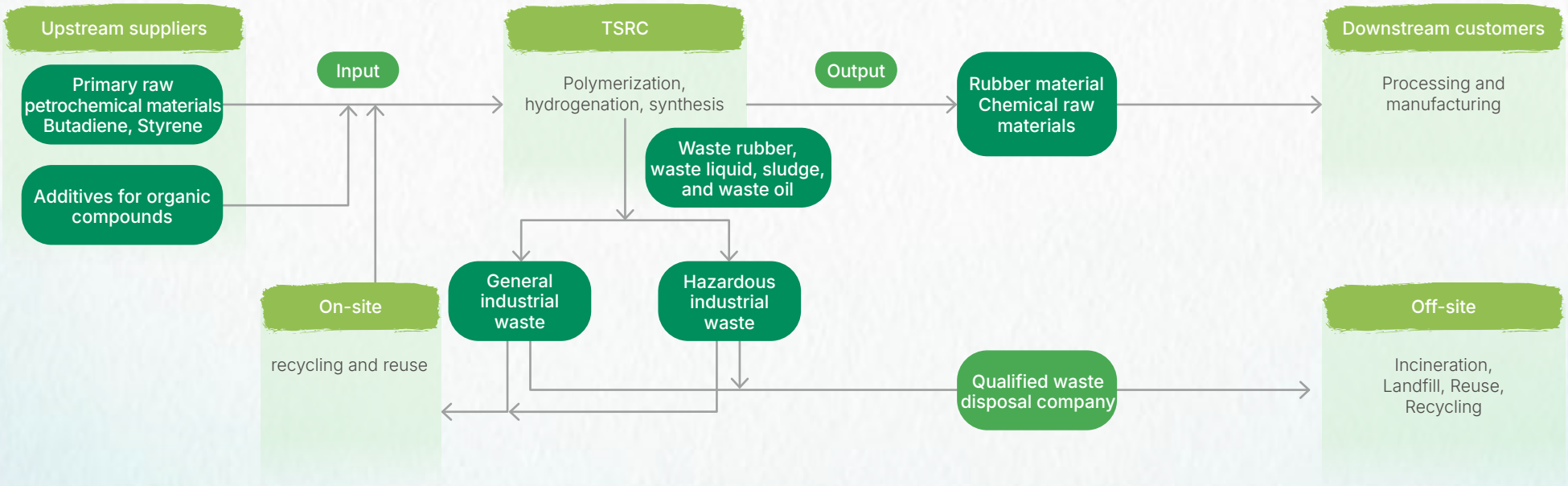
Actions Taken	• Reduced waste generation through precise control of material inputs. • Promoted recycling of by-products within the plant. • Expanded off-site reuse of waste materials.
Processes to Track Effectiveness	• At least one ESG meeting is held quarterly at the Operational Division, and the supervisor for the headquarters HSE division reports to the supervisor of the Group Operational Division on behalf of each factory on the implementation status and plans for future improvement. • The Kaohsiung and Gangshan Factories have set annual reduction goals and conduct quarterly reviews of their effectiveness. • Nantong Industries, Shen Hua Chemical, and TSRC-UBE have set annual reduction goals and conduct monthly reviews of their effectiveness.
Stakeholder Engagement	• The Kaohsiung Factory and Gangshan Factory work with waste recycling companies, where waste rubber that still has reusable value is provided to licensed recycling companies for reuse.

2.3 Enhance Waste Management

TSRC optimizes the process conditions within each factory to precisely control the input of raw materials and reduce waste generation and actively promotes the recycling of by-products for each factory. TSRC also expands the utilization of waste off-site by collaborating with upstream and downstream value chains and other industries. This practice aims to transform waste into valuable resources and expand the secondary raw materials market, implementing the concept of a circular economy.

2.3.1 Waste Management

Waste Lifecycle Management



TSRC refers to the basic principles and structure of the ISO 14001:2015 Environmental Management System standards when formulating waste management plans and management goals, and periodically supervises and analyzes waste management results. In addition to the disclosure and reporting of waste data for each factory in accordance with local regulations, the Group holds at least one ESG production and waste management meeting per quarter, where the head of TSRC Global HSE, on behalf of each plant, reports to the head of the Group's Operational Division on the status of implementation and plans for future improvement. The Kaohsiung Factory and Gangshan Factory conduct quarterly reviews of the effectiveness of waste reduction, while Nantong Industries, Shen Hua Chemical, and TSRC-UBE track the amount of waste produced and the achievement of reduction goals on a monthly basis. Starting from 2024, TSRC Global HSE collected waste data from each factory every month to review and track management performance monthly.

If TSRC Group's waste can be reused internally within a factory, it will be used as input materials in the manufacturing process. If on-site reuse is not possible, the waste will be commissioned to qualified waste disposal companies for final disposal or off-site reuse. For waste that cannot be avoided due to technical bottlenecks, final disposal is mainly through incineration, during which the emission of air pollutants may cause air pollution and environmental impact. TSRC carefully manages each factory's waste based on our responsibility to the environment. We clear, dispose, or reuse waste following high standards in compliance with the environmental protection regulations of the country or region where each factory is located, and carries out audits, vehicle tracking, and other supervisory measures for waste disposal companies.

TSRC Waste Lifecycle Management

Waste Generation

Commitment to source reduction, development of renewable raw materials and optimization of manufacturing processes.

Waste Monitoring

Reporting in Compliance with Government Regulations

Kaohsiung Factory **Gangshan Factory**

Monthly report submitted to the Ministry of the Environment's Industrial Waste Report and Management Information System describing the amount of temporary stockpiles, the output amount, and the amount of waste removed by waste removal vendors.

Nantong Industries **TSRC-UBE**
Shen Hua Chemical

Through the Hazardous Waste Life Cycle Platform system for Jiangsu Province, China, each company manages the generation, storage, transportation, and disposal of hazardous waste on a daily basis, and compiles data on the general industrial solid waste generated on a monthly basis.

Shanghai Industries
TSRC (Vietnam) Company Limited

Monthly collection of transportation records provided by waste disposal vendors and annual reporting to the government.

TSRC Specialty Materials

Monthly collection of transportation records provided by waste disposal vendors and biennial reporting to the government.

Internal Group Management

The TSRC Group holds at least one ESG production and waste management meeting each quarter.

Kaohsiung Factory **Gangshan Factory**

Set annual goals and conduct quarterly reviews of the effectiveness of waste reduction.

Nantong Industries **TSRC-UBE**
Shen Hua Chemical

Set annual goals and track waste production and reduction targets on a monthly basis.

Waste Disposal

Audit

Kaohsiung Factory

Conducts regular audits of companies that handle specific types of waste such as hazardous industrial waste, sludge, and waste lubricating oil.

Nantong Industries **TSRC-UBE**

Written audits and year-end evaluations are used as a reference when selecting third-party suppliers for the following year.

Vehicle Tracking

Gangshan Factory

Conducts vehicle tracking from time to time.

Shen Hua Chemical

Tracks the arrival and departure times of transport vehicles.

Requires submission of disposal records

Nantong Industries **TSRC-UBE**

Requires operators to regularly submit disposal records.

TSRC Specialty Materials **Shanghai Industries**
TSRC (Vietnam) Company Limited

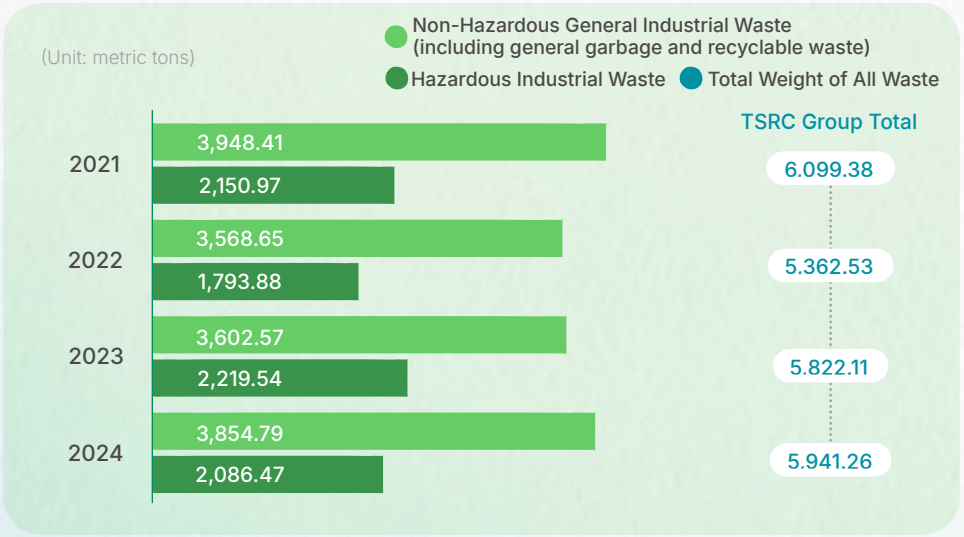
Requires operators to track the flow of waste disposal through online reporting.

Waste Generation and Recycling

In 2024, TSRC generated total general industrial waste (including non-recyclable, reusable, and recyclable) weighing 3,854.79 metric tons, a 7.00% increase compared to 2023.Total hazardous industrial waste (including non-recyclable, reusable, and recyclable) weighing 2,086.47 metric tons was generated, a 5.99% decrease compared to 2023.The total weight of all generated waste was 5,941.26 metric tons, an increase of 2.05% compared to 2023. Overall, TSRC's waste per unit product in 2024 was 10.76 metric tons/thousand metric tons of product, a decrease of 1.88% compared to 2023. Please refer to the Appendix Sustainability Data for more details on each subsidiary.

The total waste generated by the TSRC Group in 2024 increased slightly compared to 2023, due to TSRC (Vietnam) Company Limited increasing its production volume, non-process waste resulting from the Kaohsiung Factory and TSRC-UBE replacing old equipment, and TSRC Specialty Materials LLC cleaning up its ponds. TSRC continues to strengthen waste management by optimizing the packaging of raw materials, adjusting process control parameters, and implementing other measures to reduce waste generation at the source. We have also adopted resource and recycling measures, and recycled 69.54% of general industrial waste generated in 2024 along with 17.45% of hazardous industrial waste. In the future, we shall continue to improve our recycling rate, reducing our impact on the environment.

Waste Generation





Note 1: This chart only includes manufacturing sites and subsidiaries with manufacturing activities within the reporting boundary. The two trading-based subsidiaries, Polybus and TSRC (Lux.), the Global Business Headquarters, and the TSRC Specialty Materials LLC office, which are mainly office operations, generate only general domestic waste, not industrial waste.

Note 2: Data for all factories in 2024 is derived from the waste removal and disposal (transfer) records provided by waste disposal vendors. Data figures are summed up in full, before being rounded to the second decimal place. The TSRC Kaohsiung Factory, Gangshan Factory, Nantong Industries, TSRC-UBE, Shen Hua Chemical submit reports to the government waste platform every month. Shanghai Industries and TSRC (Vietnam) Co., Ltd. report to the government on an annual basis. TSRC Specialty Materials LLC reports to the government every two years.

Note 3: Non-hazardous general industrial waste includes: (1) Non-recyclable general industrial waste disposed of via incineration, landfill, and thermal treatment, including non-recyclable waste plastic mixtures, inorganic sludge, waste rubber, and waste packaging materials.(2) Recyclable general industrial waste, including waste iron, waste paper, scrap rubber, waste bulk bags, and waste metal boxes.(3) Reusable general industrial waste, including waste rubber, waste wood, and waste lubricant.

Note 4: Hazardous industrial waste includes: (1) Non-recyclable waste oils, waste liquids, organic waste, sludge, waste chemicals, and containers for hazardous substances;(2) Recyclable waste oil, waste packaging materials, and waste containers. These waste materials are defined based on the regulations announced by the competent authorities:

- Taiwan: Kaohsiung Factory, Gangshan Factory: Based on the definitions provided in the Hazardous Industrial Waste Recognition Standard published by the Taiwan Environmental Protection Agency.
- China: Shen Hua Chemical, Nantong Industries, TSRC-UBE, Shanghai Industries: Based on the definitions provided in China's Directory of National Hazardous Wastes.
- Vietnam: TSRC (Vietnam) Company Limited: 08/2022/NĐ-CP, 02/2022/TT-BTNMT.
- USA: TSRC Specialty Materials LLC: 40 CFR (Code of Federal Regulations) parts 260 through 273. Louisiana Administrative Code, Title 33, Part V.

Note 5: Restatements of information:

- Due to TSRC Specialty Materials LCC revising the scope for what materials are included in calculations of hazardous industrial waste (excluding low purity waste solvents for sale), total hazardous industrial waste for 2021 was revised from 2,516.11 metric tons to 2,150.97 metric tons, with the change being 1.45×10^{-1} of the original amount generated. Hazardous industrial waste for 2022 was revised from 2,360.24 metric tons to 1,793.88 metric tons, with the change being 2.40×10^{-1} of the original amount generated, and hazardous industrial waste for 2023 was revised from 2,802.79 metric tons to 2,219.54 metric tons, with the change being 2.08×10^{-1} of the original amount generated.
- The total weight for all waste was also recalculated due to the change described above, with waste for 2021 revised from 6,464.52 metric tons to 6,099.38 metric tons, with the change being 5.65×10^{-2} of the original amount generated, waste for 2022 revised from 5,928.89 metric tons to 5,362.53 metric tons, with the change being 9.55×10^{-2} of the original amount generated, and waste for 2023 revised from 6,405.36 metric tons to 5,821.92 metric tons, with the change being 9.11×10^{-2} of the original amount generated.
- The amount of waste generated per unit product was also recalculated due to the change described above, with waste for 2021 revised from 11.50 to 10.85, with the change being 5.65×10^{-2} of the original amount generated, waste for 2022 revised from 10.98 to 9.93, with the change being 9.55×10^{-2} of the original amount generated, and waste for 2023 revised from 12.06 to 10.96, with the change being 9.11×10^{-2} of the original amount generated.

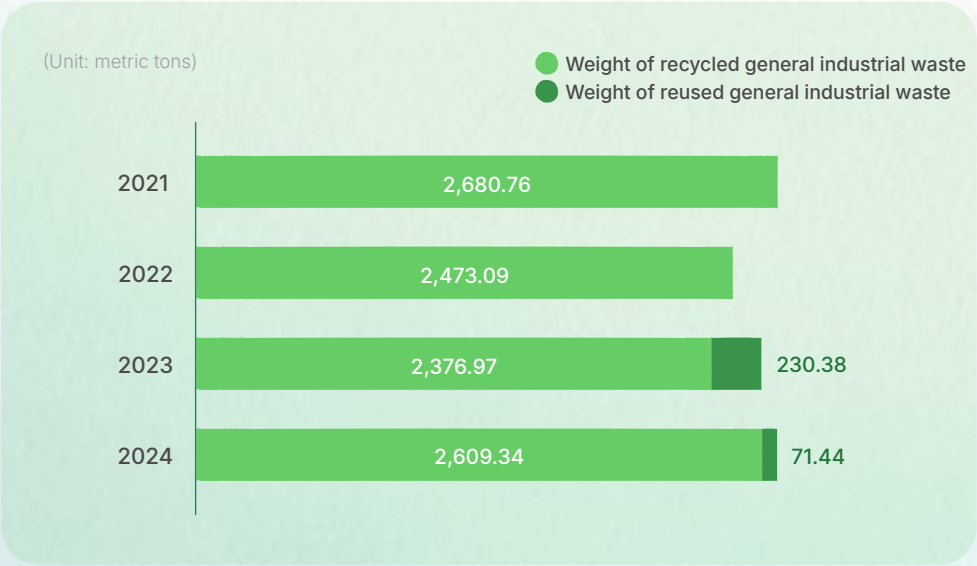
Waste Generation and Disposal in 2024

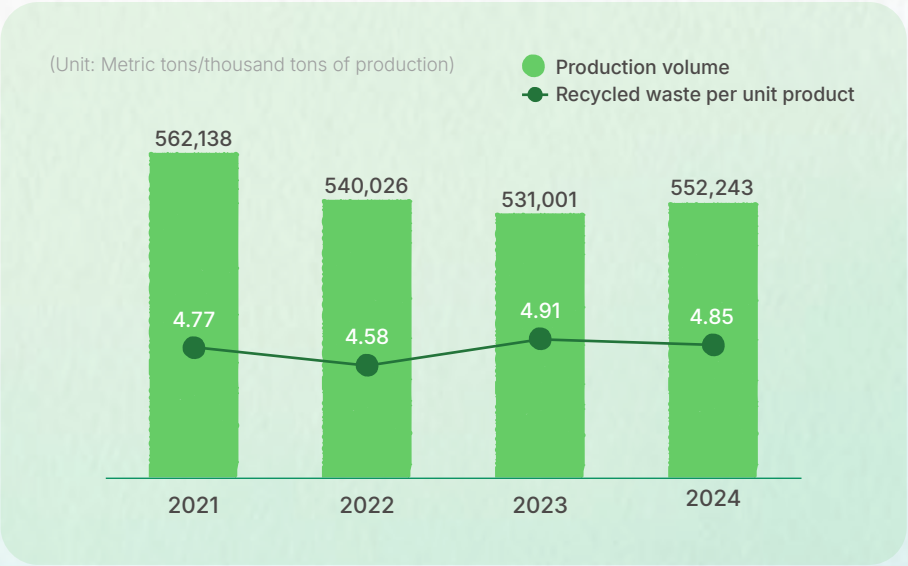
Category	Recycled and Reused		Directly Disposed	
	On-site	Off-site	On-site	Off-site
General Industrial Waste	0.00	2,680.78	0.00	1,174.01
Hazardous Industrial Waste	0.00	363.99	508.61	1,213.87
Total	0.00	3,044.77	508.61	2,387.88

Note 1: This chart only includes manufacturing sites and subsidiaries with manufacturing activities within the reporting boundary. The two trading-based subsidiaries, Polybus and TSRC (Lux.), the Global Business Headquarters, and the TSRC Specialty Materials LLC office, which are mainly office operations, generate only general domestic waste, not industrial waste.

Note 2: All data is sourced from waste transfer records. Data figures are summed up in full, then rounded to the second decimal place.

Weight of General Industrial Waste

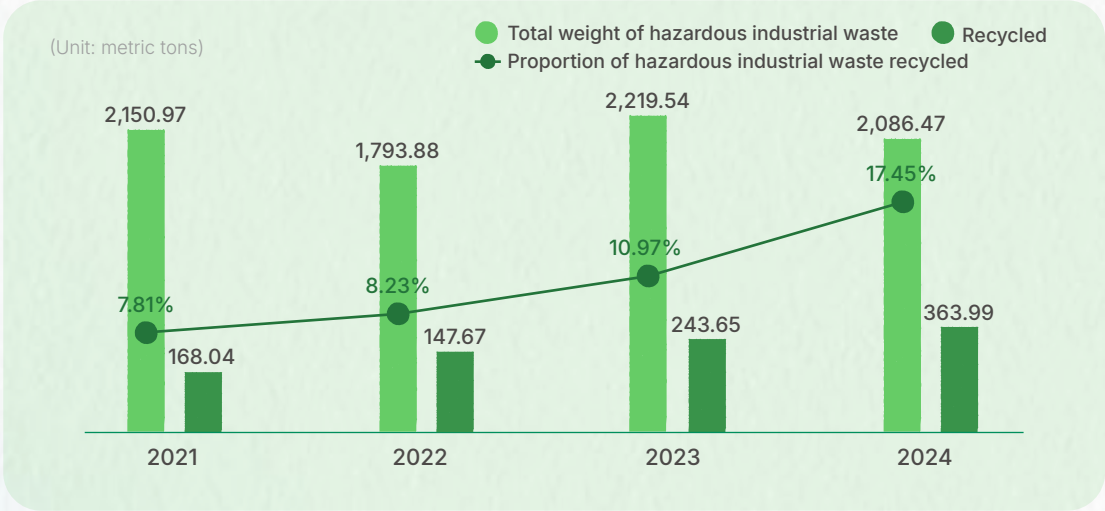




Note 1: This chart only includes manufacturing sites and subsidiaries with manufacturing activities within the reporting boundary. The two trading-based subsidiaries, Polybus and TSRC (Lux.), the Global Business Headquarters, and the TSRC Specialty Materials LLC office, which are mainly office operations, generate only general domestic waste, not industrial waste.

Note 2: All data is sourced from waste transfer records. Data figures are summed up in full, then rounded to the second decimal place.

Weight and Proportion of Hazardous Waste Recycled and Disposed



Note 1: This chart only includes manufacturing sites and subsidiaries with manufacturing activities within the reporting boundary. The two trading-based subsidiaries, Polybus and TSRC (Lux.), the Global Business Headquarters, and the TSRC Specialty Materials LLC office, which are mainly office operations, generate only general domestic waste, not industrial waste.

Note 2: Data for all factories in 2024 is derived from the waste removal and disposal (transfer) records provided by waste disposal vendors. Data figures are summed up in full, before being rounded to the second decimal place. The TSRC Kaohsiung Factory, Gangshan Factory, Nantong Industries, TSRC-UBE, Shen Hua Chemical submit reports to the government waste platform every month. Shanghai Industries and TSRC (Vietnam) Co., Ltd. report to the government on an annual basis. TSRC Specialty Materials LLC reports to the government every two years.

Note 3: Hazardous industrial waste includes: (1) Non-recyclable waste oils, waste liquids, organic waste, sludge, waste chemicals, and containers for hazardous substances;(2) Recyclable waste oil, waste packaging materials, and waste containers. These waste materials are defined based on the regulations announced by the competent authorities:

- Taiwan: Kaohsiung Factory, Gangshan Factory: Based on the definitions provided in the Hazardous Industrial Waste Recognition Standard published by the Taiwan Environmental Protection Agency.
- China: Shen Hua Chemical, Nantong Industries, TSRC-UBE, Shanghai Industries: Based on the definitions provided in China's Directory of National Hazardous Wastes.
- Vietnam: TSRC (Vietnam) Company Limited: 08/2022/NĐ-CP, 02/2022/TT-BTNMT.
- USA: TSRC Specialty Materials LLC: 40 CFR (Code of Federal Regulations) parts 260 through 273. Louisiana Administrative Code, Title 33, Part V.

Note 4: Restatements of information:

- Due to TSRC Specialty Materials LCC revising the scope for what materials are included in calculations of hazardous industrial waste (excluding low purity waste solvents for sale), total hazardous industrial waste for 2021 was revised from 2,516.11 metric tons to 2,150.97 metric tons, with the change being 1.45×10^{-1} of the original amount generated. Hazardous industrial waste for 2022 was revised from 2,360.24 metric tons to 1,793.88 metric tons, with the change being 2.40×10^{-1} of the original amount generated, and hazardous industrial waste for 2023 was revised from 2,802.79 metric tons to 2,219.54 metric tons, with the change being 2.08×10^{-1} of the original amount generated.
- The amount of waste recycled has also been recalculated due to the changes described above, with the amount of waste recycled for 2021 revised from 533.18 metric tons to 168.04 metric tons, with the change being 6.85×10^{-1} of the original amount, the amount of waste recycled for 2022 revised from 714.03 metric tons to 147.67 metric tons, with the change being 7.93×10^{-1} of the original amount, and the amount of waste recycled for 2023 revised from 826.90 metric tons to 243.65 metric tons, with the change being 7.06×10^{-1} of the original amount.
- The proportion of hazardous industrial waste recycled was recalculated due to the changes described above, with the proportion recycled changing from 21.19% to 7.81% for 2021, from 30.25% to 8.23% for 2022, and from 29.50% to 10.97% for 2023.

Waste Reduction and Reuse

TSRC actively reduces waste at the source by developing renewable materials to reduce the use of fossil fuels and the amount of waste generated. In addition, TSRC optimizes process controls to stabilize reaction temperatures and increase conversion rates, while increasing sampling analysis to make process conditions more precise and reduce waste and by-product production. TSRC's global factory sites and subsidiaries promote the reuse of by-products and resources within the plant to reduce waste production.

	Measures	Results
Waste Reduction at Source	TSRC optimizes process controls to stabilize reaction temperature and increase conversion rates, while increasing sample analysis to make process conditions more precise and reduce the waste and by-products generated.	**Kaohsiung Factory** • SEBS production was suspended, reducing the possibility of being repackaged, and reducing the amount of waste paper and pallets generated by 71.15 metric tons in 2024. **Shen Hua Chemical** • Reduced the amount of added iron sulfate and hydrogen peroxide encountered during the wastewater treatment process through suspending single production lines for maintenance and regularly pumping out waste sludge, reducing the amount of sludge generated by 37 tons. • By controlling the amount of liquid in waste tanks to reduce foaming, we effectively reduced the amount of waste rubber generated from the use of anti-foaming agents, reducing the amount of waste rubber generated by approximately 70 metric tons. • We strictly classify the different types of polluted waste generated by the manufacturing process, and also wash and reuse the filter cloths used in wastewater pressure filter machines in order to extend the life cycles of filter cloths, reducing the amount of polluted waste generated by 14 metric tons. **Nantong Industries** • Optimized how dust collectors used in production zones collect rubber powder, reducing the amount of scrap rubber generated by approximately 50 metric tons. **Shanghai Industries** • Optimized the packaging of raw materials, and reduced the amount of waste packaging bags made from non-recyclable raw materials by approximately 36 metric tons.
Waste Recycling (Off Site)	TSRC actively works together with waste disposal vendors to convert waste into resources.	**Kaohsiung Factory** **Gangshan Factory** • Developed relationships with rubber reuse vendors, allowing 67.087 metric tons of rubber to be reused.

Material topics

Water Resource Management

Corresponding Chapter: 2.4.1 Water Resource Management | 2.4.2 Water Reuse and Recycling

Policy

- TSRC ESG Strategy & Goals
- Environmental Policies

Commitment

Increase wastewater recycling and the use of reclaimed water, and reduce reliance on tap water.

Goals and Achievement	Achievements in 2024	2024 Goals	2025 Goals	2030 Goals
	✓ Increased wastewater recycling to 27% of total volume of wastewater ✓ Increased reclaimed water utilization to 23% of total water consumption	• Increase wastewater recycling to 26% of total volume of wastewater • Increase reclaimed water utilization to 23% of total water consumption	• Increase wastewater recycling to 36% of total volume of wastewater • Increase reclaimed water utilization to 34% of total water consumption	• Increase wastewater recycling to 40% of total volume of wastewater • Reclaimed water accounts for 40% of total water use

Actions Taken

- Optimized existing wastewater recycling equipment, adjusted operating parameters for wastewater recycling equipment based on the characteristics of the wastewater generated by the production process, increased the amount of wastewater recycled, and reduced the use of neighboring water resources at operating locations.
- Heated wastewater from the production process was diverted from the wastewater system to being fed back into a process with lower water quality requirement, reducing the amount of wastewater entering the industrial park's wastewater treatment plants.

Processes to Track Effectiveness

- The Board of Directors convenes quarterly meetings on issues related to climate change (including climate change issues), and the ESG Work Team reports to the management team on water resource-related goals and implementation status.
- The ESG Work Team discusses improving water resource management, increasing wastewater recycling, other programs, and how these programs have been implemented, on an irregular basis.

Stakeholder Engagement

- Feedback from annual stakeholder questionnaires is used to understand stakeholders' opinions and suggestions on TSRC's water resources management and actions, which are used as references for management decisions.

2.4 Water Resource Optimization

Water is a crucial link between human society and the environment, serving as the foundation for sustainable business operations and development. Given its essential role in our manufacturing process, TSRC recognizes the paramount importance of water quality and quantity. We are committed to continually optimizing our use of this precious resource.

TSRC has incorporated water-related risks into our overall risk management system and has included these risks as part of the climate-related risks we face. We conduct annual assessments of water-related risk at each site and review our response measures accordingly. TSRC has established three major focuses for water resource management: efficient water use, circulation and recycling, and clean emissions. TSRC continues to increase the recycling rate of process wastewater, increase the proportion of recycled water used, reduce water withdrawal from surrounding areas and locations. We also try to reduce the amount of process wastewater that enters wastewater treatment plants of industrial parks as much as possible. In addition to condensed water and process wastewater recycling, TSRC also has plans to build reclaimed water facilities or increase the purchase of reclaimed water at a number of production locations to enhance water resource stability. We publicly disclose our water resources management data and strategies every year, and conducts stakeholder surveys each year to understand their views and obtain feedback on TSRC's actions.

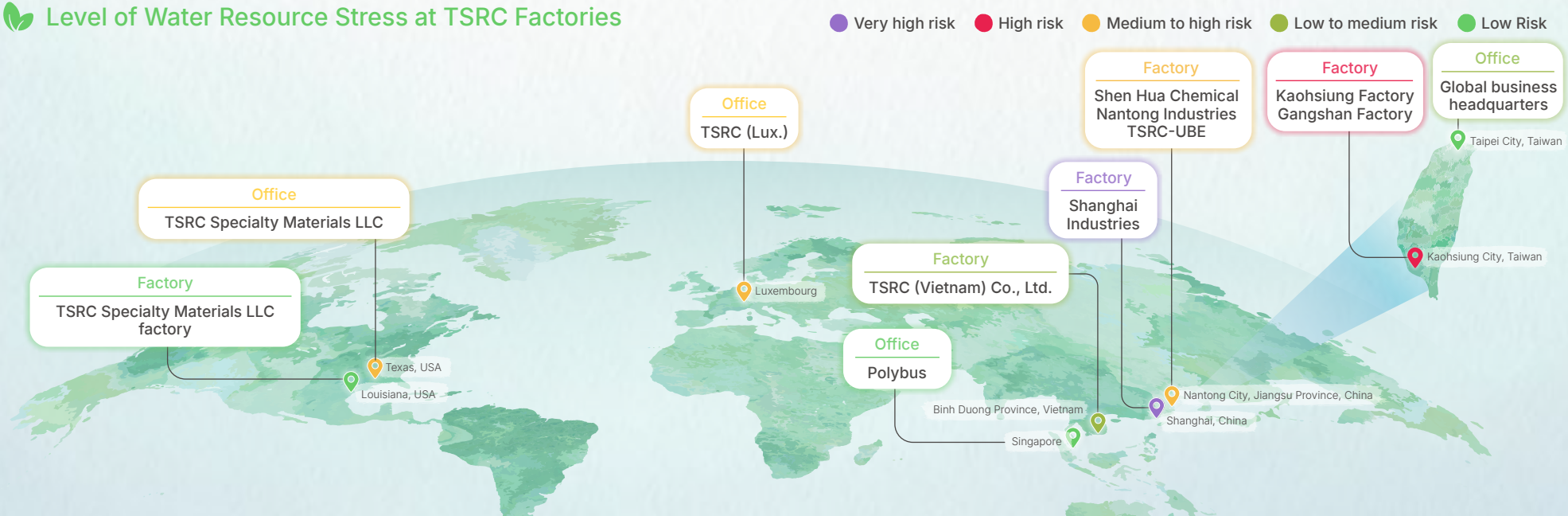
2.4.1 Water Resource Management

Water Resource Risks

Based on the Aqueduct Water Risk Atlas published by the World Resources Institute[Note 1], the US TSRC Specialty Materials LLC factory in Louisiana and our trading-based subsidiary Polybus, based in Singapore, face low water stress risk (<10%).TSRC (Vietnam) Company Limited, which is based in Vietnam, and our Global Business Headquarters face low to medium water stress risk (10-20%). China-based Shen Hua Chemical, Nantong Industries and TSRC-UBE based in Jiangsu Province, our trading-based subsidiary TSRC (Lux.) based in Luxembourg, and the TSRC Specialty Materials LLC offices in Texas face a medium to high water stress risk (20%-40%).Shanghai Industries, located in the Shanghai region of China, faces an extremely high water stress risk (>80%). If considered based on city, the TSRC Kaohsiung Factory is located in a region at high risk of drought[Note 2] both in the past and for the future (2015 to 2039), regardless of whether it is the dry or rainy season.

Note 1: Source: WRI Aqueduct Water Rik Atlas
Note 2: Source: National Science and Technology Center for Disaster Reduction, 2014, Disaster Risk Map Under the Impact of Climate Change

Level of Water Resource Stress at TSRC Factories



Drought is identified as a climate-related risk for TSRC. If a drought occurs and results in a water outage, or an increase in water costs due to a shortage of water resources, or a disruption of purchased water sources, it will affect the water used in the factory's manufacturing processes and cause disruptions to operating activities. Accordingly, TSRC has set four major response actions, including the implementation of water conservation measures, the enhancement of process wastewater recycling and water resource efficiency, the increased use of reclaimed water, and the increase of water supply sources. In addition to responding to climate risk, TSRC has also responded to external pressures such as the requirements of environmental protection regulations in Jiangsu Province, China, regarding the use of reclaimed water for new plants, and the annual decline in the amount of fresh water approved by local authorities.

The water resources used by TSRC at each location mainly come from the tap water provided by water companies, with part of the Kaohsiung Factory's water intake coming from groundwater. In recent years, TSRC has also gradually built process water recycling facilities to reduce the total amount of water withdrawn from outside the plant and to reduce the burden of pressure on local water resources and the competition with the public for water. During periods of poor water availability, TSRC will collaborate with the water restriction measures imposed by local governments, flexibly utilize pipelines originally used for other purposes, and optimize operations to ensure that factories continue to receive a stable supply of water. For example, in response to water risks at the Kaohsiung Factory and in consideration of the common interests of other local industrial water users, TSRC's Kaohsiung Factory has actively engaged in water resource sharing initiatives with the neighboring Dashe industrial park. TSRC has also worked with other major suppliers (such as CPC) to establish water pipelines linking them with TSRC, allowing them to provide TSRC with a portion of their water resources and help overcome periods of drought and water restrictions together. In 2024, TSRC did not receive any reports from suppliers or customers of supply or operation interruptions due to drought or water restrictions.

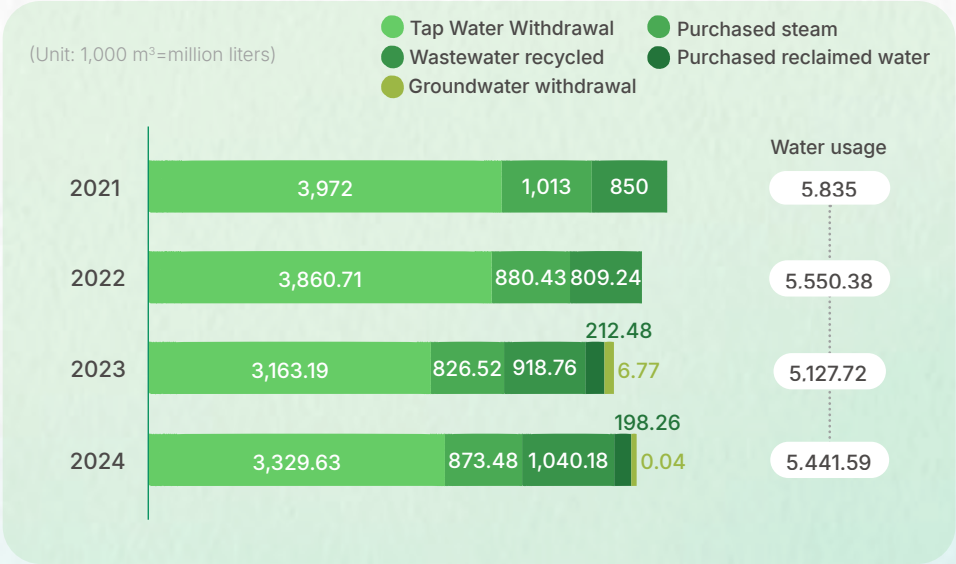
Water Resource Management

TSRC's production volume increased by 4.00% compared to 2023, leading to an increase in water consumption. In 2024, we withdrew a total of 3,329.67 thousand cubic meters of water (groundwater and tap water), an increase of 5.04% compared to 2023. In particular, the Kaohsiung Factory and Gangshan Factory, both located in areas at high risk of drought, together withdrew 1,572.85 thousand cubic meters of water, a slight increase of 0.37% compared to the previous year. TSRC Group's total water consumption in 2024 was 2,688.34 cubic meters, an increase of 15.17% compared to 2023.TSRC's total water usage in 2024 was 5,441.59 thousand cubic meters, an increase of 6.12% compared to 2023.Water consumption per unit product was 9.85 metric tons per metric ton of production, an increase of 2.04% compared to 2023. For data on water withdrawal and consumption for each subsidiary, please refer to the Appendix Sustainability Data.

In 2024, the Kaohsiung Factory, Nantong Industries, and TSRC-UBE each optimized their factory facilities to reduce reliance on fresh water. In particular, the Kaohsiung Factory recycled and reused process wastewater, while Nantong Industries and TSRC-UBE reduced reliance on fresh water by increasing their wastewater recycling rate.

TSRC is aware of the trade-off between water management and greenhouse gas emissions. In 2024, the Kaohsiung Factory decreased the purchase of steam produced by coal-fired fuels and replaced it with self-generated steam produced using low-carbon fuels. This increased the energy use and direct greenhouse emissions of the Kaohsiung Factory (Scope 1), and also slightly increased the amount of water withdrawn (groundwater and tap water) by 0.3%. Nevertheless, overall greenhouse gas emissions (Scope 1 and Scope 2) for the Kaohsiung Factory still decreased by 2.7% in 2024 compared to 2023. TSRC chose to reduce outsourcing and increase use of self-generated steam because self-generated steam can be producing using low carbon fuels.

Water Withdrawal and Use Volume



Note 1: Tap water withdrawal refers to freshwater supplied by the local water company (≤1,000 mg/L TDS). TSRC Kaohsiung Factory also draws groundwater.

Note 2: Water usage = Tap water withdrawal + Groundwater withdrawal + Purchased steam + Wastewater recycled + Purchased reclaimed water.

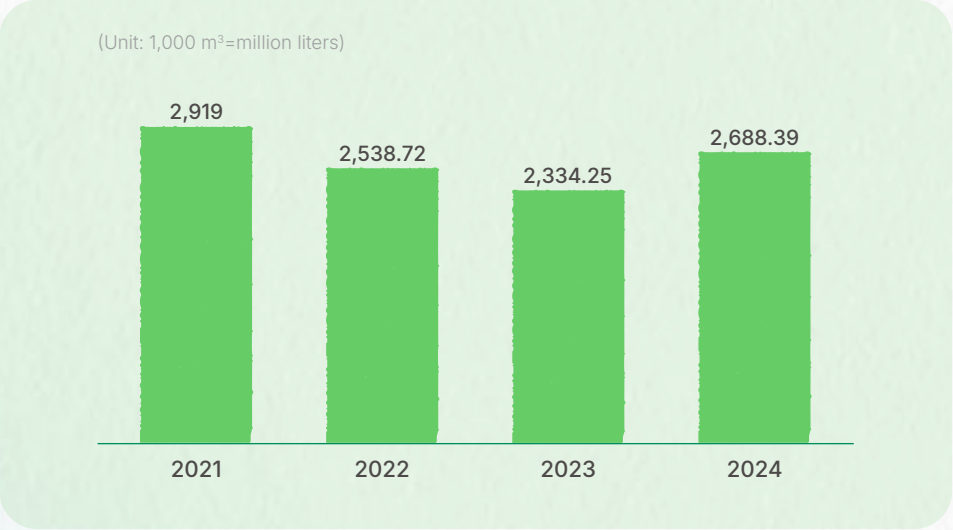
Note 3: Water consumption=Water usage-Water discharge.

Note 4: Purchased steam is also used as a process water source after the heat exchange purpose is achieved in the relevant process, and the evaporation amount is not considered in the data.

Note 5: Starting from 2022, data figures are first summed up in full, then rounded to the second decimal place.

Note 6: The volume of water withdrawn for 2023 was revised from 3,169.96 thousand cubic meters to 3,163.19 thousand cubic meters.

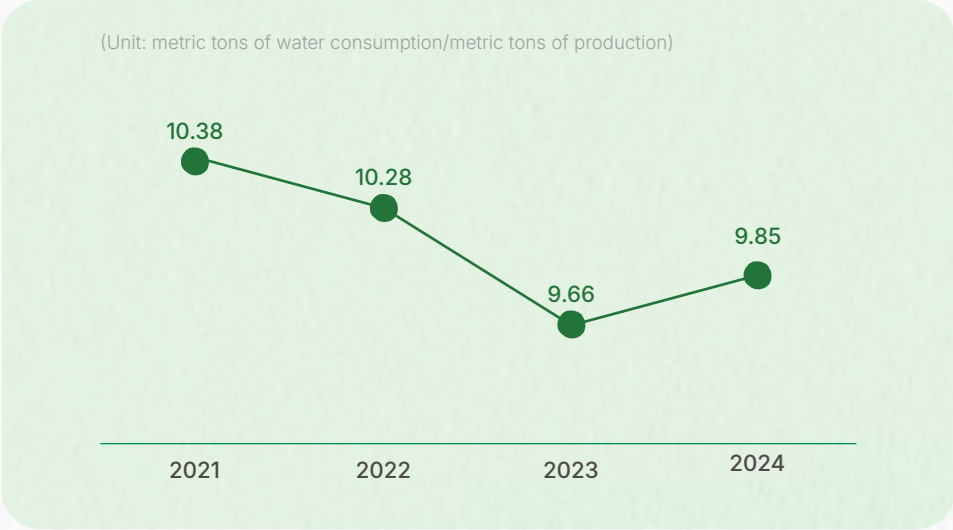
Water Consumption



Note 1: Water usage=Tap water withdrawal + Groundwater withdrawal + Purchased steam + Wastewater recycled + Purchased reclaimed water-Water discharge. Beginning from 2022, data figures are first summed up in full, then rounded to the second decimal place.

Note 2: TSRC does not have a permanent water storage facility but makes risk response preparations during water restriction periods according to the conditions of each facility.

Water Consumption per Unit Product

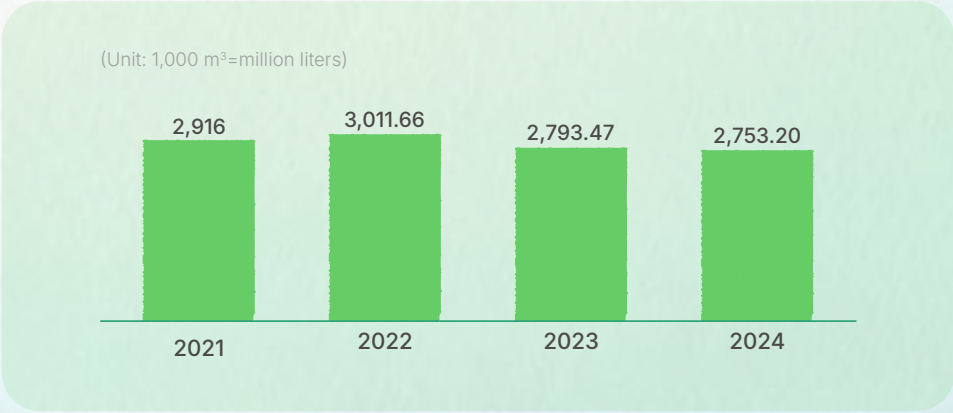


Treatment of Wastewater

TSRC's main production sites are all located in local industrial parks and are subject to management and supervision by the competent authority of the industrial parks. For wastewater from manufacturing processes and operations, TSRC mainly looks to reduce wastewater discharge though recycling water on-site within our factories. Wastewater that cannot be recycled and reused is pre-treated by factories until it meets local effluent monitoring standards and priority-controlled substance emission limits, and is then discharged into an industrial park's wastewater treatment system. TSRC's wastewater discharge has not caused any direct ecological impacts to the surrounding areas. In 2024, TSRC did not violate any wastewater regulations or exceed priority-controlled substance emission limits. For more information on the discharge volumes of each subsidiary, please refer to the Appendix Sustainability Data.

The wastewater discharge standards of Gangshan Factory aim to meet the sewage system limits of the Gangshan Benjhou Industrial Park, while the Kaohsiung Factory aims to comply with regulations of Ren Da Industrial Park. Shen Hua Chemical, Nantong Industries, and TSRC-UBE are required to meet the tertiary treatment standards of the local competent authority, including PH value, chemical oxygen demand (COD), suspended solid (SS), and biochemical oxygen demand (BOD) standards. TSRC factories have installed online COD analyzers, ammonia nitrogen analyzers, pH meters, and flow meters. In addition, interception facilities for torrential rain and online COD monitors have been implemented to timely monitor the quality of discharged water.

Water Discharge



Note 1: Except for the two trading-based subsidiaries, Polybus and TSRC (Lux.), and the Global Business Headquarters, which are mainly office operations, all discharge from factories is treated by the industrial park's wastewater treatment plant.

Note 2: Starting from 2022, data figures are first summed up in full, then rounded to the second decimal place.

2.4.2 Water Reuse and Recycling

In order to reduce the water resource risks that TSRC faces due to climate change, increase operational stability, and move towards achieving zero wastewater discharge, TSRC has considered how to efficiently use and treat wastewater, and continued to increase capital expenditures on increasing the circular usage of water resources at our factories. In 2024, we achieved an average 27% wastewater recycling rate across the entire Group. As our Taiwan operating sites are located in areas facing high water stress, we have become even more proactive in implementing wastewater recycling measures for these locations, achieving a 35% wastewater recycling rate in 2024 at our operating sites in Taiwan. For more details on the wastewater recycling rate and the reclaimed water usage rate of each subsidiary, please refer to the Appendix Sustainability Data.

Wastewater Recycling

TSRC promotes the recycling and reuse of water resources within its factories to enhance the utilization rate of every drop of water and reduce our water footprint.

TSRC-UBE
- Installed new wastewater recycling equipment in 2024, will enter use in 2025

Nantong Industries
- Installed new wastewater recycling equipment in 2024, will enter use in 2025
- Optimized existing wastewater recycling equipment operations, increasing the wastewater recycling rate from 38% to 52%

Kaohsiung Factory
- Increased amount of wastewater recycled from production processes by 43,730 tons



Nantong Industries Wastewater Recycling Equipment

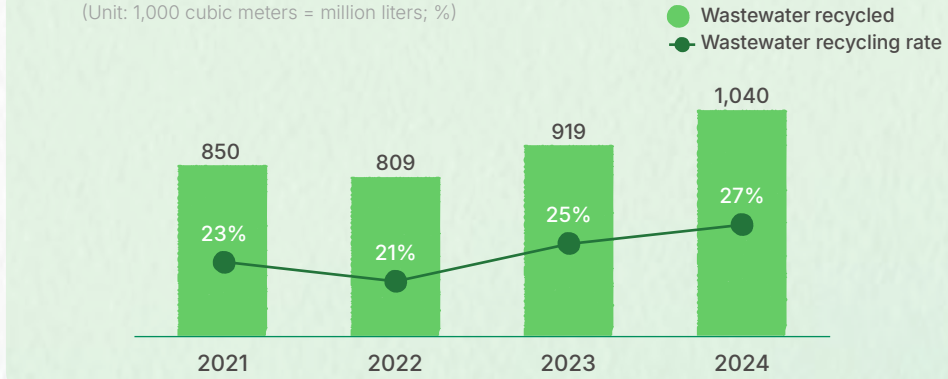
Reclaimed Water Usage

TSRC strives to increase the proportion of reclaimed water use and reduce the amount of water withdrawn from tap water by recycling discharge water.

TSRC-UBE
- Reduced amount of tap water withdrawn by 6,670 tons by using recycled wastewater for cooling tower water circulation

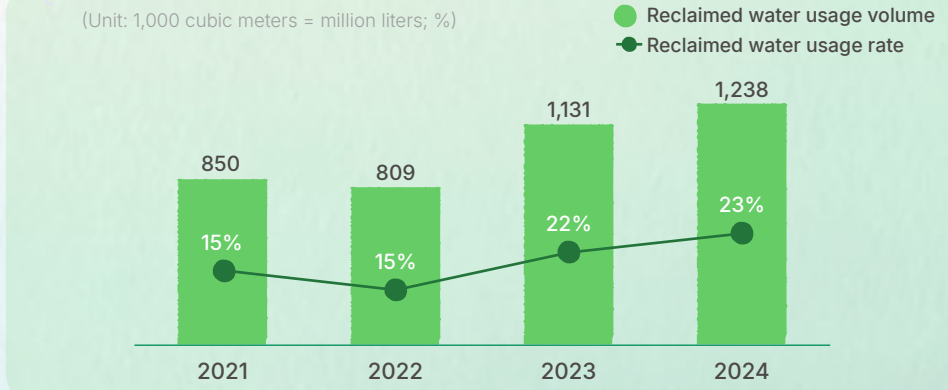
Kaohsiung Factory
- Continued inquiries into purchasing reclaimed water

Wastewater Recycling and Recycling Rate



Note 1: Wastewater recycling rate=Wastewater recycled volume/total wastewater volume.
Note 2: Data figures are first summed up in full, then rounded to the nearest whole number.

Reclaimed Water Usage Volume and Rate



Note 1: Reclaimed water usage rate=Reclaimed water usage volume/total water usage volume.
Note 2: Data figures are first summed up in full, then rounded to the nearest whole number.

2.5 Environmental Management

TSRC takes our social responsibility for environmental protection seriously, and has adopted high standards of environmental management at all of our operating locations, including those on: air pollution, waste/scrap materials, soil and groundwater contamination, and other substances that may impact the environment. TSRC continues to promote energy conservation and waste reduction, air pollution prevention, and wastewater reduction and recycling through complying with the ISO 14001 Environmental Management Systems[Note] standards. TSRC periodically conducts comprehensive reviews, and uses technology to monitor factories and surrounding areas, so as to comply with regulations. TSRC's environmental management strategy focuses on two main aspects, process improvement and environmental monitoring, where the global business headquarters is responsible for environment management and supervision and for formulating related plans while factories are responsible for implementation.

Note: The Kaohsiung Factory, Gangshan Factory, Shen Hua Chemical, Nantong Industries, TSRC-UBE, Shanghai Industries, and TSRC Specialty Materials LLC have all obtained ISO-14001 Environmental Management System certification.

Process Improvements

TSRC continues to improve plant equipment, adjust waste gas treatment methods, and reduce air pollutant emissions to reduce emissions to the atmosphere and the impact on the local community.

Environmental Monitoring

TSRC has established a digital monitoring system to monitor emissions at factories and surrounding areas, and established a real-time connection with the industrial park monitoring system, to keep up-to-date with any potential sources of negative impact on the environment and people, so as to facilitate timely control and reduce the impact.

In 2024, TSRC's capital expenditures on environmental projects for energy conservation, air pollution prevention, waste management, and water resource management reached NT$228,433,066. Since some project expenditures in 2024 were for projects continuing on from 2023, expenditures for 2024 were overall slightly less than those for 2023. However, investments into energy conservation, carbon reduction, and air pollution reduction projects have continued to grow since 2021. Expenditures into energy conservation and carbon reduction projects for 2024 have increased by 94% compared to 2021, with expenditures on reducing air pollution increasing by 161%.

TSRC Group Capital Expenditure on Environmental Projects

(Unit: NTD)

	2021	2022	2023	2024
Energy conservation and carbon reduction	61,124,785	65,585,801	82,634,999	118,818,631
Reduction of air pollution	38,273,072	57,672,813	87,427,700	99,756,543
Waste reduction	3,315,279	9,096,124	23,762,820	537,067
Improve water resources management	4,722,282	7,154,179	45,277,097	9,320,825
Total	107,435,418	139,508,917	239,102,616	228,433,066

2.5.1 Air Pollution Prevention and Management

TSRC will strengthen the management of volatile organic compounds (VOCs) at each site to prevent and manage air pollution, and has promoted the following measures at each plant in 2024:

TSRC Factories	Measures Implemented in 2024	
Kaohsiung Factory	Equipment Upgrade	• Completed replacement of cock valves with low leakage types. • Completed replacement of pipeline flanges, replacing older pad flanges with new ones during annual maintenance and leak repairs. • Completed replacement of closed sampling system. • Completed adoption of dry connectors for unloading tankers. • Completed installation of an exhaust gas recycling system which diverts part of the exhaust gas to the boiler to recycle heat energy and reduce emissions.
	Regular Inspections	• Regularly inspected equipment components, and immediately repaired components found to have leakages.
Gangshan Factory	Equipment Upgrade	• Completed replacement of exhaust gas extraction equipment in the R&D lab. • Completed changing size of the extruder exhaust hood at the manufacturing site to more effectively collect VOCs generated from the cleaning of the pelletizer and extrusion dies.
	Regular Inspections	• Conducted annual maintenance, filter replacements, and inspected scrubbers to ensure their removal efficiency. • Total suspended particulates (TSP) generated during dosing operations and suction areas at the manufacturing site are collected through closed or air hoods and processed in bagged dust collectors, which are regularly cleaned each week to ensure that dust collectors are functioning properly, superior to legal requirements where collectors are only required to be replaced once every three years.
Shen Hua Chemical	Equipment Upgrade	• Replacement of old gaskets and other measures to reduce non-point source emissions.
	Regular Inspections	• Regularly carried out Leak Detection and Repair (LDAR) inspections and timely repaired any leaks found. • Regularly inspected and cleaned flame arresters for waste gas collection pipes, preventing abnormal substances from affecting the collection of waste gases.
	Purchase of New Equipment	• Added new activated carbon adsorption devices to treat waste gas escaping from the drying bed. • Installed new mobile suction device to collect waste gas generated from the inspection and maintenance process, and deliver this gas to the regenerative thermal oxidizer (RTO) for treatment, in order to reduce the emission of non-point source. • Established an online monitoring system to monitor air pollutant emissions in real time.
	Process Improvement	• Used mobile suction equipment to collect and transfer waste gas from laboratory ovens, non-point source emissions from mixing tanks, and from operations which generate fugitive VOC emissions to a regenerative thermal oxidizer (RTO) for treatment, reducing the amount of waste gas escaping into the atmosphere.
Nantong Industries	Regular Inspections	• Regularly conducted Leak Detection and Repair (LDAR) operations, and timely repaired leakages. • Regularly maintained the online monitoring system to ensure that monitoring instruments remain sensitive and effective. • Regularly disassembled and cleaned imported RTO filters and flame arresters to prevent abnormal substances from affecting waste gas collection. • Regular maintenance, filter replacement and inspection of scrubbers to ensure their removal efficiency.
	Purchase of New Equipment	• An isolation valve has been installed below the fire arrester for solvent tanks, preventing fugitive VOC emissions during repair operations.
	Process Improvement	• Collected VOC emissions from laboratory oven waste gases or tanker sampling operations, and used closed sampling equipment, dry connectors, and gas collecting filters to deliver gas to the RTO for treatment, reducing the amount of fugitive waste gases escaping into the environment. • Installed water cooling pipes for styrene storage tanks, ensuring that styrene tanks stay below 15°C year-round, reducing the amount of fugitive VOC emissions resulting from increased temperatures in the summer.

TSRC Factories	Measures Implemented in 2024	
TSRC-UBE	Equipment Upgrade	• Optimized the sealing boxes and covers for drying beds, effectively reducing fugitive VOC emissions from corrosion or badly-fitted covers.
	Regular Inspections	• Regularly conducted Leak Detection and Repair (LDAR) operations, and timely repaired leakages. • Regularly maintained the online monitoring system to ensure that monitoring instruments remain sensitive and effective. • Regularly disassembled and cleaned imported RTO filters and flame arresters to prevent abnormal substances from affecting waste gas collection. • Regular maintenance, filter replacement and inspection of scrubbers to ensure their removal efficiency.
	Purchase of New Equipment	• Began using a 70,000m^3/h regenerative thermal oxidizer (RTO) to improve process waste gas collection capabilities. LEL online monitoring sensors were installed on the RTO intake and connecting pipes, preventing highly-concentrated VOC emissions from entering the oxidizer. Also added activated carbon absorption devices to process residual waste gases when removing abnormal substances or conducting annual maintenance repairs. • Installed new mobile suction device to collect waste gas generated from the inspection and maintenance process, and deliver this gas to the regenerative thermal oxidizer (RTO) for treatment, in order to reduce the emission of non-point source.
	Process Improvement	• Enforced stricter monitoring and management requirements to reduce high sampling frequency, preventing large amounts of volatile gases from entering activated carbon absorption devices all at the same time during sampling, which may result in the risk of emissions limits at the activated carbon device intake being exceeded. These measures also allowed the use life of activated carbon to be extended, reducing the amount of waste activated carbon generated.
Shanghai Industries	Equipment Upgrade	• Replaced activated carbon absorption devices and increased activated carbon capacity to effectively reduce VOCs generated during the co-extrusion process.
	Regular Inspections	• Annual maintenance and filter replacement is carried out for waste gas treatment equipment each year, and VOC values are regularly monitored.
	Purchase of New Equipment	• Gas hoods were installed above the vibrating screens on the co-extrusion production line, reducing fugitive VOC emissions.
TSRC (Vietnam) Co., Ltd.	Regular Inspections	• Introduced scrubbers in 2019 to reduce fugitive VOC emissions. TSRC also regularly monitors VOCs values every quarter to monitor if scrubbers are operating efficiently.
TSRC Specialty Materials LLC	Process Improvement	• Plans to introduce a cogeneration system to reduce emissions by channeling waste gas into the cogeneration system to generate electricity and steam.

Air Pollution Management Performance

TSRC continues to upgrade equipment and optimize processes, reducing air pollutants released in the production process, and hazards to the environment and health.

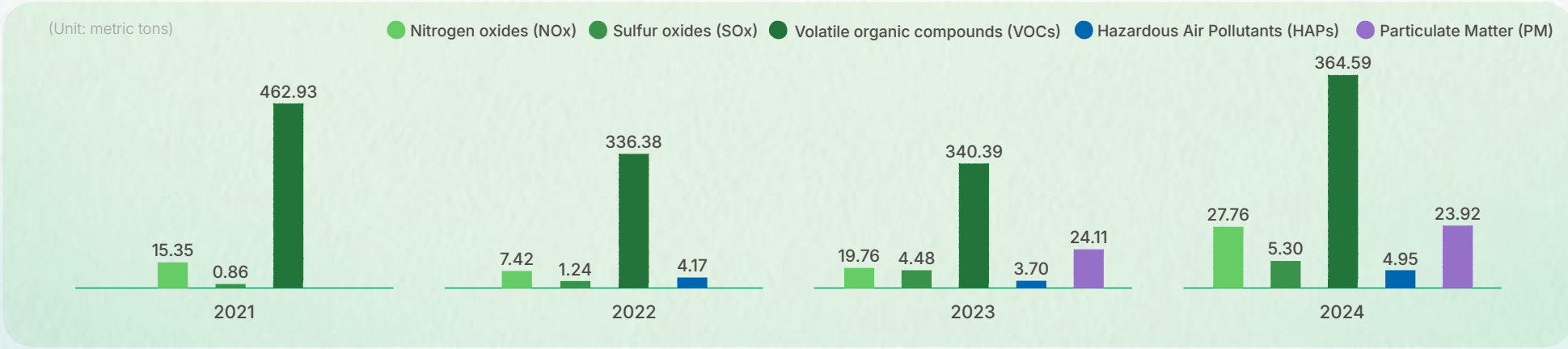
Results

Our environmental management results have received recognition from government agencies

- Nantong Industries and TSRC-UBE have both been awarded the Odor Free Enterprise government award.
- Nantong Industries and Shen Hua Chemical received an A grade in the 2024 Jiangsu Province High-Pollutant Weather Key Industry Performance Evaluation.

In 2024, NOx emissions increased by 40.5% compared to 2023. This increase was due to the Kaohsiung Factory replacing its NOx continuous monitoring system, leading to NOx emissions during this replacement period being estimated using gas vent inspection records, and also due to the production activities of TSRC Specialty Materials LLC.VOC emissions in 2024 increased by 7.1% compared to 2023, due to the production activities of TSRC Specialty Materials LLC. For more information on the air pollutant emissions of each subsidiary, please refer to the Sustainability Data section of the Appendix.

Air Pollutant Emissions



Note 1: This chart only includes manufacturing sites and subsidiaries with manufacturing activities within the reporting boundary. The two trading-based subsidiaries, Polybus and TSRC (Lux.), and the Global Business Headquarters, which mainly handle office activities, have no production activities and are therefore omitted from the table.

Note 2: Measurement method:

- NOx emissions figures for the Kaohsiung Factory comes from data provided by the Continuous Emissions Monitoring System (CEMS), data on VOCs, SOx, and PM emissions is estimated based on gas vent inspection records (the Kaohsiung Factory replaced its NOx CEMS in 2024, resulting in there being six months where NOx emissions figures were also estimated from the gas vent inspection records).
- For the Gangshan Factory, Shanghai Industries, and TSRC (Vietnam) Company Limited, VOCs and PM emissions were estimated based on the regular gas vent inspection records.
- For Shen Hua Chemical, Nantong Industries, and TSRC-UBE, VOC emissions data comes from data provided by the Continuous Emissions Monitoring System (CEMS), while data for NOx, SOx, and PM emissions were estimated based on the regular gas vent inspection records.
- 2024 Data for our US subsidiary TSRC Specialty Materials LLC was estimated based on the production ratio between 2024 and 2023. This data is expected to be updated after TSRC Specialty Materials LLC submits its report to the Emissions Reporting and Inventory Center (ERIC) in Q2 2025.

Note 3: TSRC air pollution detection is monitored by CEMS pursuant to laws and regulations, and is not tested for individual pollutants. N_2O cannot be deducted from Nitrogen oxides (NOx).

Note 4: Since sulfur oxides were deregulated in 2023, there is no data on detected emissions for the Kaohsiung Factory and Gangshan Factory.

Note 5: Only the US Factory is required to perform HAPs testing due to regulatory requirements. Other factories have not tested for HAPs since they are not required by law to do so.

Note 6: Restatements of information:The 2023 ERIC report for TSRC Specialty Materials has been published, and estimated emissions for 2023, which were previously estimated based on production volume, have been amended to the actual emissions amount. NOx emissions were amended from 12.42 metric tons to 19.76 metric tons, with the change accounting for $5.91x10^{-1}$ of the original emissions amount. SOx emissions were amended from 3.80 metric tons to 4.48 metric tons, with the change accounting for $1.79x10^{-1}$ of the original emissions amount. VOC emissions were amended from 312.81 metric tons to 340.39 metric tons, with the change accounting for $8.82x10^{-2}$ of the original emissions amount.

In 2024, 3 violations of the Air Pollution Prevention Act occurred at TSRC's Kaohsiung Factory. TSRC immediately initiated remedial measures to minimize the impact on the environment and on residents of nearby communities.

TSRC Air Pollution Violations and Improvement Plan

Factory Found in Violation	Regulation Violated	Reason for Fine	Penalty Amount (NTD)	Solution or Improvement Plan
TSRC Kaohsiung Factory	Article 20, Paragraph 1 of the Air Pollution Control Act	Involved the other synthetic rubber manufacturing process (M03) at the Kaohsiung Factory. One equipment component for this process released emissions which tested above the 2,000 ppm limit stipulated in the Kaohsiung City Volatile Organic Compound Control and Emissions Standards for Equipment Components.	225,000	• The control valve axis was classified as being at high risk of releasing emissions, and inspection frequency was increased: From once per quarter to once every two weeks (frequency adjusted based on detected emissions values during tests). VOC limits: Reduced from 200 to 100ppm. If limits are exceeded, the valve would be subject to additional tracking and improvement measures, and an expanded control valve checklist would be provided for employees to carry out stricter inspections. • Compiled a list of items that employees working with equipment components should test and look out for, and included this list as part of on-the-job training (OJT), in order to improve employee inspection standards. • Shift leader on duty for each factory area is required to carry out an equipment component inspection according to a checklist (number of regular inspections and inspection results). They are to compile, analyze, and report back inspection data. • Changed the original weekly random inspection system to one where dedicated employees are appointed to carry out inspections of items deemed as having high emissions risk based on inspection data.
	Article 23, Paragraph 2 of the Air Pollution Control Act	A functional inspection of the continuous automatic monitoring facility installed pursuant to regulations on the exhaust vent (P001) for the cogeneration boiler process (M01) at the Kaohsiung Factory showed that the NO2/NO converter was functioning at 87.01% efficiency, failing to meet the functional standards stipulated in Appendix 2 (7) of Article 14 of the Management Regulations for Continuous Automatic Monitoring Facilities for Stationary Air Pollution Source (conversion efficiency must be greater than 90%)	225,000	• Checking for errors with the gas mix must be included in calculations as part of the conversion rate self-calibration standards. Maintenance contracts will stipulate a minimum threshold of 95%. • Adopted monthly calibrations of the conversion rate for mixed compound gases. • Employees entering roles where they are responsible for CEMS equipment operations must undergo OJT training on the Management Regulations for Continuous Automatic Monitoring Facilities for Stationary Air Pollution Source (including appendix)
	Article 8, Paragraph 3 of the Air Pollution Control Act	The Kaohsiung Factory has previously obtained approval for emitting a specified amount of stationary source pollutant emissions. This approval allowed for emissions of volatile organic compounds of 162,212 kg/year, but in a random inspection conducted by the Environmental Protection Bureau of the Kaohsiung City Government in 2024, the volatile organic compound emissions for 2011 was actually 169,758 kg/year, exceeding the approved annual emissions amount by 7.546 kg/year.	750,000	• Confirm production and emissions volume each quarter, and assign dedicated HSE employees to control and manage the process. • Purchase quota for volatile organic compound emissions.

2.5.2 Ecosystem Preservation and Other Pollution Prevention

TSRC's production sites and offices are not located in protected and restored habitats, nor in any of the 6 protected areas, biologically diverse areas, or genetically diverse areas specified by the International Union for Conservation of Nature (IUCN). None of the species in the industrial park are listed on the IUCN Red List or on the National List of Protected Species in Taiwan. TSRC Group has set up maintenance and management policies for a certain percentage of green space and vegetation at each of our factories, provided that factory safety and normal production processes are not jeopardized. In recent years, TSRC has been conducting ecological and natural species monitoring, and is planning future management measures to disclose natural diversity with reference to the TNFD.

TSRC Ecological Maintenance Management Approach

Outsource the maintenance of vegetation to a professional team

- Regular irrigation, pruning and fertilization
- Seasonal pest control
- Provide suitable living conditions for vegetation according to their characteristics, e.g. avoiding rainwater and industrial wastewater in planting areas

Protect animals from being disturbed

- No intentionally chasing, disturbing, feeding, or harming animals



Office space greening

- TSRC Group offices use a small number of potted plants to green office space and air quality

Implementation Status of Natural Environment Protection at Each Factory Site

TSRC Factories	2023-2024 Accomplishments
Kaohsiung Factory Gangshan Factory	• In addition to the daily maintenance of vegetation in the factory, we continue to take care of the vegetation on site through an external professional team. Tree species on the factory grounds include yellow palm, longan trees, mango trees, and Autumn Maple Tree. • The fruits of these tree species are an important food source for birds. Through appropriate pruning, the ripe fruits are retained as a food source for birds and other animals. • Emphasized the role of plants in carbon sequestration and air purification to provide a habitat for birds and other species.
Shen Hua Chemical	• When Shen Hua built its factory in 1998, it planted a variety of plants during the same period and maintains the vegetation's normal growth every year. However, Shen Hua plans to relocate its factory in the next two years in line with national policy and will continue to evaluate the possible ways it can relocate these plants with an external professional company, so as to ensure that the species of the trees can be retained. A professional company will be commissioned to move the tree species that are suitable for relocation to the new factory site. For tree species that are not suitable for relocation, the trees will be retained on the original site and handed over to the relevant government units for follow-up maintenance and care. • Conducted online monitoring of rainwater and industrial wastewater in the factory area to ensure that discharge standards are met and to minimize the impact on plants onsite.
Nantong Industries TSRC-UBE	• In addition to daily maintenance, we maintain the green plants and lawns in the factory through external professional green plant maintenance companies to ensure the healthy growth of green plants. • Conducted online monitoring of rainwater and industrial wastewater in the plant area to ensure that the discharge standards are met and that the existing plants and lawns are not affected.
Shanghai Industries	• In addition to maintaining a number of plants in the factory's planting area, we have also hired external professional companies to prune and maintain the various plants at our factory site, ensuring their healthy growth. • Evaluated the engineering operations in the factory area, and if the survival of plants is affected, transplant the plants to suitable locations according to each plant's characteristics and transplantation requirements. • Reduced noise and avoided disturbing bird habitat in the factory area. • Regularly dredged and cleaned out rainwater drainage pipes to ensure that water can be effectively drained during the rainy system and prevent lawns from flooding, ensuring the healthy growth of the lawn.
TSRC (Vietnam) Co., Ltd.	• In addition to the factory's own general maintenance of plants, the factory's greenery and lawns are taken care of by a professional greening maintenance unit to protect the natural growth of green areas and plant species, as well as the habitat of birds.

Regarding the prevention of land and groundwater pollution, the three subsidiaries Shen Hua Chemical, TSRC-UBE, and Nantong Industries conducted regular soil and groundwater monitoring inventories in accordance with the China HJ 1209-2021 Technical Guidelines of Soil and Groundwater Self-Monitoring for Industrial Enterprises every year. Inspection results in 2024 showed no abnormalities, and there were no leaks or contamination incidents. In accordance with the Soil and Groundwater Pollution Remediation Act, the Kaohsiung Factory conducts groundwater monitoring once a year. Test results in 2024 showed that no anomalies and no contamination occurred. In addition, in accordance with the Regulations for the Prevention of Pollution of Groundwater by Storage Systems and the Installation of Monitoring Equipment, soil gas monitoring wells are installed in the diesel fuel storage tanks in the factory area, and monitoring and testing are conducted on a regular basis. The US TSRC Specialty Materials LLC plant is located in the Dow Industrial Park and the groundwater is monitored by Dow.

2.6 Design Green Products

TSRC strives to develop various green products and provide with customers high performance, high quality, and differentiated solutions with environmental benefits. Adhering to the four core values of "Reduce, Renewable, Recycle, and Replace", TSRC applies innovative R&D and energy-saving technologies to the production process with a focus on product safety, reducing the negative environmental impact of the product life cycle. To demonstrate TSRC's continuous innovation on forward-looking green initiatives, we have established a goal for sustainability products to account for over 40% of our total sales by 2030, and for renewable raw materials to make up 15% of all raw materials procured by 2030. In 2024, sustainable products[Note 1] accounted for 15.2% of total product sales. In 2023, we signed a memorandum of understanding with two renewable raw materials suppliers[Note 2] on collaborations involving renewable primary raw materials, and in 2024 procured a small batch of renewable primary raw materials for production trials. In the future, TSRC will continue to develop more potential suppliers for renewable raw materials, reduce product carbon footprints, and continue developing non-toxic chemicals and solutions safe for the environment and humans. In order to offer sustainable products made from renewable raw materials, TSRC's Kaohsiung Factory obtained ISCC Plus product certification at the end of 2023. In 2024, TSRC gradually evaluated having our subsidiaries also adopt the ISCC Plus system, expanding the number of internationally-certified sustainable products we can offer customers.

Note 1: TSRC sustainable products: (1) Reduce: Reduced carbon intensity/reduced environmental impact/reduced energy consumption in customer processes (2) Renewable: products made from renewable raw materials (3) Recycle: products that can be recycled and reused (4) Replace: products that can safely replace other products.

Note 2: TSRC renewable raw materials: (1) Crops (2) Bio-based (3) Waste from other products.

2.6.1 Lifecycle Green Design

In response to growing global awareness of environmental protection, TSRC is focusing on developing eco-friendly circular economy business models and formulating green strategies for each phase of the product life cycle to effectively reduce product carbon footprints, increase product value, and help customers reduce energy consumption and the use of organic solvents in their processes. This will further reduce greenhouse gas emissions and make us an important partner for our customers in achieving their carbon reduction goals.

TSRC Green Strategies for the Product Lifecycle

01 Acquisition of Raw Materials

Develop Renewable Raw Materials

- Develop suppliers of renewable raw materials and evaluate the stability of supply
- Evaluate market demand and increase purchase and use of renewable raw materials

Promote Local Procurement

- Promote local procurement and reduce carbon emissions from the transportation of raw materials

02 Product Development and Design

Develop Innovative Green Products

- Form alliances or collaborate with upstream or downstream companies to jointly develop and utilize biomass materials/ renewable raw materials
- Develop innovative products to increase recyclability and reusability of products or to reduce procedures at the user end
- Develop medical-grade products that with reduced environmental impact and waste
- Develop synthetic rubber for green tires, improving vehicle fuel efficiency and reducing carbon emissions

03 Product Manufacturing

Develop Low Carbon Processes

- Reduce the carbon footprint of manufacturing sites by replacing energy-intensive equipment and optimizing processes
- Evaluate installing solar panels and purchasing renewable energy
- Implement circular economy concepts to achieve process waste recycling and reuse

04 Product Transportation and Delivery

Promote Local Services

- Adopt a local production and local sales model to reduce carbon emissions from transportation during product logistics and distribution

05 Product Processing and Use

Reduce Customer Manufacturing Processes

- Develop easy-to-process products that help customers reduce processing procedures

Extend Service Life

- Develop durable rubber products to extend product life

06 Product Disposal

Increase Recyclability of Products

- Introduce circular economy concepts to increase product recyclability

Product Lifecycle Management

In addition to implementing green strategies at all stages of the product lifecycle, TSRC pays particular attention to the environmental impact of greenhouse gas emissions during the raw material procurement and product manufacturing stages. TSRC will conduct annual carbon footprint inventories for major products based on customer requirements. From 2023 onwards, a total of 19 grades of synthetic rubber products (including BR, ESBR, and SSBR) and advanced material products (including SEBS, SIS, and SBS) have been ISO 14067 certified. TSRC will continue to evaluate programs to reduce our carbon footprint at the raw material and process levels, further improve manufacturing processes, and reduce steam consumption per unit product, as well as increase the use of renewable energy and evaluate the use of raw materials that have a lower carbon footprint, in order to reduce the carbon footprint of our products.

As a global specialty materials company and a world leader in advanced polymer solutions, TSRC is committed to being a key partner in the development of circular economy products for customers. TSRC continues to supply recyclable thermoplastic elastomer (TPE) products and is actively seeking opportunities to recycle TPE end products. In addition, TSRC is actively developing post-consumer recycled (PCR) compounding materials, optimizing the formulation of high-fluidity SEBS products, developing other new innovative products, and conducting feasibility analyses to increase recyclability and improve product performance, with the goal of reducing energy consumption and carbon footprint, as to achieve product recycling and fulfill our commitment to environmental sustainability. For synthetic rubber products, which generate more greenhouse gas emissions during the end-use phase, TSRC strives to optimize products to reduce rolling resistance and improve fuel utilization efficiency in order to reduce greenhouse gas emissions during the tire use phase.

TSRC 4R Core Values and Related Products

Recycle

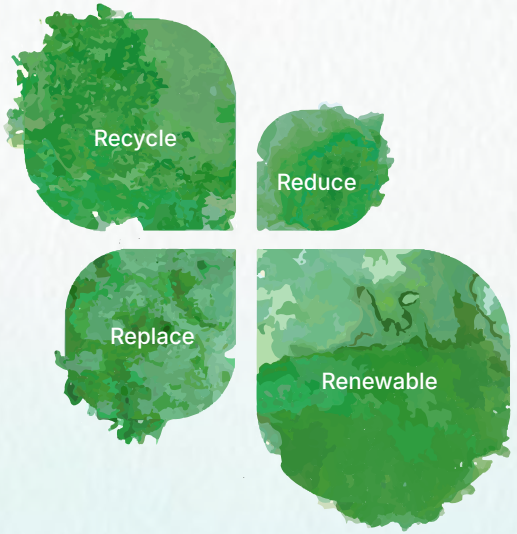
- Use recycled or circular raw materials in production and operations wherever possible
- Make efforts to increase the recyclability and circular use of products

Product Category	Environmental Benefits Generated by Products
• Highly liquid SEBS	• SEBS polymer possesses excellent liquidity, compatibility with polyolefins, and is the ideal ingredient for post-consumer recycled (PCR) plastic due to its impact resistance and compatibility with different materials

Replace

- Use eco-friendly chemicals that are safe for the environment or for human health to replace other hazardous substances in production and operation processes
- TSRC products can safely replace other products that have negative environmental impacts

Product Category	Environmental Benefits Generated by Products
• General purpose, high liquidity, medical grade SEBS • Supercritical fluid (SCF) foaming material products	• SEBS can replace vulcanized rubber in high performance applications, eliminating the use of and residues from vulcanized rubber additives and plasticizers • TSRC has developed supercritical fluid foaming (SCF) products that do not use chemical crosslinking or foaming agents in the foaming process, requiring less energy to process and helping customers reduce processing time
• T-Blend Green Foaming Product Series • Hydrogenated Styrenic Block Copolymer (HSBC) • Co-Extrusion protective film products • SEBS	• Replacing traditional chemical foaming technology with physical foaming technology to reduce chemical use and environmental impact • TSRC has developed Hydrogenated Styrenic Block Copolymer (HSBC) to replace PVC containing plasticizer as a medical device material which meets medical standards (such as: ISO 10993-5, USP Class VI, and medical GMP), and also improves the material's recyclability • TSRC's SBC materials are suited for customers producing protective film products through co-extrusion, as these materials do not require the use of solvents or any secondary coating processes • SEBS products help customers improve the compatibility of recycled material formulations and product properties, and can be blended with renewable post-consumer recycled (PCR) pellets



Reduce

- TSRC's products help customers reduce energy use, reduce greenhouse gas emissions, reduce their negative environmental impact, and make a positive contribution to the environment
- Strive to reduce carbon emission intensity per unit production
- Continue to reduce product carbon footprint

Product Category	Environmental Benefits Generated by Products
• TSRC's new generation synthetic rubbers (e.g. TSRC SSBR products) and easy-to-process rubbers	• Reducing tire rolling resistance by 10% makes tires more wear-resistant and improves vehicle fuel efficiency, which helps reduce carbon emissions from vehicle operation • Based on 2024 sales volumes, our new generation synthetic rubber reduced carbon emissions by approximately 420,000 metric tons • Easy-to-process rubbers help customers reduce energy consumption during the processing stage, with 2024 sales up 34.7% compared to 2021

Renewable

- Renewable raw materials are used whenever possible in the production and operation process

Product Category	Environmental Benefits Generated by Products
• All TSRC products that use renewable materials (e.g. BIO-BD, BIO-IPM, etc.)	• Using renewable raw materials can reduce the use of upstream fossil fuel-based materials, thereby reducing greenhouse gas emissions derived from raw materials. In 2024, we have begun offering products made from renewable raw materials, which our customers are currently testing

2.6.2 Product Stewardship and Chemical Management

TSRC is committed to product stewardship, and has actively implemented measures for managing hazardous substances and chemicals. In addition to complying with international regulations, TSRC has also established internal management policies, management systems, and risk management measures. In 2024, TSRC complied with the requirements of the REACH regulation on SVHC information transmission, and the SVHC inventory rate of TSRC products reached 100%. From 2024 onwards, TSRC's chemical management goals will be linked to the TSRC Group's Health, Safety and Environment (HSE) goals. No serious chemicals-related environmental incidents or other recorded serious incidents occurred during the year.

Hazardous Substance Management

Hazardous Substances Free Management Policy

TSRC adheres to the Hazardous Substances Free (HSF) Policy, ensuring that all raw materials and products comply with the EU's Restriction of Hazardous Substances (RoHS) and the Substances of Very High Concern (SVHC) provisions on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH). TSRC also adheres to the third principle of the Green Chemistry Initiative (such as replacing harmful ingredients with non-harmful ones during product development) and the fifth principle (such as replacing harmful additives) while minimizing waste generation.

Hazardous Substance Management System

The Kaohsiung Factory in Taiwan established the QC 080000 Hazardous Substance Management System in 2011, and holds annual QC 080000 Hazardous Substance Management System management review meetings. The management representative (factory manager) confirms the effectiveness of the system and then submits the management review report to the CEO, and is audited annually by an external certification organization and receives the certificate after passing the audit.

Other subsidiaries and factories within the scope of this report are managed according to the QC 080000 mechanism. Sites in Taiwan (Kaohsiung Factory and Gangshan Factory) and China (Nantong Industries and Shen Hua Chemical) have begun to implement the Green Data Manager System (GDM) to manage the chemical substance database of each product, ensuring that products meet the requirements of international regulations.



Chemical Management

Product Safety Management Policy

TSRC has also established the Food Contact Material Safety Policy and Toxic and Concerned Chemical Substances Management Procedures to comply with food contact material regulations and meet product safety requirements. Each of TSRC's products has an analysis report. TSRC provides customers with the Certificate of Analysis (COA) and discloses the Safety Data Sheet (SDS) for each product to the public, fully disclosing the components of chemicals, their physical and chemical properties, environmental toxicity, and waste disposal method. This helps customers and the public to better understand TSRC's products and ensures that the products are used properly and safely. Should customers have any questions on our products, they are able to submit questions or complaints through the mailbox on the TSRC website or through our business contact. We will promptly handle and respond to questions and complaints as quickly as possible. We have also established a Code of Business Conduct to prevent our products or services from damaging the interests of our stakeholders, and have established various functional departments which work together to monitor privacy and transaction safety protections, providing customers with professional services and increasing customer satisfaction. For more details on customer relationship management, please refer to 4.1.3 Customer Relations.

Chemical Substances Risk Assessment and Management Measures

In accordance with Article 11 of the Occupational Safety and Health Act, TSRC evaluates the risk level of chemicals based on their health hazards, distribution status, and usage volume, and classifies them as toxic chemicals of Categories 1 to 4 and adopts management measures accordingly. Although TSRC does not manufacture chemicals defined under the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) as a Category 1 or 2 health or environment hazard [Note], some of our product raw materials do fall into these above categories. For more details on the proportion of revenue which products made from Category 1 or 2 chemical health or environment hazards make up for TSRC, please refer to the Appendix Sustainability Data.

TSRC effectively manages the hazards and risks that may occur in the operation process through evaluation and classification, and conducts hazard identification of the impact on the environment after a spill. According to the hazards and risks, TSRC takes appropriate risk control or mitigation measures by prioritizing elimination, substitution, engineering improvement, safety management, and personal protective equipment (PPE), etc. TSRC takes appropriate risk control or mitigation measures to effectively manage the hazards of the above chemical substances to human health and the environment. For toxic substances and hazardous chemicals for which there are currently no substitutes, TSRC actively manages the procurement, transportation, use, storage, and disposal of these materials at all stages through a comprehensive management process to ensure the safe use of chemicals.

Note: GHS health and environment hazards include chemicals which are corrosive or irritant (such as strong acids or alkalis), respiratory or allergenic, carcinogenic or mutagenic (such as cyanides), or are acute or chronic aquatic toxicants. TSRC does not use substances classified as acutely toxic, but we do use slow-acting chemicals such as strong acids, alkalis, benzene, and butadiene, as well as partial water-soluble and persistent chemicals that may pose a threat to water resources, the environment, and human health.

TSRC Chemical Risk Mitigation Measures

	TSRC Management Measures	
1 Elimination	Modify original design to directly eliminate the hazard	--
2 Substitution	Reduce hazards by replacing equipment, raw materials, systems, etc.	• Changed manufacturing processes to use low-toxic chemicals (such as using cyclohexane to replace benzene)
3 Engineering Improvement	Reduce hazards by using engineering controls and devices	• Use flange protectors on pipes transporting strong acid and alkaline • Corrosion and spill prevention for pump area floors • Secondary spill control (e.g., overflow berms and proper separation of storm water and sewage)
4 Safety Management	Use of labeling, warning, and administrative methods to reduce risks	• Soil and groundwater monitoring through annual monitoring of wells • Hazard analysis and control for process safety management • Analysis and control of chemical operations • Plan and implement emergency response drills, review drill results and make improvements
5 Use of Personal Protective Equipment	Practical use of protective equipment to reduce the risk of exposure	• Ensure the use of personal protective equipment • Respiratory protective equipment (e.g., Level A protective clothing and SCBA equipment) • Fire equipment preparation and maintenance

Procurement of Major Raw Materials	TSRC emphasizes transportation safety by using underground pipelines, reducing chemical spills and greenhouse gas emissions from vehicles.
R&D	TSRC uses superior technologies with patents and strictly complies with international environmental and chemical safety management regulations to reduce the potential environmental impact of the manufacturing process.
Storage	Monitoring and management through product safety management system.
Production	• Identify potential risks to the environment and human body through health, environmental and physical hazard assessments. • Adaptation and optimization during the product formulation phase. • Strictly monitor the health, environmental, and physical hazard risks of the product during the testing phase to ensure compliance.

TSRC recognizes the importance of chemical management to the safety of neighboring communities. The Kaohsiung Factory transports raw materials through underground pipelines, has joined the Pipeline Joint Management Organization made up of neighboring pipeline operators, and participates in the organization's drills every year. TSRC also conducts pipeline drills with one of our raw materials suppliers, CPC, to ensure that emergency responses can be promptly implemented in case of abnormalities in the underground pipelines. Nantong Industries collaborates with butadiene storage facilities operators, tanker trucks, fire departments, etc., to conduct joint emergency response drills in case of environmental emergencies and to train the response team's ability to work together. The drill includes remedial measures for negative impacts, in order to minimize the negative impacts of an environmental emergency on the environment and society.

Chapter 3

Social

In line with international ESG trends and the Company's progress towards sustainable development, TSRC has enhanced the sustainability capabilities of employees through education and training, helping employees develop multiple competencies and improving talent cultivation. Through collaboration opportunities with business partners and outside institutions, we have held external exchanges of professional and technical knowledge, attracting outstanding external talent to improve TSRC's competitiveness.

At the same time, employee safety, health, and welfare has been a long-term priority for TSRC. Through optimizing the work environment at all sites and caring for employees' physical and mental health, we have worked to enhance employee engagement. By integrating the Company's resources with the volunteer work of our employees, TSRC has promoted chemical sustainability education and social welfare to benefit community prosperity.

3.1 Strengthen the Organization's Sustainability Capabilities 72

3.2 Improve Health, Safety & Wellbeing of Employees 81

3.3 Enhance Social Engagement 100



Total Recordable Incident Rate (TRIR)

0.11

Employee TRIR in 2024 exceeded set target (≤0.3)

4,541 participants in seminars on physical and mental health activities

Number of participants in 2024 reached 1,935

Total of 4,541 participants since 2022

779 participants in chemical education programs

Number of participants in 2024 reached 201

Total of 779 participants since 2022

1,471 participants in social care/environmental protection activities

Number of participants in 2024 reached 597

Total of 1,471 participants since 2022

80.8% approval rate in the Employee Engagement Survey

Increase of 7 percentage points compared to 2022

Material topics

Talent Development, Occupational Health and Safety

Material topics

Talent Development

Corresponding Chapter: 3.1.1 Employee Structure | 3.1.2 Talent Attraction and Empowerment

Policy

Talent Development Policy

Commitment

TSRC values the career development of our employees and promotes professional training and talent development programs to enhance overall employee competitiveness.

Goals and Achievement	Achievements in 2024	2024 Goals	2025 Goals	2030 Goals
	✓ Implemented the TSRC Managerial Leadership Competency Model training courses, training for new supervisors, and professional skills training courses. 281 people participated in these courses, attracting 907 participants in total since 2022 ✓ Launched LMS by the end of 2024	• Implement 3 or more training programs, attracting total of 850 participants since 2022 • Establish the Learning Management System (LMS), an integrated platform for managing the Group's training information, in order to enhance competency training for TSRC employees	• Improve the organization's ESG development and provide multifaceted competency training to 950 employees[Note] • Enhance the organization's ability to integrate ESG information systems	• Improve the organization's ESG development and provide multifaceted competency training to 1,500 employees • Enhance the organization's ESG performance analysis capability

Actions Taken

- Cultivated shared management competencies in the leadership team with the TSRC Managerial Leadership Competency Model.
- Planned the New Supervisor Training Courses, improving the fundamental management skills of new supervisors though online courses.
- Subsidiaries continued to hold cross-department TSRC Sharing and Exchange Meetings, enhancing the TSRC core values, and our attitude and capability to promote these values.
- Established the TSRC Learning Management System to enhance the overall efficiency of TSRC's learning and training programs.

Processes to Track Effectiveness

- The ESG Work Team reports through quarterly meetings to the Executive Leadership Team on the progress and effectiveness of actions for strengthening employee sustainability capabilities.
- Analyzed post-training satisfaction after training courses, incorporated the New Supervisor Training Courses into online refresher training and discussion mechanisms to improve effectiveness.
- Regularly tracked the implementation of measures to improve employee input in each functional unit.

Stakeholder Engagement

- In order to improve employee interaction, senior management jointly prepared online video courses as part of the TSRC Managerial Leadership Competency Model, allowing employees to see the focus and dedication that the Executive Leadership Team has put on employee training. At the same time, during the 21-day practical training course, supervisors are invited to provide feedback on employees, establishing a mechanism for interactive learning and positive feedback.
- We organized a New Supervisor Training online course information session which allowed management to confirm the skills that newly-appointed supervisors need to learn or improve on, in order to establish a common management language and provide new supervisors with an environment for developing their abilities.
- Continued to hold the TSRC Sharing and Exchange Meetings with our subsidiaries, inviting employees to share their stories on working for TSRC, in order to strengthen the implementation of TSRC's core values and foster a sense of belonging for our employees.
- Adopted employee satisfaction surveys and feedback from training programs as important sources of reference for future planning adjustments.
- Regularly held annual CEO face-to-face seminars to communicate with employees about the company's current situation, strategic direction, and development priorities.
- The approval rate found by the employee engagement survey was 80.8% in 2024 (survey held every two years, up 7 percentage points from 2022). Our Employee Net Promoter Score (eNPS) was 16.2% in 2024 (surveyed once a year, up 12.6 percentage points compared to 2023).

Note: To remain in line with how the Group has implemented this initiative, the targeted number of employees for receiving multiple-competency training has been changed from a total percentage to a specific number of people.

3.1 Strengthen the Organization's Sustainability Capabilities

In the face of rapid environmental changes, TSRC has implemented a diverse and inclusive organizational culture, promoted an ESG competency talent cultivation program, and built a learning organization to attract and retain professional talent and strengthen our competitive advantage, allowing us to move towards sustainable development.

Strengthening TSRC's Organization Sustainability Capability Management Approach

Refer to 3.1.1 Employee Structure

Diversity and Equality

Uphold the principle of equal opportunity, and recruit staff based on professional ability and work experience.

Local Recruitment

When job applicants have the same qualifications, TSRC gives priority to local residents.

Diversified Recruitment

Provide more diverse industry-academia collaboration or internship opportunities, optimize the recruitment process and new employee training, and recruit the right talent for the Company.



Refer to 3.1.2 Talent Attraction and Empowerment-Performance Evaluation

Fair Evaluations

Performance evaluations are conducted twice a year based on the Employee Performance Evaluation Regulations.

Equality and Transparency

Recruitment, performance evaluations, promotion, and employee salaries are based on each employee's individual abilities and annual performance results. TSRC does not discriminate on age, gender, region, religion, marital status, and sexual orientation.

Refer to 3.1.2 Talent Attraction and Empowerment-Training, Learning, and Career Development

Professional and General Learning

TSRC organizes internal and external training courses and general education courses for employees in response to future changes in the market and environment.

Cultivating ESG Sustainability Competencies

TSRC promotes ESG general education for global employees in order to strengthen ESG strategies and goals.

Strengthen Personal Development

TSRC promotes global employees to set personal development goals, and has managers assist them in creating a “golden triangle” personal development plan that meets their abilities, willingness, and company requirements to create a reserve of future talent.

Succession Planning

TSRC promotes employee succession plans, taking stock of competency and technical needs to cultivate and retain professional talent.



Refer to 3.2.2 Employee Remuneration and Benefits-Employee Benefits

Rewards and Recognition

TSRC implements salary adjustments, promotion, bonus and reward mechanisms to retain outstanding talent. These mechanisms adjust according to the characteristics of the region where the company or subsidiaries are located.

Excellent Benefits

TSRC has established appropriate employee benefits mechanism to retain outstanding talent. These mechanisms adjust according to the characteristics of the region where the company or subsidiaries are located.

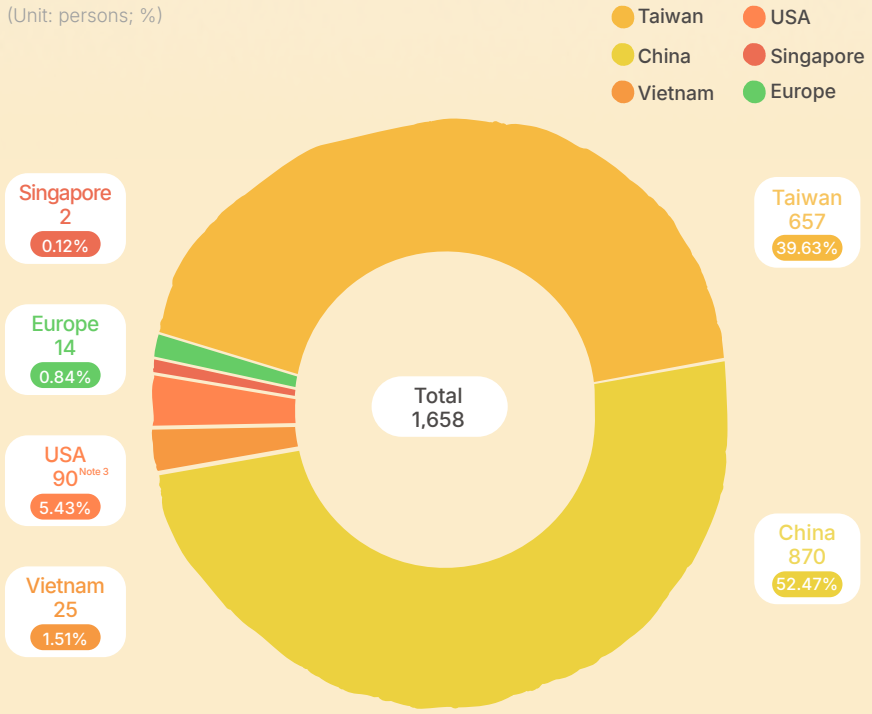
3.1.1 Employee Structure

Employee Profile

As of the end of 2024, TSRC had 1,658 permanent employees. This number of employees has not changed significantly from the previous year. TSRC is committed to promoting a Diversity, Equity, Inclusion (DEI) friendly workplace, and has launched a DEI disability appointment program. We have employed one visually impaired masseur as a temporary employee at the Kaohsiung Factory. Due to the nature of work in the chemical industry, permanent male TSRC employees made up 83.78% of the total number of employees. Male employees accounted for 73.58% of managerial-level employees, while female managers made up 26.42%. In addition, there were 356 employees who were not directly employed by TSRC, such as dispatched workers and contract workers. For the number of employees and non-employee workers of each subsidiary in 2024, please refer to the Appendix Sustainability Data.

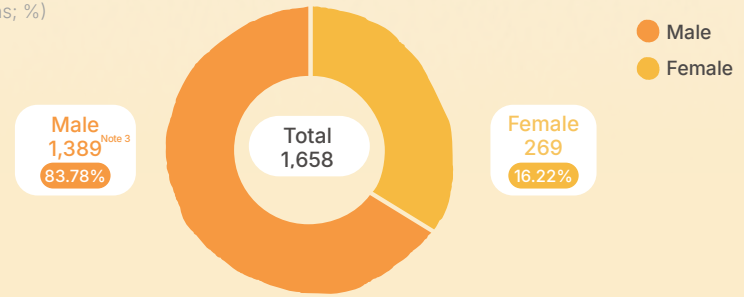
Total Number of Employees (by Region)

(Unit: persons; %)



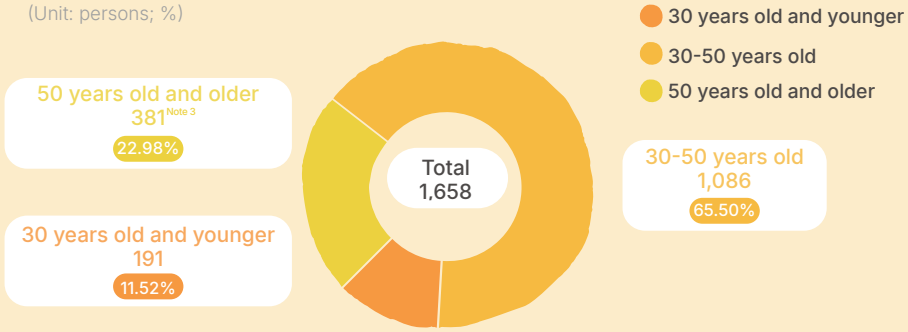
Employee Gender Distribution

(Unit: persons; %)



Employee Age Distribution

(Unit: persons; %)



Note 1: The term "Employees" in this table refers to permanent full-time employees, and does not include part-time employees or employees without guaranteed hours. We have also employed 4 temporary employees, 3 of whom are full-time employees (1 of whom is a visually impaired masseur), and 1 part-time employee. We do not have any temporary employees without guaranteed hours.

Note 2: The total number of employees in this table is calculated as of December 31, 2024, and percentages are rounded to the second decimal place.

Note 3: The calculation of this table includes the scope of the report and TSRC (USA) Investment Corporation. TSRC (USA) Investment Corporation is a non-operating holding company of TSRC, which is not within the scope of the reporting boundary. It is included in the calculation due to the employment of a male full-time employee over 50 years of age.

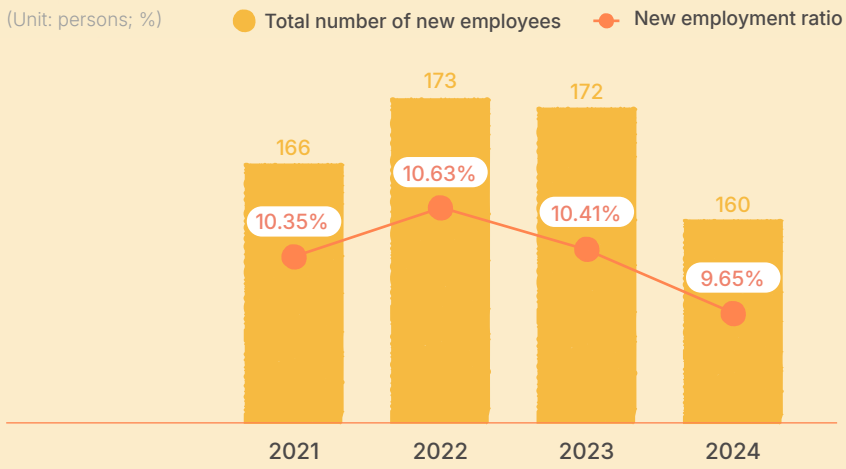
New Hires and Employee Turnover

TSRC upholds the principle of equal opportunity, and follows the Organization for Economic Cooperation and Development (OECD) guidelines for multinational enterprises. We hire employees on the basis of professional competence and experience, and do not discriminate against gender, religion, or race, and implement gender equality. We devote efforts to hire and train local employees, and select professionals through an open process.

In 2024, a total of 160 employees joined TSRC, accounting for 9.65% of total permanent full-time employees, and the rate of new hires has remained stable in the past three years. The age distribution of new hires across the group was mainly below 30 years old, followed by those between 30-50 years of age.

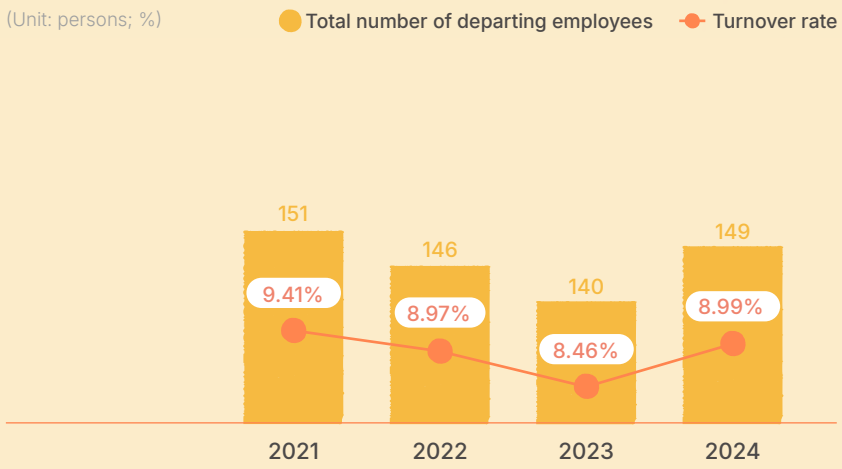
TSRC had 149 employees resign in 2024, and had a turnover rate of 8.99%. The age distribution of departing employees is mainly between 30 and 50 years old, followed by those above 50. Since 2021, TSRC has continued to optimize the recruitment process and enhance new employee training, as well as reinforce the ability of managerial leaders and managers to reduce the turnover rate. The turnover rate has been maintained within a controlled range from 2021 to 2024, demonstrating the effectiveness of the measures. At the same time, TSRC is planning more diverse opportunities for career development to attract and retain outstanding talent. For more information on the number, age, gender, and regional distribution of new hires and departing employees at each subsidiary, please refer to the Appendix Sustainability Data.

Number of New Employees and New Employee Ratio



	2021	2022	2023	2024
Total number of permanent full-time employees	1,604	1,628	1,652	1,658

Number of Departing Employees and Turnover Rate



	2021	2022	2023	2024
Total number of permanent full-time employees	1,604	1,628	1,652	1,658

Note 1: New employment ratio=Total number of new employees/Total number of permanent full-time employees. Turnover rate = Total number of departing employees/Total number of permanent full-time employees. When calculating the new employment ratio and turnover rate, decimals are rounded to the second decimal place.

Note 2: The total number of permanent full-time employees is calculated as of December 31, 2024. The performance review and the training mechanisms of the Group are not applicable to the 4 temporary employees due to the nature of their work. The new employee ratio for this division is calculated based on the ratio of new employees to permanent full-time employees, and the turnover rate is calculated based on the ratio of departing employees to the number of permanent full-time employees.

Note 3: The calculation of this table for 2024 includes the scope of the report and TSRC (USA) Investment Corporation. TSRC (USA) Investment Corporation is a non-operating holding company of TSRC, which is not within the scope of the reporting boundary. It is included in the calculation due to the employment of one full-time permanent employee. In 2024, TSRC (USA) Investment Corporation had no departing employees.

3.1.2 Talent Attraction and Empowerment

Training, Learning, and Career Development

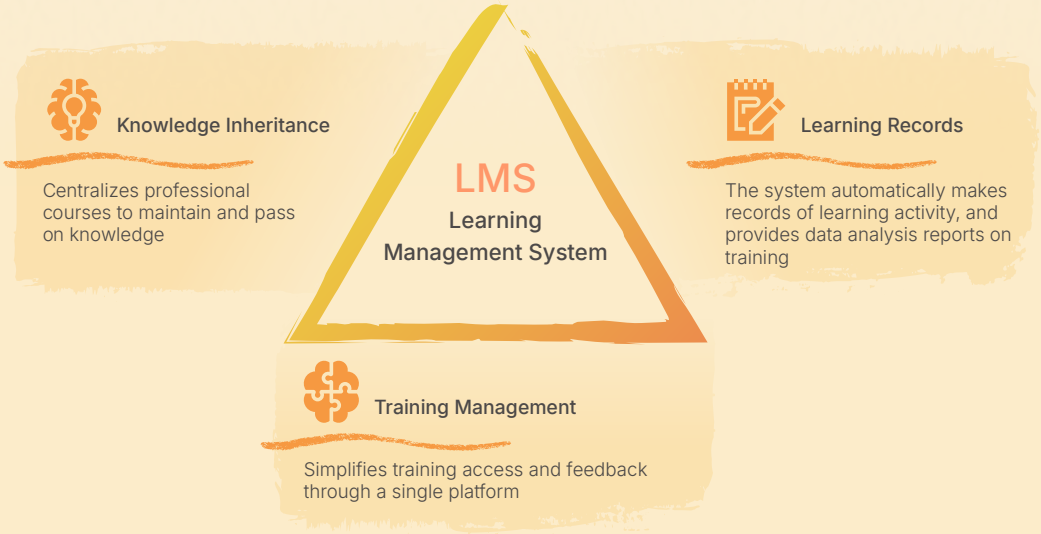
Providing a good environment for the appropriate development of talent is important for TSRC's sustainable development. TSRC continues to establish and implement personal development goals for employees around the world. These goals are focused on three main aspects: personal ability, willingness to work, and organizational needs. With guidance and support from their supervisors, employees are able to develop the key skills needed, linking personal development goals with the needs of the Company.

TSRC Learning Blueprint

LMS - TSRC Group Online Learning System

TSRC has established a Learning Management System in order to more effectively utilize and manage learning records, training, and knowledge inheritance, in order to allow TSRC's partners to learn more effectively.





Predictive Index (PI) Behavioral Assessment

The PI Behavioral Assessment is used to help employees find what drives themselves, and adaptively leverage their strengths. This tool allows managers to understand the strengths and characteristics of employees, resulting in providing better guidance and assistance. TSRC continues optimizing the use of PI behavioral assessment tools and applications, and organizes PI workshops that help supervisors and employees understand each other's characteristics and working models, helping teams to communicate and work together with each other more effectively.

Work-life Coaching

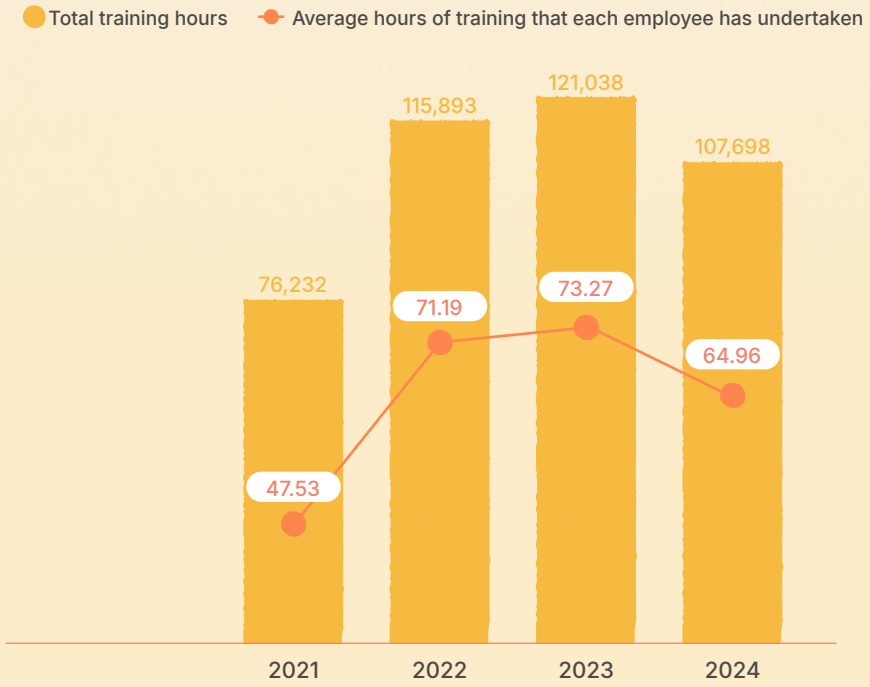
TSRC collaborates with third-party institutions and professional consultant teams from various fields to provide employees with better resources and support for work and life challenges.

Commitment to Talent Sustainability

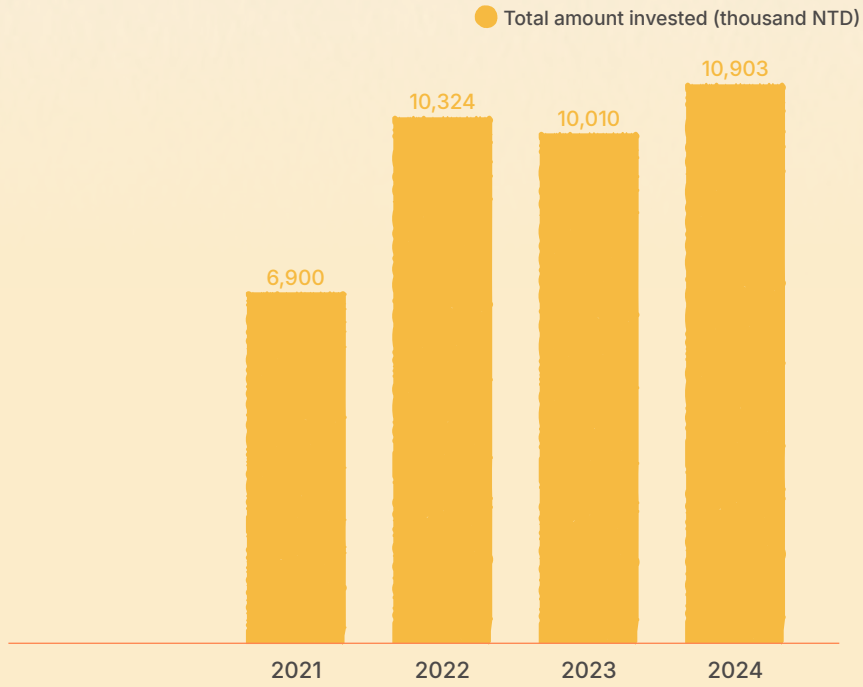
In 2024, TSRC participated in the TALENT in Taiwan, Talent Sustainability Action Alliance initiative, and committed to promoting sustainable talent development and creating an ideal working environment by focusing on 12 items in the 4 major areas of Talent Growth, Optimizing Meaning and Value, Physical and Mental Health, and Rewards and Incentives.

In response to rapid market and environmental changes, TSRC has actively invested in employee education and training resources, and implemented training projects. The total amount invested into employee training increased by 8.92% compared to the previous year. For the total training hours, rank, and gender distribution for each subsidiary, please refer to the Appendix Sustainability Data.

Average Training Hours per Employee and Total Investment Amount



	2021	2022	2023	2024
Total number of permanent full-time employees	1,604	1,628	1,652	1,658



	2021	2022	2023	2024
Total number of permanent full-time employees	1,604	1,628	1,652	1,658

Note 1: Average hours of training that each employee has undertaken=Total training hours/Total number of permanent full-time employees, calculated by rounding to the second decimal place.

Note 2: The total number of permanent full-time employees is calculated as of December 31, 2024. Due to the nature of their work, the 4 temporary employees are not included in the number of employees undergoing education and training, and the total training hours.

Note 3: The calculation of this table for 2024 includes the scope of the report and TSRC (USA) Investment Corporation. TSRC (USA) Investment Corporation is a non-operating holding company of TSRC, which is not within the scope of the reporting boundary. It is included in the calculation due to the employment of one permanent full-time employee who has undertaken training.

TSRC is actively building a learning-centric organization and simulating employees' creative thinking to encourage innovation and transition within the organization. Each department conducts professional competency training according to its functional needs (including professional courses in production, research and development, and warehousing and logistics), and promotes external professional courses and technical exchanges. In 2024, TSRC implemented 3 training projects, including Professional Skills Training, the TSRC Managerial Leadership Competency Model, and the New Supervisor Training project, cultivating talents with multiple competencies.

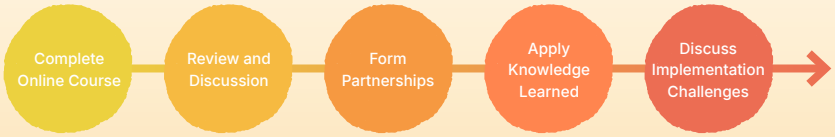
Professional Skills Training

The R&D department organized a Value Selling Workshop with a total of 40 participants, where we helped employees learn to develop innovative solutions by thinking from the customer perspective and explore new applications for the Company's products/services in different fields. Finally, based on new market validation methods, we helped employees learn how the value proposition of products and services can be revised in order to meet real customer needs. Through practical hands-on work, we helped employees develop the ability to think about business and strategic design, bringing greater value to the Company.



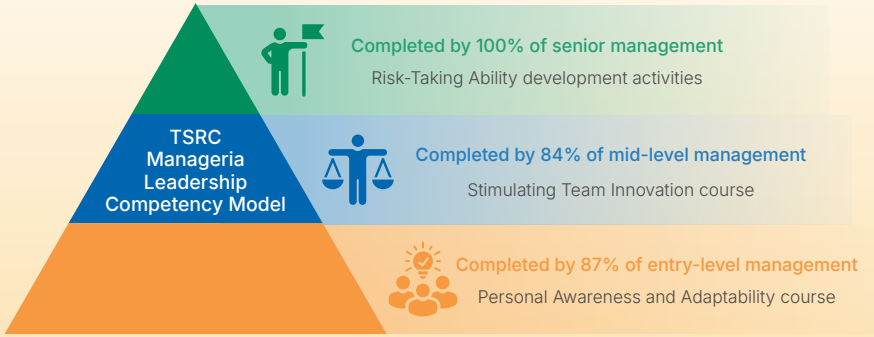
New Supervisor Training

A total of 83 participants completed the three online courses for New Supervisor Training. Through designing a learning journey, new supervisors participated in online review and discussion of the course content after completing the online course, strengthening their understanding of course content. All supervisors participating in the training were invited to form partner groups after the course, allowing them to remind each other to apply what they have learned to their work duties. After doing so, supervisors can return to the course to discuss the difficulties and challenges they faced when applying what they learned, in order to improve training effectiveness.



TSRC Managerial Leadership Competency Model

Following the TSRC Managerial Leadership Competency Model launched in 2023, in 2024 online and classroom courses were arranged for a total of 158 senior, mid-level, and entry-level managers, as well as a 21-day practice plan after the course ends. This training continuously cultivated the joint management abilities of our leadership team and ensured that they are fully prepared to meet current and future challenges, as we move towards developing global managerial talent.



Total of 158 participants

TSRC Overseas Sharing and Exchange

To enhance cross-departmental knowledge exchanges and innovation, and after headquarters has already led the way by holding exchange meetings for three years, our overseas subsidiaries have also held dedicated sharing and exchange meetings based on their local needs. A total of 10 meetings were held in the United States and China regions, with meeting topics mostly focused on professional skills, career development, and general knowledge courses, attracting a total of 161 participants.



Performance Evaluation

In order to improve the performance of individuals, departments and the whole organization, TSRC's performance evaluation includes goal setting, empowerment authorization, communication and counseling, linking performance and compensation, and career development, thereby ensuring that the goals set are linked to the Company's overall strategy and employees' development. All employees undergo the evaluation twice a year. Management conducts regular performance interviews with employees (including development goal interviews) to provide feedback and assist employees in optimizing their performance.

TSRC cares about employee career development. In addition to arranging face-to-face communication between supervisors and individual employees from time to time, TSRC also initiates counseling for employees whose performance is worse than expected and provides the necessary resources or supporting assignment shifting. We have established seniority and exemplary model awards in order to reward our senior and exemplary employees. Each year, a department nominates outstanding employees for each team or project and recognizes them with the annual team contribution award, commending them for their excellent achievements.

Senior Employee Award



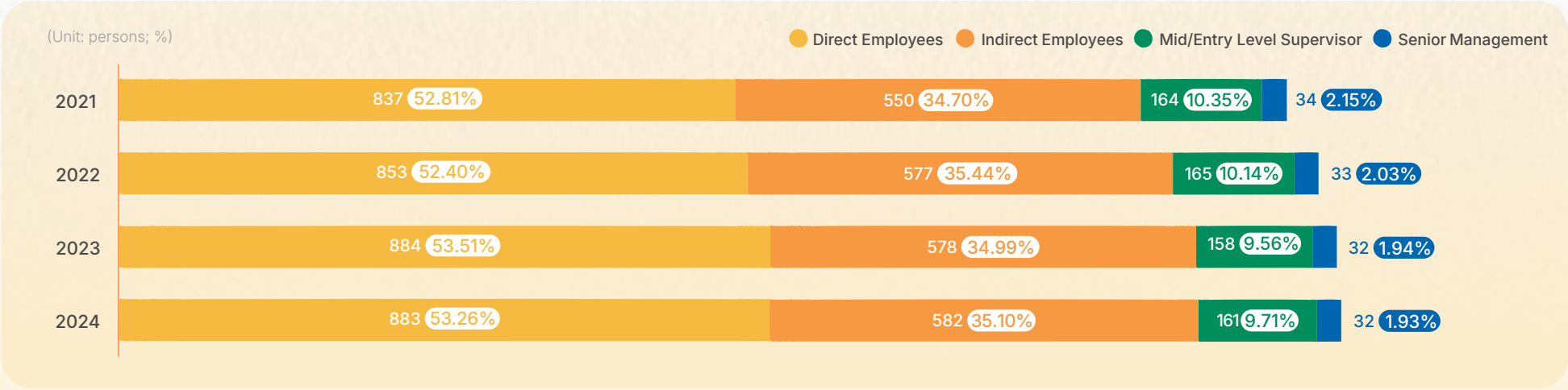


Remarkable Employee Award

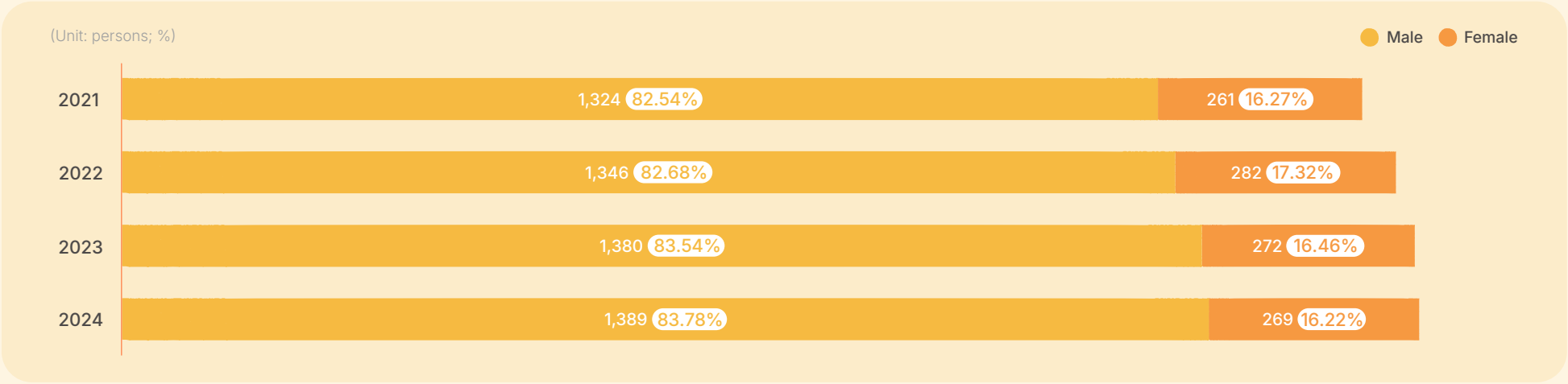




Number and Percentage of Employees Receiving Regular Performance and Career Development Reviews (by Category)



Number and Percentage of Employees Receiving Regular Performance and Career Development Reviews (by Gender)



Note 1: The percentage of employees receiving performance reviews = total number of employees receiving performance reviews/total number of permanent full-time employees. The data in this table is rounded to two decimal places.

Note 2: The total number of permanent full-time employees is calculated as of December 31, 2024.Due to the nature of their work, the 4 temporary employees are not included in the number of the Group's employees receiving performance reviews.

Note 3: Senior managers refer to G19 and above managers, mid/entry level managers refer to deputy managers and managers. Direct employees refer to employees directly responsible for production lines, including operators, technicians, shift leaders, and analysts. Indirect employees are all employees that are not direct employees.

Note 4: The calculation of this table for 2024 includes the scope of the report and TSRC (USA) Investment Corporation. TSRC (USA) Investment Corporation is a non-operating holding company of TSRC, which is not within the scope of the reporting boundary. It is included in the calculation due to the employment of one permanent full-time employee who has undergone a performance review.

Material topics

Occupational Health and Safety

Corresponding Chapter 3.2.1 Occupational Health and Safety

Policy

- Environmental, Health and Safety Incident Reporting and Investigation Procedures
- Contractor Management Rules
- TSRC Group Supplier Code of Conduct
- TSRC ESG Procurement Policy

Commitment

TSRC is committed to complying with applicable safety and health related laws and regulations, and pursuing the goal of zero disaster and zero injury.

	Achievements in 2024	2024 Goals	2025 Goals	2030 Goals
Goals and Achievement	✓ TSRC's employee TRIR was 0.11. • TSRC was recognized by the Occupational Safety and Health Administration, Ministry of Labor as an excellent enterprise in the Active Evaluation of Enterprise Disclosure of Occupational Health and Safety Indicators in Sustainable Reporting • The Kaohsiung Factory has received the Safety Label for Confined Space Operations	• TSRC Group's employee total recordable incident rate (TRIR) was ≤0.3	• TRIR<0.3	• TRIR <0.3, with zero accident rate for at least one year

Actions Taken

- Continuously promote the safety culture at TSRC to establish safety attitude and habits.
- Set goals and motivate all employees to participate in safety organization activities to continuously improve safety management performance.
- Established a comprehensive occupational safety and health hazard identification and risk assessment program.
- Organized regular training, drills, safety and health meetings to strengthen the implementation of safety measures.
- Implemented notification of abnormal events and shared real-time information and experiences and lessons learned from cross-factory risk events.
- Analyzed the cause of the incidents through the incident investigation, formulated corrective and preventive measures, and continued to track and improve.

Processes to Track Effectiveness

- TSRC Global HSE established a management mechanism for defining and reporting, investigating, and correcting HSE incidents to prevent recurrence, and formulated a standardized process and deadline for reporting and investigating incidents. TSRC Global HSE holds monthly meetings to review the Group's HSE performance, incident statistics and analysis, sharing of abnormal incidents, and safety culture promotion programs to ensure that all incidents at the factories are notified, investigated, and properly documented. Tracking of items is carried out at each factory. Every three years, regulatory compliance audits are conducted for all of the Group's factories, and external professional teams check the compliance of industrial safety in each factory.
- The Kaohsiung Factory and Gangshan Factory hold quarterly Occupational Safety and Health Committee Meetings to review the effectiveness of actions.
- Shen Hua Chemical, Nantong Industries, and TSRC-UBE hold weekly safety and operation meetings to review the effectiveness of actions.

Stakeholder Engagement

- Hold regular meetings of the Occupational Safety and Health Committee to understand the opinions of labor representatives and union chairmen. For factories that have not yet organized occupational safety and health committees, suggestions and feedback are obtained through regular safety meetings.
- If employees have opinions on safety and health matters or the complaint mechanism, they can make suggestions during the meeting, and the meeting chair will rule on the results of the discussion and reach a resolution.

3.2 Improve Health, Safety & Wellbeing of Employees

Employees are key in demonstrating a company's competitiveness. A Safe Working Environment, Employee Cohesion, and Human Rights Protection and Smooth Labor-Management Relations are the core sustainability topics that TSRC focuses in order to improve employee safety, health, and well-being, as a foundation for stable development.

3.2.1 Occupational Health and Safety

Safety Core Values and Policies

In order to increase workplace health and safety awareness and priority for employees at all levels, TSRC has in April 2021 adopted the five TSRC HSE Core Values: People Centric, Zero Incidents, Commitment, Discipline, and Compliance, promoting the TSRC Safety Culture. We have also further established TSRC health and safety policies based on the TSRC Safety Culture: Through following principles for keeping employees safe, enforcing the TSRC Safety Culture, responsibility, and communication, we pursue a goal of having zero accidents and zero injuries.

TSRC Safety Culture



Safety and Health Policies



Team Safety

Comply with TSRC's safety management system, improve employee safety through teamwork, trust, and mutual support, creating a safe working environment.

Safety and Health Culture

Continue to improve safety management and establish excellent safety culture through setting goals and encouraging all employees to participate in organizational safety activities.

Responsibility

It is not only part of Corporate Social Responsibility, but also personal responsibility to comply with the applicable safety and health regulations and other requirements to prevent occupational accidents, injuries, and disease.

Communication

Communicate the need for implementing occupational safety and health measures to all employees under the authority and management of TSRC through education training and safety and health meetings.

Occupational Health and Safety Management Mechanisms

Occupational Health and Safety Management System

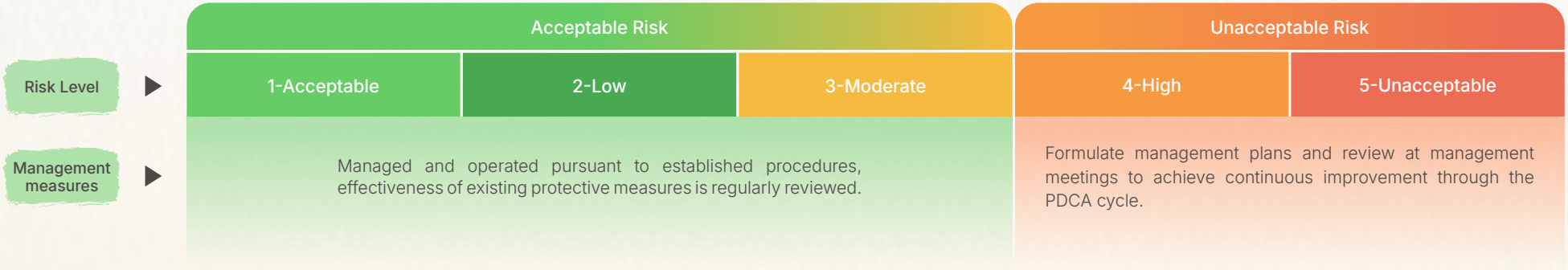
TSRC has established an occupational safety and health management system at all factories, and is continuously improving according to the Plan, Do, Check, and Act (P-D-C-A). In accordance with the Republic of China Occupational Safety and Health Management Act, TSRC's headquarters has set up TSRC Global HSE as the dedicated occupational safety and health management unit, which is responsible for implementing the safety culture, conducting compliance audits every three years for all of the Group's factories (whether or not ISO45001 is implemented), developing promoting Safety Culture Initiatives, and supporting employees and contractors to embed the culture in daily operations. TSRC establishes a unified HSE management mechanism with standardized definition and a platform for event reporting, investigation, and correction to prevent recurrence, to achieve our goal to be "Disaster-free, Harm-free". The occupational safety and health management structure of other factories and subsidiaries is as follows.

TSRC Occupational Safety and Health Management Structure

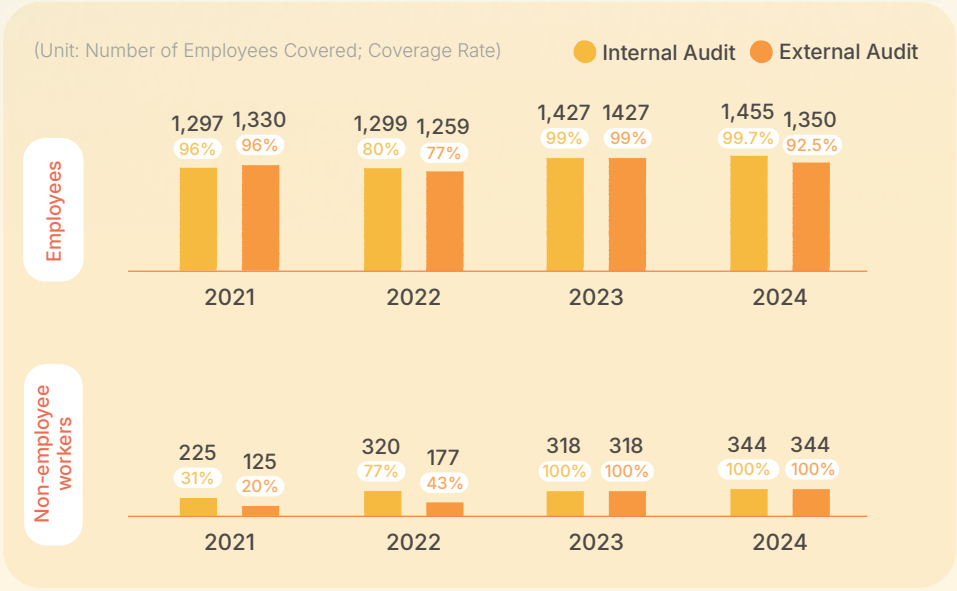


Note: TSRC (Vietnam) Co., Ltd. is managed by the head of the production department, who is also in charge of occupational health and safety management.

To date, we have established the ISO 45001 management system and obtained certification for our occupational health and safety systems at the Kaohsiung Factory, Gangshan Factory, and our 4 subsidiaries in China. Effective identification and risk assessment procedures for occupational health and safety hazards have been established pursuant to the rules and systems at each factory and subsidiary, and to local laws and regulations. Regular assessments of routine and non-routine occupational safety and health risks and opportunities are carried out by trained operators, and the effectiveness of existing control measures is reviewed by dedicated supervisors. During an assessment, a risk matrix is used to identify and describe the severity level of each risk, with each risk being divided into acceptable risks (1-acceptable, 2-low, 3-moderate) and unacceptable risks (4-high, 5-unacceptable). Different management measures are adopted for each risk level, and external verification is regularly carried out following the ISO 45001 system. Although our subsidiaries in United States and Vietnam have not yet adopted the ISO 45001 management system, their occupational safety and health management work is currently being effectively managed pursuant to local occupational safety and health regulations, as well as the Group's policies, procedures, and requirements. For the number and proportion of employees covered in the internal and external audits of each subsidiary, please refer to the Appendix Sustainability Data.



TSRC Workers Covered by an Occupational Health and Safety Management System



Note 1: This table only includes the number of employees and non-employees working in factories that have undergone internal audits and external verification following ISO45001 within the reporting boundaries. TSRC (Vietnam) Co., Ltd. and TSRC Specialty Materials LLC, which are not ISO 45001 certified subsidiaries, and Polybus and TSRC (Lux.), which are two trading-based subsidiaries, and the Global Business Headquarters and the office of TSRC Specialty Materials LLC, which are mainly office operations, are not applicable to the occupational health and safety management system audits. These six sites are therefore omitted from the table.

Note 2: Coverage rate calculation method:

- Employees' Internal Audit Coverage Rate=Total number of employees subject to internal audits/total number of full-time permanent employees at all audited sites. The denominator does not include full-time employees at sites that have not been audited by the occupational health and safety management system.
- Employees' External Audit Coverage Rate=Total number of employees subject to external audits/total number of full-time permanent employees in all audited sites. The denominator does not include full-time employees at sites that have not been audited by the occupational health and safety management system.
- Non-employee workers' Internal Audit Coverage Rate=Total number of non-employee workers subject to internal audits/total number of non-employee workers at all audited sites. The denominator does not include non-employee workers at sites that have not been audited by the occupational health and safety management system.
- Non-employee workers' External Audit Coverage Rate=Total number of non-employee workers subject to external audits/total number of non-employee workers at all audited sites. The denominator does not include non-employee workers at sites that have not been audited by the occupational health and safety management system.

Global HSE Annual Award

Since 2022, TSRC has established the Global HSE Annual Award. Sites with excellent HSE performance are recognized and rewarded. This internal competition improves the HSE culture and implementing outcomes.

Results

Effectively improved TSRC's occupational safety and health management performance. Our safety and health management results were also recognized by government agencies.

- TSRC Corporation was recognized by the Occupational Safety and Health Administration, Ministry of Labor as an excellent enterprise in the Active Evaluation of Enterprise Disclosure of Occupational Health and Safety Indicators in Sustainable Reporting
- The Kaohsiung Factory was awarded the Safety Label for Confined Space Operations from the Labor Standards Inspection Office, Labor Affairs Bureau



Excellent Enterprise Recognized for Active Evaluation of Occupational Health and Safety Indicators

Responsible Care Committee

TSRC has established a Responsible Care Committee to ensure the safety and health of all employees and contractors. It is the highest management committee for TSRC's environmental, safety, and health. The Responsible Care Committee is composed of the Product Specification and Distribution Safety Sub-committee, Process Safety and Energy-saving Management Sub-committee, Regulation and Contractor Safety Management Sub-committee, and Emergency Response Sub-committee. It is responsible for the management and review of the ISO 45001 Occupational Safety and Health Management System. The Responsible Care Committee convenes quarterly meetings and is chaired by the vice president of the Operational Division. Committee members include labor representatives, who participate in discussions on the planning and implementation of occupational safety and health policies.

Responsible Care Committee duties

- Implement the core values of our people-centric safety culture and aim to become a benchmark model for sustainable development.
- Implement and integrate the Company's environmental protection, safety and health policies, and carry out measures for safety, health, and environmental protection.
- Incorporate and meet the requirements of the six management principles[Note] of the Taiwan Responsible Care Association (TRCA).
- Track and reduce chronic health risks of employees.

Note: The six management principles are process safety, contractor safety, emergency response, waste management and reduction, product management, and distribution management.

Safety Meetings

To monitor the promotion of occupational safety and health management, TSRC holds regular safety meetings at each factory and subsidiary to communicate occupational safety and health information to employees. In all meetings, if employees have opinions on safety and health matters or on the complaint mechanism, they can make suggestions during the meeting, and the meeting chair will make a ruling. The Company will not punish employees for their statements.

Frequency of Safety Meetings and Attendees at Each TSRC Factory

	Frequency	Attendees
Kaohsiung Factory Gangshan Factory	• Quarterly	• Chairperson: Factory manager or top supervisor of the factory • Employee Representative: Labor representatives who account for more than one-third of all members of the Occupational Safety and Health Committee will jointly formulate and make recommendations on occupational safety and health policies and plans with other Committee members, review occupational safety and health management proposals, and handle other matters related to occupational safety and health
Shen Hua Chemical Nantong Industries TSRC-UBE	• Weekly safety and operation meeting • Monthly occupational safety and health management review meeting • Quarterly occupational safety and health management review meeting	• Chairperson: Company president • Employee Representative: The labor union chairperson shall participate in the occupational health and safety management system and enter negotiations on behalf of employees. They will bring attention to employee opinions through participating in the major safety decisions made by the Company
Shanghai Industries	• Quarterly	• Chairperson: Unit supervisor • Employee Representative: Safety personnel
TSRC (Vietnam) Company Limited	• Quarterly	• Chairperson: Head of Manufacturing and Administration • Employee Representative: Responsible personnel for HSE

Note: TSRC Specialty Materials LLC has no safety committee meetings at this time, but are expected to implement meetings in 2025.

Contractor and Supplier Operational Safety Management

In order to implement our core value of being people-centric, TSRC not only not only focuses on employee safety, but also attaches great importance to the operational safety of our contractors and suppliers, and actively works together with our partners to jointly promote safety management.

Contractors

Management Measures

Local laws and regulations, contractor management rules

Management Strategies

Contractor Safety Management Regulations

Hazard Notification

Provide notifications of potential working hazards to prevent accidents and injuries

Construction Safety Precautions

Inform contractors to comply with safety and health precautions

Contractor Criteria Review

Ensure that contractors meet required criteria and comply with laws and regulations

Training

Contractors need to attend a work safety lecture before they can enter our sites and begin work

Penalties and evaluations

When a contractor is found to be in violation of work safety regulations, they shall be immediately suspended from further work and be required to make improvements within a period of time before work can resume. We also conduct surveys or evaluations on contractor safety and health management items and labor conditions.

Contractor work management process

Work Permit

- Work personnel must submit application before starting work each day

Toolbox meetings

- Convened by responsible unit and contractors
- Ensure that contractors understand the procedures, hazards, and control measures for the work operation before beginning work

On-site inspection and audit

- The unit responsible for engineering and construction work must conduct on-site inspections and audits to ensure that contractors are in compliance with all required regulations

Suppliers

Management Measures

TSRC Group Supplier Code of Conduct, TSRC ESG Procurement Policy

Management Strategies

Safety Protections

Use protective equipment to reduce employee injuries caused by machinery.

Emergency Response

Establish plans and procedures for potential emergencies.

Industrial Health

Apply different control categories to identify, assess, and control the impact of chemical, biological, and physical factors on employees who come into contact with these factors, controlling exposure to these hazards and protecting employee health.

Occupational Safety

Ensure employee safety through engineering work and management controls, implementing safe operating procedures, and providing employees with appropriate personal protective equipment.

TSRC Group Supplier Code of Conduct
Supplier Safety and Health Management





Performance

- In 2024, we organized 9 safety seminars before the annual maintenance, implementing occupational safety management and achieving zero injury incidents during annual maintenance.
- TSRC's Kaohsiung Factory continued to conduct safety interviews in 2024. The highest-level supervisor in the factory met with the employer of our contractors each quarter for an interview, which not only allows contractors to understand TSRC's rules, but also allows us to receive feedback from contractors on our factory rules.
- Shen Hua Chemical commissioned a third-party contractor to carry out new construction operations, complying with all relevant laws and regulations and contractor management procedures during the contracting process. This included evaluating the contractor in advance to ensure that they follow rules and regulations, and continuously evaluating whether the contractor's working conditions comply with the terms of the contracting agreement during the performance of the contract, meeting the Group's contractor requirements.

- Conduct regular supplier evaluations and audits to ensure that suppliers comply with relevant regulations. For more information on supplier evaluations, please refer to 4.3.1 Supplier Management.



Occupational Disaster Prevention

Through education, training, and emergency response drills, TSRC has strengthened the safety awareness of employees and lowered occupational safety risks. TSRC has also adopted an early warning system to identify occupational hazard factors and carry out preparations to reduce hazards through improved management, process changes, improved methods, adjusting work hours, separation, and personal protection measures.

Training and Emergency Response Drills

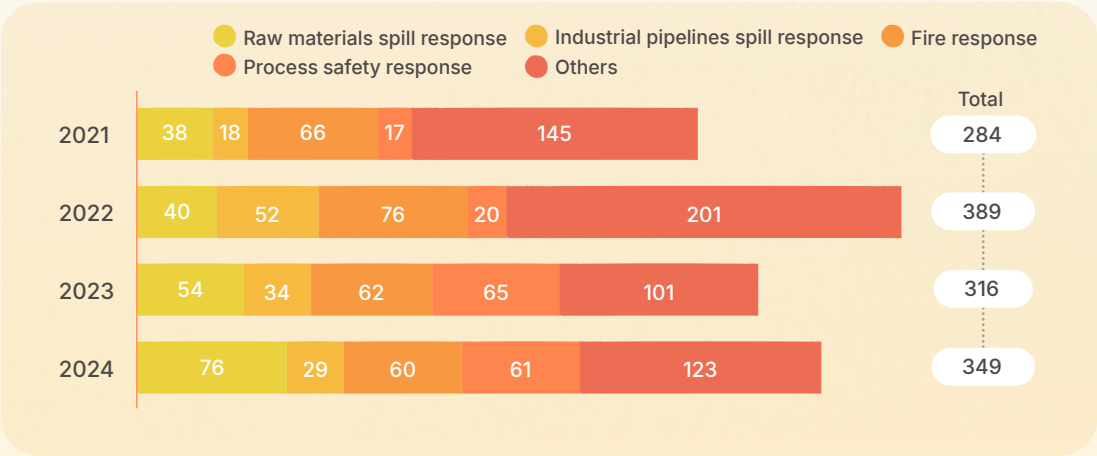
TSRC defines the types of training necessary for each level and operation according to local laws and regulations, such as hazard awareness, confined space, hot work, and high-altitude work. TSRC sets up annual training programs and conducts occupational safety and health training according to these programs to ensure that all employees have the knowledge and ability to recognize work environment hazards and prevent disasters.

TSRC sets emergency response procedures for raw material spills, industrial pipeline spills, fire accidents, and process safety incidents that may result from operating activities. We have also specified the rights and obligations of employees and contractors in terms of safety standards, education and training, health guidance, first aid and rescue, and incident reporting in the relevant regulations. TSRC conducts annual drills and labor safety training, and also carries out practical demonstrations during drills, in order to effectively improve safety awareness and our ability to respond to emergencies.

Emergency Response Implementation Process



Number of Emergency Response Drills



Kaohsiung Factory Water Hose Training



TSRC (Vietnam) Firefighting Training



Shen Hua Chemical Raw Materials Spill Training



Gangshan Factory Earthquake and Fire Response Training



Managing Occupational Hazards Factors and Reducing Chemical Hazards

TSRC has implemented measures for managing the five occupational hazard factors: noise, carbon disulfide, benzene, dust, and butadiene. Employees engaged in the 5 special operations above are divided into 4 level categories. Through special health examinations each year, we regularly assess the potential hazards for employees, and an on-site occupational disease physician also visits factory site once a month. Long-term medical examination data records are analyzed to monitor hazards and potential to cause occupational injury, reducing potential causes of occupational injuries.

TSRC Occupational Hazard Factors



Noise

- TSRC Corporation (Gangshan Factory and Kaohsiung Factory)
- Shen Hua Chemical
- Nantong Industries
- TSRC-UBE
- Shanghai Industries
- TSRC (Vietnam) Company Limited
- TSRC Specialty Materials LLC



Dust

- TSRC Corporation (Gangshan Factory and Kaohsiung Factory)
- Nantong Industries
- Shanghai Industries
- TSRC (Vietnam) Company Limited
- TSRC Specialty Materials LLC



Chemicals

- TSRC Corporation (Gangshan Factory and Kaohsiung Factory)
- Shen Hua Chemical
- Nantong Industries
- TSRC-UBE
- TSRC Specialty Materials LLC

Note 1: Only factories and subsidiaries with manufacturing activities within the reporting boundary are included. The two trading-based subsidiaries, Polybus and TSRC (Lux.), the Global Business Headquarters, and the TSRC Specialty Materials LLC office, which are mainly office operations, are not included in this evaluation of occupational hazard factors.

Note 2: Butadiene is included in the chemical items of each factory, but other chemical items vary depending on their use at each factory. TSRC does not use chemicals such as hepatotoxins, nephrotoxins, neurotoxins, and sensitizers.

TSRC actively improves the working environment and makes improvements to employee operational conduct in order to reduce employee exposure to occupational hazard factors and chemical health hazards.

Use of Personal Protective Equipment

Since all of the Group's operating locations have noise as an occupational hazard factor, the Group has required employees to use personal protective equipment in accordance with the Personal Protective Equipment Matrix.

Monitoring the Working Environment

For potential hazards to employees from corrosive substances and suspected carcinogens, we conduct monitoring twice a year to identify actual risks, ensuring that the operating environment meets the standards for permissible concentrations of chemicals to minimize the exposure of employees to chemicals.

Updating Chemical Safety Information

The Kaohsiung Factory updates the safety data sheet for chemicals in the plant every three years to ensure that chemical information is up to date.

Reducing Fugitive Emissions during Processes

To address fugitive VOC emissions during the production process, we have continued to improve production procedures, install additional gas suction equipment, and conduct regular evaluations to reduce the risks that employees are exposed to. For the VOC management measures at each factory, please refer to 2.5.1. Air Pollution Prevention and Management.

Workplace Health Management

Health Examination

TSRC values employee health and well-being, and has provided employees at the Taiwan and China factory sites with annual health examinations. In 2024, a total of 1,582 employees received health examinations. In addition, pursuant to the ISO 45001 management system and the autonomous safety management system, TSRC arranges for employees facing potential long-term health risks to undergo health examinations for these risks each year. In order to respect the confidentiality of employee health examination records, health examination results are only provided to the on-site nurses and physicians at each factory in order to determine if an employee is fit for work, and for occupational disease prevention and workplace health management purposes. These records are not used for any other purposes. Medical staff will provide health guidance to employees should any abnormalities be discovered during the health examination. In some cases, the physician may recommend a change of workplace, job duties, or shortening working hours, and the adoption of health management measures.

In the event of a work-related injury or illness, all TSRC employees are required to report the incident through the TSRC Health, Safety, and Environment (HSE) Incident Reporting and Database System, with this information and data analyzed by TSRC Global HSE. For more information on TSRC's occupational injuries and diseases in 2024, please refer to the Appendix Sustainability Data.

Health Promotion

TSRC on-site factory nurses and responsible units have actively promoted health activities, including health seminars, related training, health education promotions, and sports activities. Occupational medicine specialists are also invited to provide onsite services in hopes of improving health management and employee health. TSRC has also taken out group medical insurance for our employees to provide comprehensive medical care and protection. TSRC is committed to promoting workplace tobacco prevention and implementing smoke-free workplaces and health promotion measures. In January 2024, TSRC was awarded the Healthy Workplace Certification - Health Promotion Label by the Health Promotion Administration of the Ministry of Health and Welfare.



Badge of Accredited Healthy Workplace

Health Promotion Measures at Each Factory

	Kaohsiung Factory	Gangshan Factory	Shen Hua Chemical	Nantong Industries	TSRC-UBE	Global Business Headquarters	Shanghai Industries	TSRC(Vietnam) Company Limited	TSRC Specialty Materials LLC	Polybus	TSRC (Lux.) Corporation S.à.r.l
Responsible Unit	• Factory on-site professional nurses • Contracted or specially contracted worker health physician		• Clinic			• General Affairs and HSE Department					
Health Promotion Measures	• Worker health services provided monthly by on-site physician • Handles labor health protection tasks such as health management, occupational disease prevention and health promotion • Promotes first aid, health examinations, employee health management and promotion activities, and medical and healthcare services for employees		• Organizes employee health protection and promotion activities, and public education			• Organizes regular health examinations • Signed medical emergency agreement with neighboring hospitals to provide medical consultation and timely treatment for employees in the event of accidents and injuries					

Nutrition and Weight Loss Seminar



Embrace Good Emotions - Adjusting to Stress



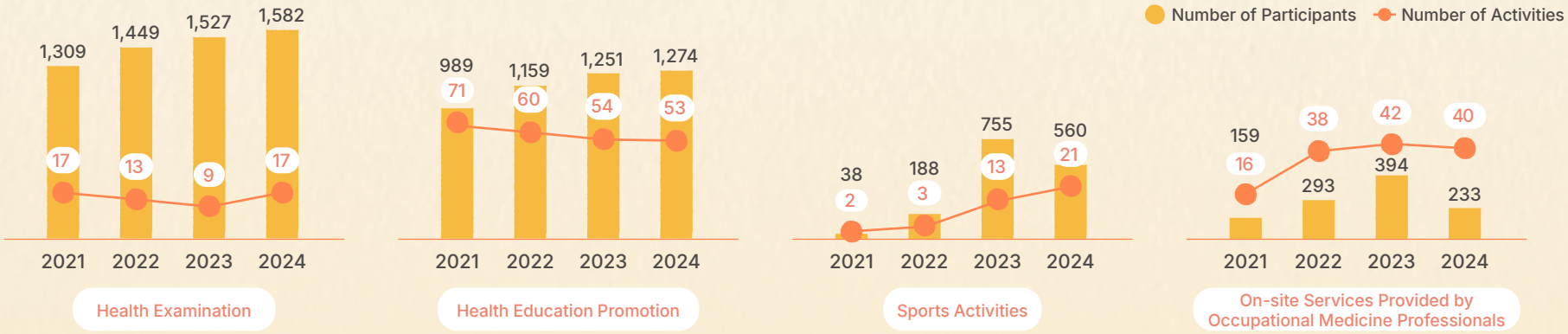
Fascia Relaxation Seminar



First Aid Seminar



2021-2024 TSRC Group Employee Health Promotion Activities



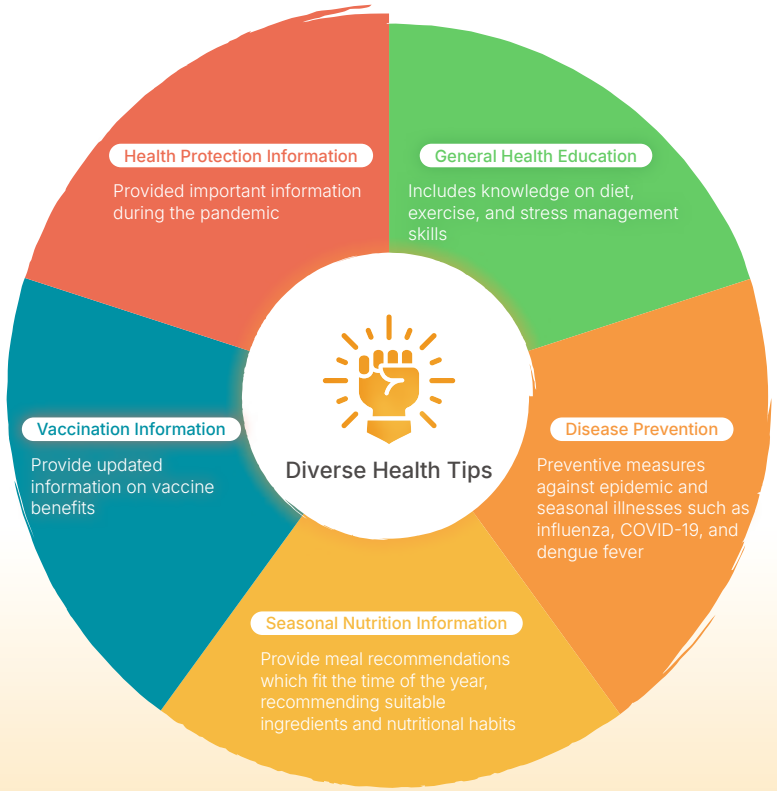
TSRC Provides Answers - Health Tips

TSRC attaches great importance to employee physical and mental health. In order to effectively convey health and healthy eating information, the Kaohsiung HSE Team mails Taiwanese employees with Health Tips each week. This practice has already continued for five years, and over 240 Health Tips have been sent out.

These Health Tips relate to changes in the environment, such as different holiday periods or when the weather and seasons change, and through easy-to-understand text and lively images, allow employees to easily absorb health knowledge, enhancing their general health knowledge. Employees can better understand the importance of health, and establish good lifestyle or eating habits to prevent the risk of becoming sick. At the same time, we also strive to debunk and clarify fake health information, unproven folk remedies, and internet stories, in the hopes that employees can apply simple and practical health tips to their everyday lives.

One Health Tips topic with the highest response rate is on the caloric content of foods such as glutinous rice balls and rice dumplings. This tip was sent out before the holidays, reminding employees to help them eat a healthier diet. Over the years, the positive and warm feedback and support from our employees is what drives the TSRC Kaohsiung HSE Team to continue producing these Health Tips. Through persisting in our efforts to provide information, TSRC hopes that all employees can prioritize their physical, mental, and spiritual health, and work together to create a healthy and happy workplace environment at TSRC!





Occupational Disaster Management

Incident Investigation and Improvement

TSRC Global HSE has established the Environmental, Health and Safety Incident Reporting and Investigation Procedures to standardize the process and deadlines for notification and investigation of incidents. Each factory site develops its own procedures based on these procedures to ensure that all incidents are reported, investigated, and properly recorded.

Environmental, Health and Safety Incident Reporting and Database System

In 2022, TSRC officially launched Health, Safety and Environment (HSE) Incident Reporting and Database system, which allows for more efficient collection, analysis, and review of related incident data. The system enables more effective reporting and investigation of incidents, as well as the formulation of corresponding strategies.

Results

In 2024, TSRC reported a total of 35 incidents (including incidents, potential penalties and actual penalties) and 496 false alarms (including unsafe conditions and behaviors). In response to each incident, TSRC has established preventive measures to prevent or reduce the probability of these incidents.

Incident Investigation and Improvement Process

1 Occurrence of Incident

- Report the incident through the TSRC HSE Incident Reporting and Database System
- Notify medical, fire, and labor inspection agencies based on the situation in compliance with local regulations

Deadline Within 24 hours

2 Preliminary Investigation

- Assign an investigation team leader based on the severity of the incident. For serious and moderate incidents, the factory manager or the production line supervisor should be assigned as the investigation leader, while for minor or emergency incidents, the supervisor for the unit to which the incident occurred should be assigned as the investigation leader
- Visit the site and equipment
- Interview witnesses and personnel involved in the incident
- Review relevant certificates, past training records, SOP/WI

Deadline Within 2 calendar days of the incident

3 Detailed Investigation

- Identify root cause
- Plan corrective and preventive actions (CAPA) based on the incident's root cause

Deadline Within 7 business days of the incident

4 Review Incident

- Complete the root cause investigation (RCI) report
- Continuously review and improve, and conduct hazard identification and risk assessment to prevent similar incidents from occurring

Deadline Within 18 calendar days of the incident

Hazard Notification

All TSRC factories encourage employees to proactively report near miss incidents, unsafe acts (UA), and unsafe conditions (UC). Employees will not be penalized for reporting incidents, conducting safety inspections or hazard investigations, or complaining about occupational safety-related hazards. Employees will only face penalties if they violate any of the four life-saving provisions, including for high-altitude work, hot work, confined space, and electrical lockout/tagout, in order to be vigilant and to protect the safety of all employees. TSRC empowers all employees to stop work and evacuate to a safe place immediately without endangering other workers when they discover an imminent danger while performing their duties. Employees are encouraged to report to their supervisor right away.

Employee Notification of Environmental Safety and Health Incidents and Complaint Mechanism

Incident reporting

- Encourage employees to proactively report near miss incidents, unsafe acts (UA), and unsafe conditions (UC).
- When an incident occurs, each factory must immediately report the incident through the TSRC HSE Incident Reporting and Database System.

Self-initiated safety inspections or hazard identification

- Report potential risks and hazards through on-site inspections and track their improvement.
- TSRC empowers employees to stop work and evacuate to a safe place immediately when they discover an imminent danger while performing their duties, without endangering other workers, and to report to their immediate supervisor right away.

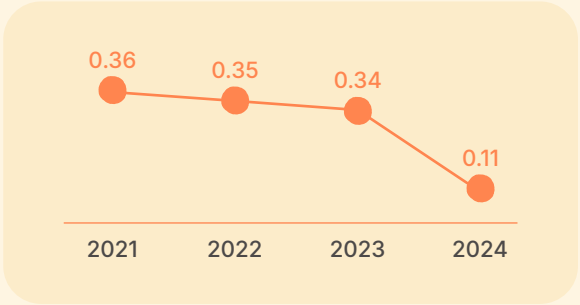
Employee complaints

- Employees can seek assistance through the grievance mechanism when facing potential impacts or damage to their occupational safety rights.

Occupational Injury Statistics

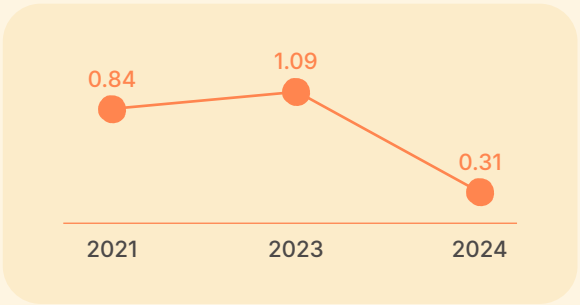
TSRC has adopted the Total Recordable Injury Rate (TRIR) as a management indicator to monitor global operational safety. In 2024, 2 occupational injuries occurred among TSRC employees, with the TRIR across the entire Group being 0.11, a decrease for the fourth consecutive year and exceeding the 2024 management target (≤0.3). 2 occupational injuries happened to non-employee workers, which put the non-employee worker TRIR at 0.31. After investigating the incident, in addition to improving equipment to reduce the frequency of troubleshooting, training was conducted to strengthen the safety awareness and operational discipline of the employees, and a comprehensive inventory of similar maintenance or troubleshooting operations was conducted. At the same time, TSRC re-conducted hazard identification and risk assessment, examined our risk level, and formulated a Job Safety Analysis (JSA) for operational employees. In 2024, no occupational injury deaths, severe occupational injuries, occupational diseases, occupational disease deaths, or work-related fatalities occurred for the TSRC Group's employees and non-employee workers. For more information on occupational injury and occupational disease statistics, please refer to the Appendix Sustainability Data.

Employee Total Recordable Incident Rate



Note: In 2024, 1 employee was hit (collision resulting in scratch to the face) and 1 fell (tripped and fell after being caught in a warning rope, resulting in a head injury). Neither case was classified a severe occupational injury.

Non-Employee Worker Total Recordable Incident Rate



Note: In 2024, non-employee worker occupational injuries were: 1 case of a cut, slash, or abrasion injury (finger cut by rotating blade on a screw), and 1 case of being hit by falling object (ball valve fell and caused a shin fracture), with neither case being classified as a severe occupational injury.

In 2024, TSRC experienced no Tier 1 process safety incidents and one Tier 2 process safety incidents in total, and experienced no transportation incidents during the production process. For more statistical data on process safety incidents, please refer to the Appendix Sustainability Data.

2024 Tier 2 Process Safety Incidents

Half-inch pipeline for the ammonia cooling system cracked, causing an ammonia spill

Reason

Pipe thinned out and cracked due to external corrosion, causing an ammonia spill.

Corrective and Preventive Action

Designated the pressure balancing pipe connecting the high-temperature tank to the low-temperature tank within the ammonia cooling system as a high risk pipeline, requiring comprehensive inspections to be conducted every five years pursuant to the Process Safety Management (PSM) rules.

Note: Tier 1 and Tier 2 process safety events are defined in accordance with the American Petroleum Institute (API) and American National Standards Institute (ANSI) RP 754.

3.2.2 Employee Remuneration and Benefits

Employee Remuneration

TSRC provides reasonable remuneration to attract and retain chemical engineering talent. We consider the needs of different employees and provide appropriate employee benefits. TSRC abides by labor laws and regulations and does not discriminate against employees with different remuneration and benefits whatever their race, skin color, age, religion, nationality, marital status, gender, sexual orientation, gender identity, veteran status, or political stance, which are unrelated to their ability. Due to the nature of work and characteristics of the chemistry industry, there is a significant difference in remuneration between genders.

To continuously increase our competitiveness on the labor market, TSRC reviews remuneration and benefits every year and makes appropriate adjustments with reference to the industry standard. Taking into account the employees' experience and ability, scope of responsibilities, contribution to operational goals, market salary levels, and internal equity, the human resources unit submits a plan for the current year's performance and salary adjustment to the Remuneration Committee for consideration by the Board of Directors for approval.

Employee compensation and benefits of the TSRC Group reached NT$2,519,134,000 in 2024, up 4.4% compared to 2023. Average remuneration and benefits expenses increased to NT$1,519,381 million, up 4.1% compared to 2023. TSRC continues to provide competitive overall remuneration and benefits associated with annual earnings to attract and retain outstanding talent for innovation.

Ratio of Basic Salary and Remuneration of Women to Men

	TSRC Corporation (includes the Global Business Headquarters, Gangshan Factory, and Kaohsiung Factory)		Shen Hua Chemical		Nantong Industries		TSRC-UBE		Shanghai Industries		TSRC (Vietnam) Company Limited		TSRC Specialty Materials LLC		TSRC (LUX)	
Year	2023	2024	2023	2024	2023	2024	2023	2024	2023	2024	2023	2024	2023	2024	2023	2024
Supervisors	74%	71%	92%	87%	57%	41%	66%	83%	80%	94%	No employees	No employees	83%	81%	None are female	71%
Indirect Employees	96%	92%	71%	73%	72%	70%	63%	69%	88%	80%	147%	90%	75%	72%	56%	53%
Direct Employees	None are female	None are female	87%	85%	66%	70%	65%	66%	None are female	None are female	None are female	None are female	69%	66%	No employees	No employees

Note 1: The gender pay ratio includes the basic salary and additional remuneration. Basic salary is defined as the minimum fixed amount paid to an employee for the performance of his/her duties and does not include any additional remuneration, such as overtime pay or bonuses. Remuneration is defined as the additional amount paid to workers, which may include seniority pay, bonuses (including cash and equity (such as stocks and shares), benefits, overtime pay, adjusted leave and any other subsidies (such as transportation subsidies, cost of living subsidies and childcare subsidies).

Note 2: Direct employee refers to the employees directly responsible for production lines, including operators, technicians, shift leaders, and analysts. Supervisors are defined as senior, middle and entry level supervisors. Indirect employees refer to employees who are not supervisors or direct employees.

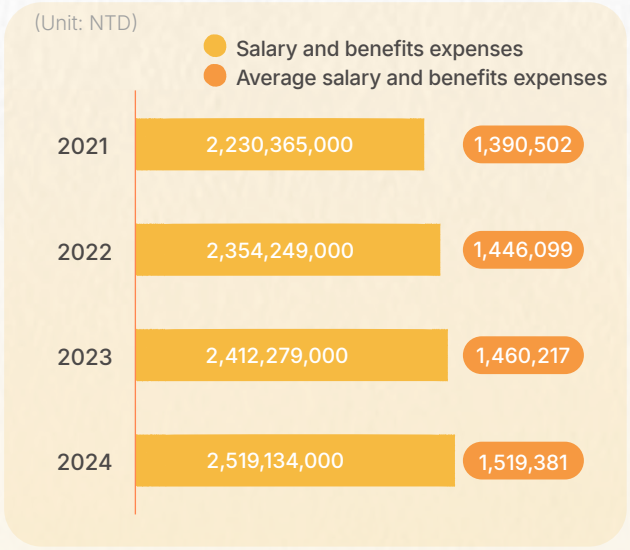
Note 3: Important operating locations include TSRC Corporation (including the Global Business Headquarters, Kaohsiung Factory, and Gangshan Factory), our six substantial operating subsidiaries (Shen Hua Chemical, Nantong Industries, TSRC-UBE, Shanghai Industries, TSRC (Vietnam) Co., Ltd., TSRC Specialty Materials LLC), and our two trading-based subsidiaries (Polybus, TSRC (Lux)).

Note 4: In 2023 and 2024, Polybus has no direct employees, no female supervisors and no female indirect employees.

Salary and Benefits







Note 1: The average and median salaries of non-managerial employees are based on the Salary Information of Non-Managerial Full-Time Employees published by the Taiwan Stock Exchange.
Note 2: The Group's salary and benefits for employees and the Group's per capita remuneration and benefit expenses are based on the financial report, including meal expenses, employee benefits, training expenses, employee remuneration, and remuneration for Taiwanese directors.
Note 3: Average exchange rate in 2024 was TWD: USD = 32.09835:1, TWD: RMB = 4.45452:1, TWD: VND = 0.00128:1, TWD: EUR = 34.73302:1, TWD: SGD = 24.02765:1, TWD: CHF = 36.47846:1.

Employee Benefits

TSRC provides comprehensive employee benefits after considering our business performance and market performance, and in compliance with local laws and regulations to provide a variety of benefits. TSRC also encourages employees to participate in sports and recreational clubs to maintain a work-life balance.

Pension
- Pension

Insurance System
- Group insurance (including dependents)
- Maternity insurance
- Unemployment insurance

Annual Personal Subsidies
- Year-end dinner
- Meal and transportation allowance
- Health examination subsidy
- Travel subsidies
- Housing allowance
- Education allowance

Cash Gift for Special Occasions
- Cash gift for wedding
- Cash gift for childbirth

Consolation Money
- Consolation money for injury or illness

Sports and Leisure
- Sports equipment
- Sports clothing



Sports and Recreation Clubs





Employee Travel Activities





Women's Day Activities

2021-2024 Employee Benefits Expenses



Note 1: Benefits include insurance, holiday bonuses, meal and transportation allowances, pension, housing allowances, sickness and injury allowances, and other employee benefits.

Note 2: Average exchange rate in 2024 was TWD: USD = 32.09835:1, TWD: RMB = 4.45452:1, TWD: VND = 0.00128:1, TWD: EUR = 34.73302:1, TWD: SGD = 24.02765:1, TWD: CHF = 36.47846:1.

Note 3: Restatements of information: The calculation scope was adjusted for 2021-2023 to include the scope of this report and TSRC (USA) Investment Corporation. TSRC (USA) Investment Corporation is a non-operating holding company of TSRC, which is not within the scope of the reporting boundary. It is included in the calculation due to the employment of a permanent employee who has been provided with employee benefits.

Retirement Plan

TSRC provides employees with insurance and pension pursuant to relevant laws and regulations. In accordance with the provisions specified in the Labor Standards Act, the Labor Pension Act and its Enforcement Rules, and the Pension Fund Accounting Guidelines, the Company allocates a pension every month to employee accounts at the Taiwan Bank and the account at the Labor Insurance Bureau. The Labor Pension Reserve Supervisory Board holds regular meetings to review the pension fund status to protect employees' retirement benefits. For subsidiaries in China, per the relevant provisions of China's Social Security Act, both the Company and employees put a certain percentage to retirement insurance, medical insurance, work injury insurance, unemployment insurance, maternity insurance, and the housing fund. When retiring, employees shall receive the pension from the National Labor and Social Security Departments in accordance with the laws and regulations. The subsidiary in the USA provides insurance in accordance with the local Social Security Act and 401(k) Retirement Savings Plan. Subsidiaries with factories in Vietnam, Singapore, and Europe also follow local laws and regulations to ensure the welfare of employees. For detailed information on TSRC's retirement system and the regulations that this system is based on, please refer to TSRC's 2024 Annual Report.





3.2.3 Human Rights and Labor-Management Communication

Human Rights Protection

TSRC strives to uphold human rights, and has established Human Rights Policy after approval from the CEO, with reference to the international human rights conventions and standards such as the United Nations' Universal Declaration of Human Rights, the Global Compact, and the International Labor Office Tripartite Declaration of Principles. We prohibit any behavior that violates and abuses human rights. We forbid any form of discrimination, forced labor, and child labor. We practice this policy in our internal operations management to protect the rights of our employees and the employees of long-term contractors. TSRC ensures that all employees receive fair and dignified treatment and provides a safe, and healthy working environment for their work safety and physical and mental health. In addition, TSRC has established the Sexual Harassment Prevention, Grievance, and Punishment Rules to prevent sexual harassment and establish grievance mechanisms and channels for gender equality.

On supplier human rights issues, we have established the TSRC Group Supplier Code of Conduct, which clearly specifies the human rights rules and regulations that our suppliers must follow. For more information on sustainable supplier management, please refer to 4.3.1 Supplier Management.

In addition, TSRC has actively responded to customer questions on human rights management, and also provided customers with information on TSRC's management measures through our Business Division employees. We proactively send out sustainability questionnaires to customers every year to understand their level of concern regarding TSRC's implementation of human rights protections. TSRC has also established the Corporate Governance Guidelines to govern our business conduct with regard to stakeholder rights. We respect and protect the legitimate rights and interests of our customers, banks, creditors, investors, and other stakeholders.

TSRC Management Framework for Human Rights Issues

Board of Directors

Reporting ↑ ↓ Provide Suggestions

CEO

- Overseeing the implementation of human rights related measures in TSRC
- Supervising management and reviews disclosures of human rights-related information annually

Reporting ↑ ↓ Oversee Implementation Results

Suppliers

Legal Affairs Department

Operational Division

- Formulate the TSRC Group Supplier Code of Conduct which specified that suppliers must comply with human rights regulations

Operational Division

- Implement the TSRC Group Supplier Code of Conduct
- Regularly review the implementation status of suppliers
- Understand the grievance mechanisms and remedial measures adopted by suppliers

TSRC Operational Sites

Human Resources and Management Department

- Formulate and implement Human Rights Policy
- Identify employee human rights risks
- Formulate management measures
- Regularly evaluate the effectiveness of management measures and adjust

Customers

Synthetic Rubber Business Division

Advanced Materials Business Division

- Communicate and keep abreast of situations regularly
- Provide information on TSRC's policies, risk assessments, grievance mechanisms, and related management measures regarding human rights
- Understand the level of customers' concern about TSRC employees' human rights issues through questionnaires

Implementation ↓

Supplier Human Rights Issues Survey

- Personal freedom and safety
- Fundamental work and labor rights
- Freedom of speech and expression
- Freedom of assembly and association
- Child protection
- Anti-discrimination and equality
- Forced labor

Implementation ↓

Employee Human Rights Issues Survey

- Privacy rights
- Personal freedom and safety
- Fundamental work and labor rights
- Health rights
- Freedom of speech and expression
- Freedom of assembly and association
- Child protection
- Anti-discrimination and equality
- Right to basic living standards
- Forced labor
- Family protection
- Anti-Corruption



Human Rights Due Diligence

In response to international trends and the human rights concerns of stakeholders, TSRC conducts human rights due diligence every two years, and uses the results from this investigation to establish improvement measures. We continue to track and disclose the results from implemented measures, and strive to create a fair and respectful workplace environment. In 2024, we mainly conducted human rights surveys into employees and suppliers. Supplier human rights surveys were integrated into the TSRC Group Supplier Sustainability Evaluation Form, allowing us to obtain information on how suppliers have managed human rights issues. Supplier self-evaluation results were used as part of our preliminary investigation, and allowed us to understand the human rights management practices of our suppliers.

Human Rights Due Diligence Process



1 Create List of Human Rights Issues

Determine the human rights issues relevant to TSRC's operations, using the United Nations guidelines, other international human rights guidelines, and the Taiwan Supply Chain Enterprise Human Rights Guidelines draft report published in August 2024 as references.

2 Assess Risks of Human Rights Issues

Conduct a human rights risk assessments using questionnaires.

3 Human Rights Risk Assessment Results

- Employees: Create a Human Rights Risk Matrix based on the likelihood and level of impact of various human rights risks, and identify material human rights risks.
- Suppliers: Identify material human rights risks based on the supplier self-assessment results.

4 Establish Human Rights Risk Management Indicators

Establish management indicators, and measures to mitigate or remedy human rights risks.

5 Track Results and Disclose Information

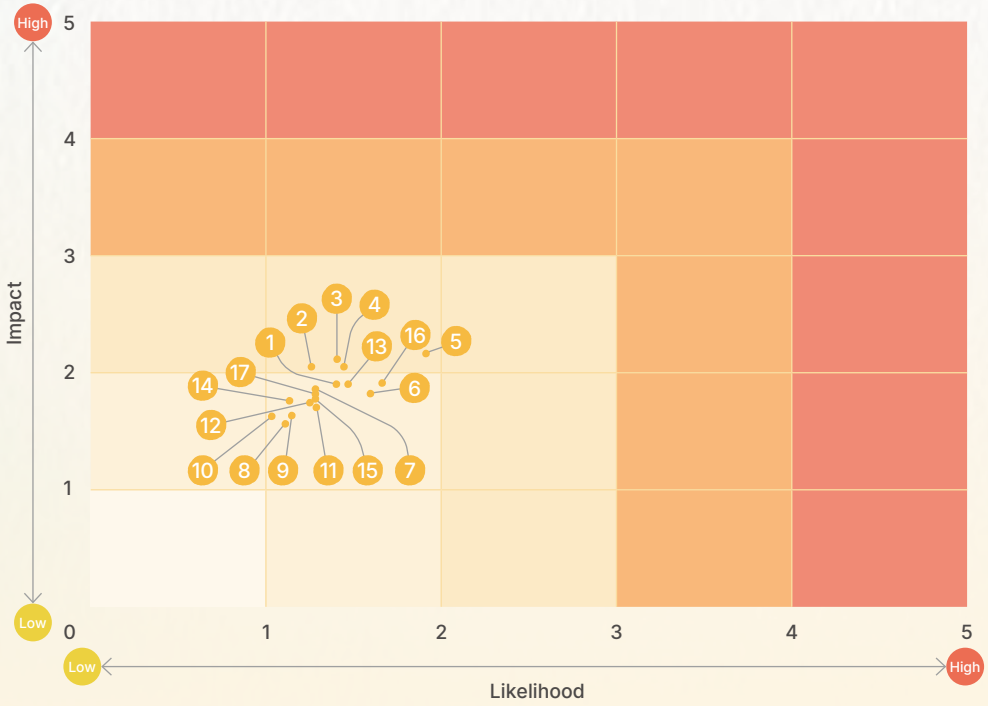
Regularly review the effectiveness of implemented targets, and establish subsequent improvement measures. Reevaluate TSRC human rights risks every two years and disclose results.

List of Human Rights Issues

Human rights issue category		Privacy Rights	Personal Freedom and Safety	Fundamental Work and Labor Rights	Health Rights	Freedom of Speech and Expression	Freedom of Assembly and Association	Child Protection	Anti-discrimination and Equality	Right to Basic Living Standards	Forced Labor	Family Protection	Anti-corruption
Applicable to	Employees	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Suppliers		✓	✓		✓	✓	✓	✓		✓		

Employee Human Rights Risk Matrix

In 2024, TSRC conducted employee human rights due diligence on the supervisors of each functional department (Supervisors of rank G17 or above with subordinate employees, 97 in total). These supervisors represented the employees of their department in filling out questionnaires, helping to identify the human rights risks facing each department, as well as the likelihood of occurrence and level of impact for each risk. We received a 100% questionnaire response rate this time, and created a Human Rights Risk Matrix based on an analysis of questionnaire results on the likelihood and level of impact of various human rights risks. Material human rights risks were also identified.



1 Employee Privacy Protection
2 Illegal Workplace Violations
3 Working Conditions Protections
4 Occupational Health and Safety
5 Working Hours_ Physical and Mental Health
6 Freedom of Speech and Expression_ Communication Channels
7 Freedom of Speech and Expression_ Suppressing Speech
8 Freedom of Assembly and Association_ Collective Bargaining
9 Freedom of Assembly and Association_ Equal Treatment
10 Child Labor
11 Anti-discrimination and Equality_ Recruitment
12 Anti-discrimination and Equality_ Employee Promotion
13 Salary and Benefits
14 Forced Labor
15 Childcare Support and Benefits
16 Working Hours_ Family Life
17 Code of Ethics

Note 1: Based on the 12 human rights issue categories, and taking into account TSRC's operational types and models, the questionnaire identifies 17 human rights risks for TSRC.

Note 2: Risk level = Risk likelihood × level of impact; A risk scoring 9 points or higher is deemed a material human rights risk.

Supplier Human Rights Risk Assessment Results

Due to the importance of human rights risks for suppliers, TSRC has for the first time integrated human rights due diligence into the sustainability self-assessment questionnaires sent out to suppliers. We mainly focused on assessing our 100 most important suppliers (including primary raw materials and auxiliary material suppliers), and through these supplier self-assessment results, determined 98 of these suppliers to have low human rights risks. Only 2 suppliers responded that they were unsure of measures implemented by their company in the “freedom of speech and expression” and “freedom of assembly and association” category. Since both of these suppliers are large-scale organizations, we have assigned our procurement department to track and understand the implementation situation.

Management of Human Rights Risks

Based on the results of the 2024 human rights risks survey, our employees and key suppliers do not pose any material human rights risks. Nevertheless, we have established management goals, mitigation, and remedial measures to address each human rights issue of concern. We regularly track our implementation results, and review and adjust management measures, in order to ensure that stakeholder expectations and needs are met.

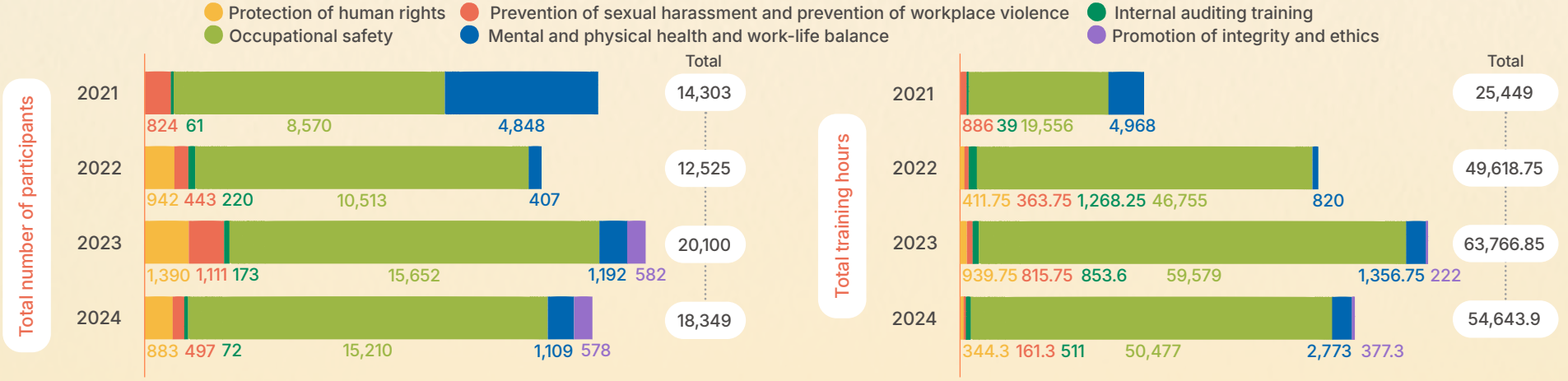
2024 TSRC Employee Human Rights Concerns and Response Measures

Parties concerned	Human rights risk of concern	Management indicators	Mitigation measures	Remedial measures	Grievance mechanism	Mechanism for seeking advice or raising concerns
Employees	Working Hours_ Physical and Mental Health Working Hours_ Family Life	• Number of complaints related to working hours • Regularly review employee attendance (such as absentee rate)	**Respecting and Caring for Employees** • Overtime pay is paid and calculated pursuant to rules. • We actively reach out to employees and supervisors with monthly working hours that are often close to the maximum limit to inquire about working situation, and provide appropriate resources to reduce fatigue from long working hours. **Issue Reminders to Improve Health Awareness and Rule Compliance** • Employees are reminded to take a break after overtime work, and good working habits are shared with all employees. **Provide Flexible Working Options** • Provide flexible working options that meet both the Company's business needs and our employees' personal needs, to the extent allowed by work requirements.	• Employees who require long-term leave due to health reasons can apply for leave without pay following established procedures. • Employees are entitled to choose between receiving overtime pay or overtime leave compensation for performing overtime work.	• Internal grievance mailbox. • Whistleblower mailbox on the company website.	• Seek medical advice or physical and mental health examinations from the factory nurse or on-site physician. • In addition to employees in Taiwan and the United States, our employees in Mainland China can also call the employee hotline from 2025 onwards to seek external professional advice.
	Working Conditions Protections	• Number of complaints related to working conditions • Approval rate achieved in the Employee Engagement Survey	**Regular Review** • Participate in external remuneration surveys each year, and analyze market trend reports. • The Human Resources Department establishes work rules that comply with local labor conditions and regulations. • Regularly review the remuneration and benefits system to ensure market competitiveness. **Regular Communications** • Understand employee opinions through surveys, make appropriate adjustments to increase employee engagement. • Work together with unions to ensure a proactive and fair work environment.	• Regularly investigate and review the remuneration and benefits system to ensure that working conditions at the Company comply with local laws and regulations.	• Internal grievance mailbox. • Whistleblower mailbox on the company website. • Labor-Management meetings.	• Make proposals to the unit supervisor or human resources department.
	Occupational Health and Safety	• TSRC Group's employee total recordable incident rate (TRIR)	**Provide a Safe Work Environment** • Factories have obtained ISO 14001 Environmental Management Systems and ISO 45001 Occupational Health and Safety Management Systems certification. **Establish and Implement Occupational Safety** • Established a dedicated occupational health and safety unit and the Responsible Care Committee. • Established health and safety work rules and convened regular safety meetings. • Hired professional physicians and nurses, and regularly organized health and safety and fire prevention training.	• Immediately re-assign the employee away from their original duties. • Provide adequate medical assistance. • Provide leave and salary compensation in accordance with the law. • Have the Occupational Safety and Health Committee conduct an investigation, and find out the details of the accidents or abnormal situations with support from physicians and external specialists.	• Submit a complaint directly to the supervisor. • Report to the factory's professional nurses. • Internal grievance mailbox. • Whistleblower mailbox on the company website.	• Seek medical advice or physical and mental health examinations from the factory nurse or on-site physician. • Employees can also call the employee hotline to access external professional consulting services.
	Freedom of Speech and Expression_ Communication Channels	• Number of complaints on poor communication channels • Approval rate achieved in the Employee Engagement Survey	**Establish Communication Channels** • Establish a variety of internal grievance mechanisms and communication channels within the Company. **Strengthen Management** • Encourage managers to adopt Management By Walking Around (MBWA) practices to better understand employee work activities. • Establish system for regular one-on-one meetings between supervisors and employees. • Understand employee needs through activity satisfaction surveys.	• Understand the complaints made, and actively make improvements to maintain smooth communications channels.	• Submit a complaint directly to the supervisor. • Labor-Management meetings. • Regular communications meetings with CEO. • Employee Town Hall Meeting.	• Make proposals to the unit supervisor or human resources department.

2024 TSRC Supplier Human Rights Concerns and Response Measures

Parties concerned	Human rights issues of concern	Management indicators	Mitigation measures	Remedial measures
Suppliers	Anti-discrimination and Equality Freedom of Speech and Expression Freedom of Assembly and Association Forced Labor	• Proportion of new suppliers who signed the TSRC Group Supplier's Declaration of Compliance with Corporate Sustainability. • Proportion of key suppliers for whom we have completed human rights due diligence once every two years.	• Required suppliers to conduct self-assessments and provide explanations based on the TSRC Group Supplier Sustainability Evaluation Form. • Regularly conducted supplier audits and evaluations, and provided feedback and suggestions based on the evaluation results.	• Should there be a human rights-related violation, improvements are required to be made within a time limit.

TSRC Human Rights Protection Course



Labor-Management Communication

TSRC value employees' opinions and rights, and we strive to establish a complete and smooth channel for employee feedback and labor communication. Some TSRC factories have a labor union and regularly hold labor/management meetings. Labor rights and interests are communicated and coordinated through formal meetings. In these meetings, specific topics are discussed to reach a consensus. For employees who are not required to sign an agreement, TSRC has an employee work manual that details the working conditions and regulations. If an employee needs to file a complaint, he or she can do so by reporting to their direct supervisor, the Human Resource Department, or through the employee grievance mechanism. The working conditions of employees not covered by collective bargaining agreements are not affected by these agreements. For the percentage of employees covered by collective bargaining agreements in each subsidiary, please refer to the Appendix Sustainability Data.

TSRC attaches great importance to employee opinions and issues questionnaires to systematically understand employees' thoughts. We use these results as an important reference for optimizing management and implemented measures.

Organization Thermometer Survey

We derive an employee net promoter (eNPS) based on the survey results in order to gauge how our employees currently feel towards the Company. This score is used as a reference indicator for observing how the organization's atmosphere changes.

Survey frequency
Once a year

Scope of survey
All TSRC employees worldwide

Implementation results
The response rate in 2024 increased by 1.8% compared to 2023, while the employee net promoter score was 16.2% (up 12.6% compared to 2023).

Employee Engagement Survey[Note]

Through surveys, are able to understand the current work situations faced by our employees, discovering potential challenges and issues with work. For areas with lower scores, the HR team has collaborated with functional units to promote continuous improvements and formulate plans to enhance employee engagement, closely tracking progress and results to strengthen organizational team cohesion.

Survey frequency
Once every two years

Scope of survey
All TSRC employees worldwide

Implementation results
A total of 1,479 people participated in the survey in 2024, with the survey participation rate reaching 89.7%, and the survey agreement rate reaching 80.8% (up 7.0% compared to 2022).

Note: Starting from 2024, the name of the survey was changed to the Employee Engagement Survey, and survey frequency was adjusted from once every three years to once every two years, allowing us to better care for and understand our employees.

3.3 Enhance Social Engagement

Core Concept	The spirit of investing resources and contributions to meet social needs and creating shared value.	
Major Areas	Impact on Society	Industry-Academic Collaboration
Strategy	**Community Engagement** TSRC maintains close communications with the community, responds promptly to the relevant needs of the community, and fosters a mutually beneficial and collaborative relationship between our factories and the community. • Business performance: Build a positive image and maintain our corporate reputation • Social/Environmental Performance: Invest in social welfare, help disadvantaged groups, and achieve greater recognition from society **Environmental Protection and Social Care** Mobilize the power of our employees to engage in social care and environmental protection activities, helping to contribute to sustainability. • Business performance: Improve cohesion through employee participation • Social/Environmental Performance: Encourage employees to participate in environmental protection and social care activities to give back to society and build cohesion	**Science Education** **Industry-Academia Collaboration** Long-term promotion of chemistry education, emphasis on industry-academic collaborations and talent cultivation, exerting a positive influence on society. • Business performance: Contact potential talent, increase recruitment capabilities • Social/Environmental Performance: Promote chemistry education to help cultivate future talent

3.3.1 Society Impact

Community Engagement

TSRC attaches importance to the risks and opportunities brought by the industry and operations to local communities. TSRC collaborates with other companies in the industrial park through the Industrial Park Manufacturers Association, Development Zones and Service Center to jointly understand the potential impacts and opportunities brought to the daily life of community residents. We carry out sustainability risk questionnaire and in-depth interviews with village chiefs in order to understand important issues that communities are concerned about. TSRC values our relationship with local residents. TSRC will continue to learn about residents' suggestions and gather opinions about our operating bases through various channels, and work together with local authorities to hold community outreach events.

Kaohsiung Factory

Participated in 2 Factory Association activities in 2024, including the Fishermen's Association English Workshop at Ke Liao Elementary School and the Fishermen's Association Seafood Festival Activities. This allowed the Kaohsiung Factory more opportunities to communicate and interact with local residents, improve relations with relevant authorities and the neighborhood, and allay residents' concerns about the chemical factory.





TSRC exerts social influence through caring for disadvantaged groups, donating equipment, and sponsoring activities, and takes action to promote community development, actively creating value together with the community.

2024 TSRC Charity Activities

Category	Item	Charity Contribution	Number of Beneficiaries or Participants
Social Welfare	Meal sponsorship and charity donations for underprivileged students in the Kaohsiung Dashe district	NT$440,000	Underprivileged students from three elementary schools
	Children Are Us Foundation	NT$60,000	-
	Purchase of Mid-Autumn Mooncake Gift Boxes from the Delicious-Flavor Restaurant of the Shelter Workshop	NT$463,752	673 employees benefited
	Small-Farmer program	NT$810,900	Purchased 678 packages of mushrooms from Xinshe, 590 boxes of pork and sausages from the Tianliao Farmers Association
	Purchased warm-hearted teddy gifts from the Syin-Lu Shelter Workshop	NT$63,744	670 employees benefited
Event support	Subsidies for chemicals-related entertainment events	NT$400,000	A total of 201 students participated
	Sponsored 2024 annual meeting for the Taiwan Responsible Care Association	NT$30,000	-
	Sponsored the 18th Taiwan Safety Culture Academic Forum organized by the Taiwan Safety Council	NT$50,000	-
Others	The Gangshan Factory donated unused equipment	One twin screw extruder	-
	Diversity and Inclusion (DEI) Employment Program	-	Hired 1 visually impaired masseur to provide massage services for Kaohsiung Factory employees

Love is Everywhere

Since 2012, TSRC has sponsored lunches for disadvantaged students in the three elementary schools around the Kaohsiung Factory (Da She Elementary School, Guan-yin Elementary School, and Jiacheng Elementary School). TSRC also visits these three elementary schools every year to understand how disadvantaged children are doing and learning at these schools.



Zero-distance Industry-academia Collaborations for Mutual Sustainability

At the end of 2024, TSRC's Gangshan Factory donated one unused twin screw extruder to the Southern Taiwan University of Science and Technology, extending the machine's lifecycle and promoting the spirit of resource cycling while also allowing the machine to contribute academic value.





Environmental Protection and Social Care

TSRC employees actively participate in environmental protection and social care actions, from donating physical items to mobilizing to help protect the environment, demonstrating TSRC's employee solidarity.

Environmental Protection Actions

Shen Hua Chemical

Eco-Friendly Teamwork

A total of 122 employees mobilized to organize environmental cleanup activities in order to give back to society, building employee cohesion.



Energy Conservation and Plastic Reduction, Starting with Me

On World Environment Day, a total of 325 employees participated in plastics reduction activities at our factories, promoting the recycling of plastic bottles and energy-conservation measures.



TSRC Specialty Materials LLC

Love the Boot week_ Environment Clean up

A total of 10 employees participated in environmental cleanup volunteer activities, and cleaned up approximately 170 kg of waste from the areas surrounding the factory site within two hours, taking practical action to reduce the burden on the environment.



Implement Social Care

Shanghai Industries

Donating Clothing and Supplies to the Disadvantaged

Donations were gathered from 140 employees, including the donation of 3,000 face masks to neighboring communities, 118 pieces of old clothing to the Songjiang District Charity Volunteer Association, and the collection of RMB 6,420 (approximately NT$28,598) in donations to help buy warm clothing to donate to 16 elementary schoolchildren in Qinghai Province, providing warmth and care to more disadvantaged groups and children.





Shen Hua Chemical | Nantong Industries | TSRC-UBE

Nantong Charity Foundation

Jointly donated RMB150,000 (approximately NT$668,178) in charity funds. These funds were used by the Nantong Development Zone Charity Association to help support tuition assistance and poverty relief efforts. In 2024, these funds shall be available for TSRC employees to use for emergency relief assistance.

Note: Average exchange rate in 2024 was TWD: RMB = 4.45452:1.

3.3.2 Industry-Academic Collaboration

Chemical professionals are the driving force behind TSRC's innovation. TSRC is committed to promoting chemical education and deepening the chemical knowledge of high school and junior high school students. This will enrich students' future career choices and help TSRC recruit outstanding talent from local communities. Furthermore, this will also facilitate the prosperity of communities, and create a win-win situation for enterprises, schools, and local communities.

Science Education

Since 2012, TSRC has allocated an annual budget of $400,000 to sponsor the Chemistry On The Go program organized by Tamkang University. By 2024, TSRC has participated in more than 20 activities in Kaohsiung. Through volunteer work, TSRC employees engage in in-depth interactions with students at schools near TSRC's plants, bringing out their passion for chemistry and creating greater momentum for innovation and research and development.

Chemistry On The Go

Partners Tamkang University, Da She Junior High School, Tianliao Junior High School

Number of Participants 201 people

The Chemistry On The Go program features a 3.5 ton truck which has been remodeled into a mobile chemistry museum. The mobile museum visits various schools on a tour to spread chemical education, and mainly holds hands-on activities, along with guided tours and having experts share chemical knowledge, in order to allow students to learn about the fascinating mysteries behind chemistry through entertainment. TSRC employees volunteered to help teach students on the diverse applications of rubber products in everyday life, helping them understand the importance of TSRC's rubber products and become more familiar with TSRC's business philosophy and values. Students provided feedback saying that these activities were interesting and fulfilling. After the program, much positive feedback was received from teachers and students.

Bring Your Kid to Work Day

Partners TSRC Specialty Materials LLC employees and their family members

Number of Participants 12 people

We organized the Bring Your Kid to Work Day on-site parent-child event, where our employees took on the role of teachers teaching their own kids on what they do during work. They demonstrated how to put on personal protective equipment (PPE) and the importance of this equipment, allowing their children to better understand what their parents did for work. This helped bring kids closer to their parents, while also stoking their interest in science and chemistry.



Industry-Academic Collaboration

TSRC has engaged in science and chemistry-related exchange activities at colleges and universities. Through exchanges on the current state of the industry, TSRC expects to attract more outstanding students and talents to join the chemical industry and contribute to the long-term cultivation of sustainable chemical talents.

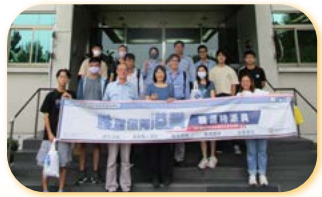
2024 ChemCareer Employment Expo at the National Taiwan University

Introduced TSRC as a company and our ESG sustainable development at the exhibition. TSRC's R&D unit supervisor responded to inquiries from teachers and student on the chemical industry. After the event, we received a total of 684 responses to our questionnaire. This showed how we have helped students in chemicals-related fields obtain a deeper understanding of the development trends and career outlook for the chemicals industry.



Career Specialist

In 2024, TSRC collaborated with the Kaohsiung City Youth Bureau to invite young scholars to the TSRC Kaohsiung Factory for a tour, putting on a demonstration of TSRC's advanced chemical technologies for synthetic rubber and thermoplastic elastomers, and displaying the research and development process for these products. We also explained the diverse applications of rubber products in final end-consumer goods, showing how these products play key roles in our everyday lives, and introduced TSRC's sustainable development and innovation and transition measures, overturning common impressions of the traditional chemicals industry.



KPMG Leadership Forum

TSRC participated in the 2024 KPMG Joint Leadership Forum held by KPMG and the Taiwan Investor Relations Association (TIRI) in Kaohsiung. TSRC's CEO was a speaker at the forum, and discussed corporate response strategies to new trends and regulations for international net zero emissions initiatives and governance. The forum was attended by representatives from the FSC Securities and Futures Bureau, Taiwan Stock Exchange Corporation, chief sustainability officers from the electronics industry, and many accountants, who engaged in discussion and exchanges on industry sustainability with the directors of various listed companies. The forum attracted 141 total participants.



Chapter 4

Governance

To fulfil our corporate governance responsibilities, TSRC continues to strengthen risk supervision and management, and makes innovative breakthroughs to develop new products and services, becoming the best partner for customers to achieve sustainable development. At the same time, TSRC monitors the risks and challenges faced by business locations around the world, building a supply chain able to withstand risk and respond flexibly, ensuring a high level of stability for the products and services we provide.

4.1 Strengthen Corporate Governance 105

4.2 Develop Innovation Momentum 121

4.3 Enhance Supply Chain Management 129



R&D expenses in 2024
+7.7% (vs. 2023)

R&D expenses totaled NT$427 million in 2024

Patents approved for
464 cases

Patents approved for 15 cases in 2024

Local procurement by the TSRC Group accounted for
74% of total procurement

Exceeded the >70% local procurement target for 2024

Female directors accounted for
43% of total directors

3 female directors out of a total of 7 for the 18th Board of Directors

Obtained
ISO 27001
Information Security Management Systems Certification

100% achievement of information security indicators

Material topics

Risk Management, Compliance, Sustainable Innovation, Sustainable Supply Chain Management

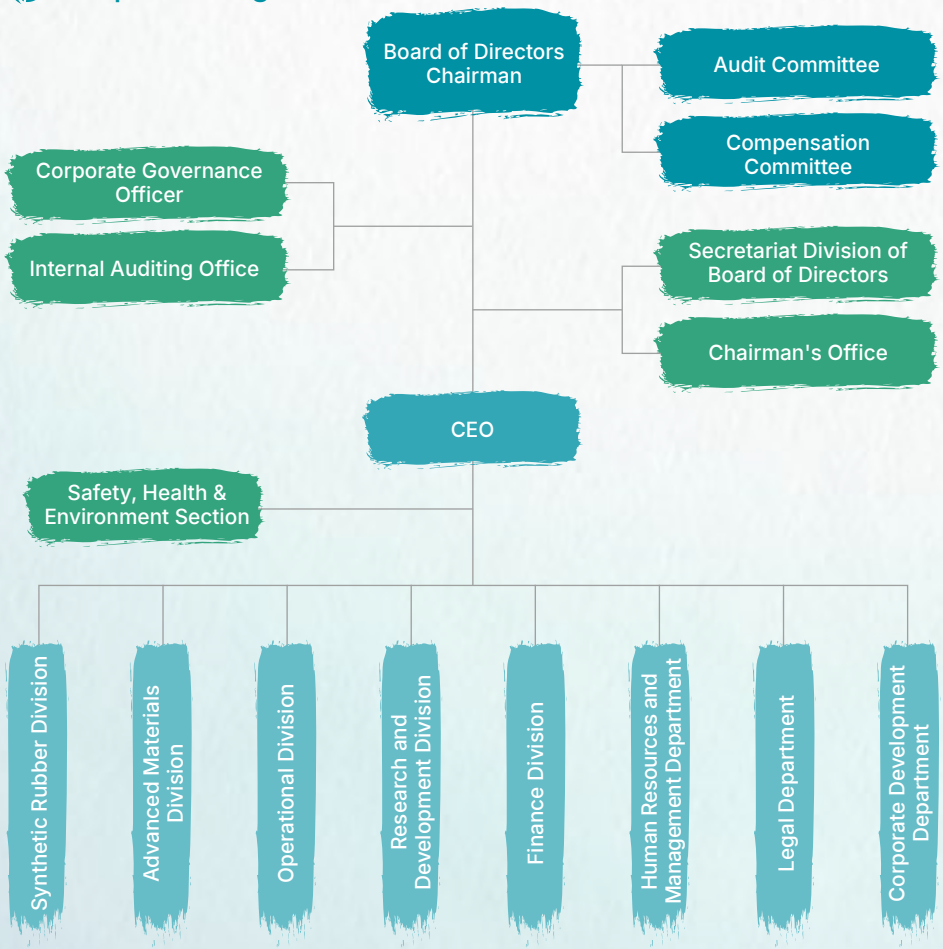
4.1 Strengthen Corporate Governance

Corporate governance is an important cornerstone of ESG. TSRC's mission is to maintain stable business operations, and we strictly adhere to ethical corporate management principles, laws, and regulations while also striving to further improve our governance framework and supervisory mechanisms. At the same time, TSRC has established a comprehensive corporate risk management system which integrates management of the potential risks and opportunities affecting the Company, promoting corporate sustainability in line with the Company's long-term development strategy.

4.1.1 Board of Directors and Functional Committees

TSRC has established two functional committees, the Audit Committee and the Compensation Committee, under the Board of Directors. In order to implement corporate governance and enhance the operations of the Board of Directors and shareholders' meetings, TSRC has established a Corporate Governance Officer, and an Internal Auditing Office under the Board of Directors to assist the Board and managers in reviewing and evaluating the effectiveness of internal controls and assessing the results and efficiency of operations, and to provide timely recommendations for improvement. For more details on the head of corporate governance and the operations of the internal audit system, please refer to TSRC's 2024 Annual Report.

Corporate Organization Chart



Board of Directors

- The Board of Directors consists of 7 directors, including 3 female directors (43%) and 3 independent directors (43%). Each director serves a 3-year term. On the Board of Directors, four directors are representatives of a legal person director. These legal persons are among the Company's ten largest shareholders, and there are no directors from a disadvantaged group on the Board of Directors.
- Responsibilities include deciding on the Company's business policy, implementing a good corporate governance system, strengthening supervision and management functions (including environmental and social risks and opportunities, impacts, and responses), striving to maximize stakeholder interests and enhance business stability.
- Holds at least 1 meeting per quarter.

Audit Committee

- Composed of three independent directors, at least one of whom must possess accounting or finance expertise
- Responsibilities include supervising the fair presentation of financial statements, the appointment (dismissal), independence, and performance of accountants, the effective implementation of internal controls, compliance with related laws and rules, and the control of the Company's existing or potential risks
- Holds at least 1 meeting per quarter.

Compensation Committee

- Composed of three independent directors
- Responsibilities include establishing and periodically reviewing director and manager performance evaluation standards and compensation policy, system, standards, and structures. The Committee regularly evaluates the attainment of performance goals by the Company's directors and managers, and determines the contents and amounts of their individual remuneration.
- Holds at least 2 meetings per year.

Note: For details on individual Board members and the operations of the Board of Directors and functional committees, please refer to TSRC's 2024 Annual Report.

Nomination and Election of Directors

The election of the TSRC Board of Directors is conducted in accordance with the Rules for Election of Directors unless otherwise provided by law and regulations or other articles. The nomination of candidates and the allocation of the total number of members are also regulated by the board diversity policy set out in the Corporate Governance Guidelines.

The election of the TSRC Board of Directors follows a candidate nomination system, whereby candidates are nominated by the Board or by shareholders holding more than 1% of the Company's shares. Candidates nominated by the Board are considered based on their professional background, expertise, and independence. During a director election, major shareholders should recommend candidates based on each candidate's qualifications and after considering the Company's strategic development needs. The Board of Directors will take these recommendations into account, and nominate candidates based on the Company's needs, diversity policy, and succession plans. Nominated candidates will be proposed for election at the shareholder meeting after being approved by the Board.

Diverse Background of the Board of Directors

TSRC has included our diversity policy in Section 21 of the Corporate Governance Guidelines. Members of the TSRC Board of Directors should possess the necessary knowledge, experience, and skills to perform their duties, and have the ability to embed TSRC's business characteristics, operation, market, and future development into their decision-making. The current Board members come from various professional backgrounds and have experience as senior executives in multinational corporations. Board members have the skills, leadership, and global market perspective to comply with the diversity policy and future operation needs of TSRC. For more details on the skills and experience of Board members, please refer to TSRC's 2024 Annual Report.

Continuing Education for the Board of Directors

In order to strengthen director functions, TSRC plans and arranges for professional training courses for directors and senior management executives each year. These courses discuss topics on trends and changes in the external environment, new laws and regulations, and other issues which may potentially impact TSRC's operations, as well as provide directors and senior management executives with important information on economic, environmental, and social issues, increasing the overall sustainable development knowledge possessed by TSRC's highest governance body. For more information on the profiles, backgrounds, terms of office, and continuing education of Board members, please refer to TSRC's 2024 Annual Report.

Board of Directors Independence

TSRC's Procedure Rules of the Board of Directors meeting and Audit Committee Charter both clearly stipulate provisions for director recusal in order to prevent conflicts of interest. When the Board of Directors discusses matters that are of interest to the directors themselves or the legal entities they represent, they are required to declare the material content of their interests at the Board meeting in question. If there is a risk of damage to TSRC's interests, the director shall not participate in the discussion or vote and should exit the meeting. They cannot act on behalf of other directors in exercising their voting rights. In addition, the TSRC Chairman and the CEO shall not be the same person to avoid a conflict of interest.

To effectively manage conflicts of interest, the Board of Directors has established the Conflict of Interest Management Guidelines, where disclosure channels and procedures are clearly stipulated. As part of this process, the Human Resources Department provides an annual survey for employees to disclose any conflicts of interest. Additionally, TSRC offers communication channels for employees to voluntarily disclose conflicts at any time. For more information on the involvement of directors on other boards and cross-shareholding situations, please refer to TSRC's 2024 Annual Report.

Board of Directors ESG Management

TSRC's Board of Directors attaches great importance to the Company's sustainable development, and has assigned the CEO to lead an eight-member Executive Leadership Team (also known as the ESG Steering Committee) consisting of the heads of each functional unit. The Committee is responsible for formulating ESG strategies and medium- and long-term goals, which are implemented after approval from the Board of Directors. The ESG Steering Committee formulates an ESG management structure for implementing ESG actions. The Board receives a report from the Executive Leadership Team at least twice a year on ESG implementation, and the Board continues to oversee and monitor sustainability performance, including the results of ESG goals, material actions, and the outcomes of stakeholder communications, providing the Executive Leadership Team with guidance for further improvement. For more information on the ESG management structure of the Board of Directors and the Executive Leadership Team, please refer to section 1.2.1 ESG Management Structure.

Board of Directors ESG Supervision Operations

ESG Topic	Dates of Board of Directors Meetings in 2024
• Company operations report (included discussions on business performance, new product development, and the impact of climate disasters on production locations)	February, May, August, November
• Sustainability report (included discussions on identifying material topics, stakeholder engagement, greenhouse gas inventory, implementation of ESG strategies and important goals, and ESG action plans)	May
• Risk management (included discussions on climate risks and cyber security) • Corporate governance performance (included discussions on ethical corporate management)	November
• Annual budget (included discussions on ESG-related capital expenditures and expenses) • Annual audit plan (included discussions on sustainability information)	December

Performance Evaluation of the Board of Directors

TSRC attaches great importance to the responsibilities and performance of the Board of Directors. In accordance with the Regulations on the Performance Evaluation of the Board of Directors, the internal performance evaluation on the Board of Directors (including functional committees) and individual directors is conducted once a year, and an external evaluation is conducted by an external professional and independent organization at least once every three years. The results of these evaluations are reported to the Board and used as a reference for continuous improvement.

In 2024, the Board conducted an internal performance evaluation for the Board of Directors, functional committees, and individual directors. The results of the evaluation were rated as “meeting expectations,” and the results of the Board's self-evaluation will be used as a reference when nominating directors for reappointment. For more information on this performance evaluation, please refer to TSRC's 2024 Annual Report.

Board of Directors and Senior Management Compensation Policy

In accordance with the Articles of Incorporation and the Compensation Committee Charter, the Compensation Committee and the Board of Directors regularly review the system of director's compensation, taking into account the director's participation in the Company's operations, including meeting attendance, performance on material topics (such as business strategy, operational performance, risk management, the promotion of ESG and sustainable development goals), the Board of Director's performance evaluation results, and the compensation structure and trends for directors at other domestic and international companies. TSRC provides fixed compensation, and differentiates the compensation between independent directors and general directors. All TSRC independent directors serve as members of the Audit Committee and the Compensation Committee and participate in the review of the remuneration policy. This policy is then approved by the Board of Directors.

Director's compensation includes salaries, director's fees, and business execution expenses, but does not include signing bonuses or recruitment bonuses, and there is no clawback mechanism. The compensation for independent directors is based on their responsibilities and level of participation, their meeting attendance for the year, and any additional time they have invested. Reasonable compensation is provided based on TSRC's operating performance and the industry's standards. Pursuant to the Articles of Incorporation, if the Company makes a profit that year, no less than 1% of the profit shall be allocated as employee bonuses and not more than 1% as directors' compensation. TSRC does not have compensation consultants involved in determining compensation. The director's compensation for 2024 will be reported in the 2025 shareholders' meeting after approval by the Board of Directors.

The Company's compensation policy for senior managers (including the CEO and the highest-ranking supervisor of a functional unit - vice president or assistant vice president rank) takes into consideration factors such as individual experience and abilities, the scope of a manager's responsibilities, their contribution towards meeting operating targets, salary standards for the industry, and internal fairness when providing compensation plans. Compensation for senior management is designed to take into account the Company's sustainable management and operational performance, and includes both fixed compensation and variable bonuses. Fixed compensation is provided as a monthly salary, while variable bonuses are awarded based on overall organizational performance and individual performance evaluation results for the year. Organizational performance and individual performance indicators include the annual operating performance of the Group, the performance results of each operational function, and the achievement rate of individual performance goals. For detailed information on the compensation of directors and senior management, please refer to TSRC's 2024 Annual Report.

Senior Management	Performance Measurement Criteria		Proportions	Performance items linked to ESG and sustainability goals	Weighting of ESG Sustainability Goals in Individual Performance Goals
CEO[Note 1]	Individual Performance	Financial goals	60%	• Annual carbon reduction goal • Annual wastewater recycling goal • Total recordable injury rate goal • Progress of new business developments	10%
		Strategic goals	40%		
Highest-ranking supervisor of each functional unit (includes the Business Division, Production and Manufacturing, R&D, Human Resources, Legal, Finance, and Corporate Development Departments)	Organizational performance: Balanced score card[Note 2] (Divided into four areas: Production and Manufacturing, Company Operations, Synthetic Rubber Business, and Advanced Materials Business)	Financial goals	70%	• New product development progress • New product sales volume • New product sales revenue	Each area has different weight
		Strategic goals	30%	• Annual carbon reduction goal • Total recordable injury rate goal	
	Individual Performance	Set at least one sustainability goal as an individual goal based on function	Different proportions apply based on function	• Annual carbon reduction goal • Annual wastewater recycling goal • Sales of new products • New product development • Improve corporate governance performance • Implement and strengthen ESG strategies, goals, and plans	Individual performance is evaluated based on goal type. Give a final individual performance score out of 5.

Note 1: The CEO's compensation plan, which includes salary, performance targets, and performance bonuses, follows the Company's business authority guidelines. This plan is reviewed by the Compensation Committee and implemented after approval by the Board of Directors.

Note 2: The organizational performance score for the top supervisor of a functional unit is linked to key ESG goals or action plans. The scorecard is used to track the achievement rate of these goals.



Annual Total Compensation Ratio

Annual total compensation ratio[Note 1]	Change in annual total compensation ratio[Note 2]
39.02	1.09

Note 1: Annual total compensation ratio=Annual total compensation for the organization's highest paid – individual / Median annual total compensation for all of the organization's employees excluding the highest-paid individual
Note 2: The change in the annual total compensation ratio=Percentage increase in annual total compensation for the organization's highest - paid individual / Median percentage increase in annual total compensation for all of the organization's employees excluding the highest-paid individual.
Note 3: Average exchange rate in 2024 was TWD: USD = 32.09835:1, TWD: RMB = 4.45452:1, TWD: VND = 0.00128:1, TWD: EUR = 34.73302:1, TWD: SGD = 24.02765:1, TWD: CHF = 36.47846:1.
Note 4: Compensation includes a base salary plus additional remuneration. Please refer to 3.2.2 Employee Remuneration and Benefits [Ratio of Basic Salary and Remuneration of Women to Men][Note 1] for details.

4.1.2 Ethical Corporate Management

TSRC values integrity and ethics, and the Board of Directors has formulated the Code of Business Conduct and the Code of Ethics, which uses the Ethical Corporate Management Best Practice Principles for TWSE/TPEx Listed Companies and the Guidelines for the Adoption of Codes of Ethical Conduct for TWSE/GTSM Listed Companies formulated by the TWSE for reference, in order to clarify the core business principles of TSRC's operations and to serve as a compliance framework for TSRC and its subsidiaries, covering anti-corruption and anti-bribery, handling of conflicts of interest, fair trading, prohibition of insider trading, respect for intellectual property, compliance with laws and regulations, responsible management and the reporting system for violations.

	Code of Business Conduct	Code of Ethics
Approval Level	Board of Directors	Board of Directors
Supervision, Management, and Promotion	• The Board of Directors has oversight responsibilities • The CEO is responsible for management • Established and amended by the Legal Department • The heads of each department promote and implement relevant practices	• The Board of Directors has oversight responsibilities • The CEO is responsible for management • Established and amended by the Legal Department • The heads of each department promote and implement relevant practices
Applicable Activities and Targets	• Directors, supervisors, managers, employees, and consultants of TSRC and its subsidiaries • Suppliers • Agents • Distributors	• Directors, supervisors, managers and employees of TSRC and its subsidiaries

Implement Ethical Corporate Management

TSRC's rules stipulate that employees should take the initiative to detect and prevent unethical behavior in the conduct of business, and ensure that ethical corporate management policies are upheld throughout the operations of the organization and supervision and management systems. Before establishing a business relationship with another party, first assess whether the business partner has a record of unethical behavior and understand its past contract performance record and reputation, and use this information as an indicator of whether to establish a business relationship.

In terms of responsible management, the Code of Business Conduct clearly stipulates that when Company employees sign contracts with agents, distributors, and suppliers, they must agree to abide by TSRC Corporation's ethical corporate management principles, and to protect intellectual property rights and trade secrets. In the contract signing stage with suppliers, we also include compliance with ethical corporate management policies as an audit and evaluation item, to serve as a reference for future supplier selection. In 2024, 947 target suppliers were required to sign the TSRC Group Supplier's Declaration of Compliance with Corporate Sustainability. As of the end of 2024, a total of 919 suppliers have signed and returned this declaration. Conflict of interest questionnaires and confirmations were also completed, with a total of 465 parties responding and providing confirmation in 2024. In terms of products and services, TSRC also clearly requires that products or services not cause direct or indirect harm to stakeholders. The implementation of ethical corporate management practices for 2024 has been reported to the Board of Directors in November 2024.

Regarding anti-corruption and anti-bribery, the Code of Business Conduct and the Code of Ethics strictly prohibit bribery, the acceptance of bribes, and political donations. For necessary business etiquette, such as official gifts or hospitality, TSRC has established the Procedures for Official Gifts and Hospitality to regulate the conduct of employees. Additionally, TSRC has specified the levels of corporate donations in the hierarchical management practices to avoid inappropriate charitable donations or sponsorships.

Reporting and Protection

TSRC has established an internal and external whistleblowing channel to effectively implement the Code of Business Conduct and the Code of Ethics. If an employee has any doubts or needs advice regarding unethical behavior, they can use the internal employee mailbox to submit internal complaints. Meanwhile, anyone (including employees) who is aware of any illegal, dishonest, or unethical behavior can make a report through the TSRC official website or by physical mail.

If the reported complaint involves a Board member or the CEO, the report will be received and handled by the Chairman and the Audit Committee. If other employees are involved, the CEO will appoint employees without conflicts of interest to form a task force to conduct the investigation and determine how to handle the case. In principle, whistleblowers need to be submitted these reports with their real name. The identity of the whistleblower should be kept confidential, and it is prohibited to threaten, intimidate or retaliate against the whistleblower. Anonymous reports may be accepted if the content of the report and evidence provided is clear. No reports were received in 2024.

Ethical corporate management training and promotion

TSRC regularly conducts training and promotional activities on the Company's ethical business conduct policy, measures to prevent unethical behavior, and the consequences of violations for employees and business partners. TSRC has incorporated the implementation of ethical corporate management into the performance evaluation systems of each department. 4 education and training courses were held in 2024, with a total of 404 participants. Written educational materials on insider trading prevention and compliance with the Fair Trade Act were also provided. For more information on the implementation of ethical management courses and training in 2024, please refer to the TSRC website.

Material topics

Risk Management

Corresponding Chapter 4.1.3 Risk Management

Policy

- TSRC Enterprise Risk Management Policy

Commitment

TSRC implements risk and crisis management and promotes a risk-aware corporate culture in order to achieve the Company's strategic business objectives and ensure long-term sustainability.

Goals and Achievement	Achievements in 2024	2024 Goals	2025 Goals	2030 Goals
	✓ Completed annual climate risk assessment and disclosure ✓ Integrated climate risk factors into risk management ✓ Reported on important risk management mechanisms, the financial impact of risks, and the risk response measures implemented and improved to the Board of Directors. Disclosed risk assessment results and information on the risk response measures implemented under the sustainable development section of the Company's website.	Complete the integration of climate risk management mechanisms, and strengthen risk protection measures and timely disclosure.	Utilize digital management systems to strengthen risk monitoring and control, and improve operation management	Continuously improve risk management and crisis response mechanisms

Actions Taken

- Conducted annual risk identification.
- Developed countermeasures and actions for “priority risks” and “immediate action risks”.
- In order to make plans for reducing Scope 3 carbon emissions, we have collected data on the carbon reduction efforts of our raw materials suppliers, and evaluated their carbon reduction plans and progress. This information shall be used by the Company as a reference when procuring low carbon raw materials.
- In order to increase the likelihood of using renewable energy, our production sites have signed letters of intent with local power suppliers on purchasing renewable energy, reducing the risk of being unable to obtain renewable energy in the future.

Processes to Track Effectiveness

- The Executive Leadership Team reports to the Board of Directors the risk response measures taken and their implementation progress each quarter through an operations report.
- In the first quarter of each year, we review risk response actions in the previous year and incorporate into the new annual risk assessment and strategy.

Stakeholder Engagement

- To address regional risks, TSRC works with local manufacturers to continuously keep track of changes in the local environment and to the control measures implemented by the competent authorities. We also regularly discuss countermeasures and action plans with members of factory associations and petrochemical associations, tracking the effectiveness of this communication.

4.1.3 Risk Management

Risk Management Policy and Framework

TSRC has established TSRC Enterprise Risk Management Policy which sets forth clear risk management principles, responsibilities, and operating mechanisms. TSRC has also established the Risk Management Operating Procedures for carrying out all risk management procedures and related operations, implementing risk management in all aspects of our operations and decision-making. The Board of Directors is the highest governance body for TSRC's risk management. The CEO and the heads of functional units are responsible for risk management, and the Risk Management Taskforce is responsible for carrying out improvement actions. In response to the risk of climate change, TSRC has set up a climate risk task force under the Corporate Risk Management System. For the climate related risk management mechanism, please refer to 2.1.1 Climate Resilience.

In order to allow the Board of Directors to understand TSRC's current operations and climate risks, the Executive Leadership Team has reported on the Company's operational status to the Board of Directors each quarter in 2024 through the operations report, providing a timely explanation of the Company's control of and responses to operational risks. The Team reported on climate risk disclosures to the Audit Committee in October, and to the Board of Directors in May and November, and also reported on risk management to the Audit Committee in October and Board of Directors in November. Additionally, taking into account the increasing importance of cyber security to the organization, the implementation status of cyber security risks was reported to the Board of Directors in November.



TSRC's Risk Management Structure Chart

Board of Directors

- Highest risk management governance unit.
- Supervise the risk management system, process, and implementation results.

Internal Auditing Office

- Check the risk management performance of each unit through annual and project audits.

Executive Leadership Team

- Responsible for managing TSRC's corporate risk management.
- Supervise risk identification, assessment, prioritization, action plans, and risk disclosures (including climate related risks), which are promoted by the Corporate Development Department.
- Report risk management status (including climate-related risks) to the Board of Directors in quarterly operational reports.

Risk Management Taskforce

- Implement risk management items or projects.
- Team members come from various functional units.
- Risk management and improvement actions are updated regularly every year, and risk management (including climate related risks) is reported to the Board of Directors in quarterly operation reports.

Risk Identification Process and Management

TSRC classifies risks into nine categories, including strategic, contract management, and regulatory compliance, based on operational activities and business characteristics. Each year, the Risk Management Taskforce identifies risks based on the previous year's risk management results, taking into account the external environment, the Company's operational needs, and emerging risks when identifying annual risks. After evaluating the likelihood of occurrence and impact level of each risk, the Executive Leadership Team identifies priority risks and immediate action risks and prepares countermeasures and actions accordingly.

In 2024, the Corporate Development Department initiated the annual risk management process. The Risk Management Taskforce identified 55 important risks based on the Company's internal and external environments. After ranking these risks using the risk matrix, the ESG Committee selected a number of priority risks, which include strategic risks, regional and industrial risks, operational risks, ESG-related risks, financial risks, research and development and intellectual property management risks, and information technology and cybersecurity risks. The effectiveness of the management actions implemented was then analyzed. Finally, five immediate action risks were identified, with risk management actions formulated and implemented by the relevant departments on an ongoing basis. The results are expected to be reported to TSRC's Executive Leadership Team by the end of the first quarter of 2025.

Risk Management Process

Q1 Risk identification and assessment

- Start the annual risk management process and review the actual status of risk management actions taken in the past year.
- In response to rapid changes in the external environment, identify new risks annually based on the external environment and the Company's operational needs, assess the likelihood and impact of risks, and mark the impact on the Company with a matrix.



Q2 Prioritize risks, risk response

- Risk Priority:
  1. Based on the risk assessment results, risks are classified as Level 1 (high), Level 2 (medium), and Level 3 (low) risks.
  2. Based on the Company's operations, select the priority risks for the year from Level 1 and Level 2 risks.
- Risk Response:
  For priority risks, analyze their root causes and assess whether effective management actions are in place. If there is no management action or the existing management action is insufficient for the priority risk, take immediate action.

Q3 Management of and response to risks that require immediate action

- Further assess priority risks, identify risks requiring immediate action, and review the effectiveness of management and response measures.

Q4 Implement, review, and improve risk management measures

- The Risk Management Taskforce will review the risk response measures and implementation status, and report it by the end of the first quarter of the following year.
- The risk management process is reviewed and revised based on the risk management process and results for the current year to ensure the effectiveness of risk management.

2024 Priority Risks and Countermeasures

*Immediate Action Risks are marked with a red asterisk

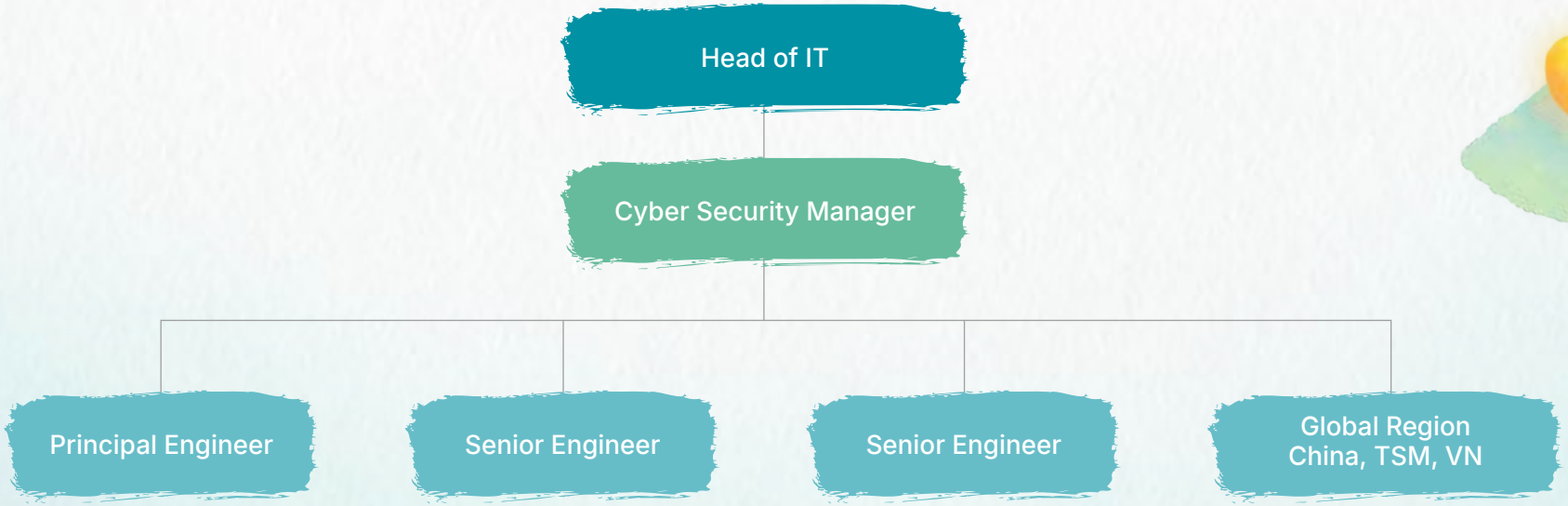
No.	Risk category	Risk details	Response measures	Management goals or indicators	Implementation results
1	Strategy risks	*Changes in tariffs or subsidy policies for electric vehicles and tire products	• Adopt flexible product portfolio adjustment strategy • Focus on target markets and monitor market dynamics	• Achieve annual sales volume forecasts	• Continued utilizing sales and product portfolio strategies to achieve management goals
2	Strategy risks	*Global supply chain disruptions due to geopolitical issues or other factors	Synthetic Rubber Division • Use hedging strategies • Continue expanding sales in China and Asia Advanced Materials Division • Adjust inventory levels through establishing local warehousing storage • Use pricing strategies to reduce cost impact Operational Division • Make orders in advance • Arrange suitable shipping routes and make flexible adjustments	Synthetic Rubber Division • Achieve annual sales volume forecasts Advanced Materials Division • Ensure uninterrupted supply chain and pass on costs through pricing Operational Division • Ensure that product delivery is not impacted by logistical disruptions	Synthetic Rubber Division • Achieved management goals according to plan Advanced Materials Division • Portions of costs were passed on through pricing strategies in response to market trends Operational Division • Achieved management goals according to plan
3	Strategy risks	*SIS overproduction in China continues becoming increasingly serious	• Continue commercializing new products with key customers • Expand SIS product applications	• Achieve sales percentage goals for high value-added products	• Continuously implemented product development/sales plans
4	Strategy risks	*China's economic growth continues to be lower than expected	• Adopt dynamic pricing and optimize product portfolio strategies	• Achieve annual sales volume forecasts	• Continued implementing product development/sales plans in response to market trends
5	Operational risks	*Chemical leak accident at plant facility	• Strengthen process safety management and equipment maintenance • Implement repair and maintenance operations and contractor safety management	• Ensure that no medium/high severity environmental incidents occur • Achieve annual production goal	• 1 medium severity environmental incident occurred. Improvement measures have been formulated and implemented in response. • Achieved management goals according to plan
6	Regional risks and industry risks	Uncertainty over government regulatory control measures (such as: air or water regulations)	• Ensure regulatory compliance and remain updated on government measures • Incorporate seasonal government measures into production plans	• Achieve annual production goal	• Achieved management goals according to plan
7	ESG-related risks	Uncertainty over carbon fee pricing in Taiwan	• Optimize management of production costs through production and sales partnerships • Use pricing strategies to reduce impact	• Achieve annual profit forecasts	• Forecasted profits for this year are not affected, as carbon fees are announced to be implemented only from 2025 onwards
8	Financial risks	High interest rates	• Adjust the currency and tenor of loans • Opt for medium-term borrowing instead of short-term borrowing	• Plan capital requirements by anticipating interest rate hikes • Net interest expense as a percentage of revenue	• Achieved management objectives by planning and controlling the ratio of net interest expense
9	R&D and intellectual property rights management risks	Leaks of confidential R&D information	• Enhance employee training and confidentiality awareness • Strengthen IT monitoring and database management	• No incidents involving the leaking of confidential company information	• No incidents involving the leaking of confidential information occurred, achieving management goals
10	Information technology and cybersecurity	Hackers invading the Company's information systems	• Continue to update system firewalls, protection software, and conduct SOC monitoring • Regularly backup and carry out data recovery drills	• Zero information security incidents • 100% success rate of data recovery drills	• No information security incidents occurred, continuous monitoring and protection was implemented • Achieved 100% recovery success rate in annual data recovery drills for critical hosts

To promote a risk-based culture, TSRC has heavily emphasized factory safety over the years. In order to prevent incidents, TSRC encourages factories to report false alarms and unsafe behaviors and situations, so that risks can be eliminated before an incident occurs. To address policy-related regional risks, TSRC works with local manufacturers to continuously keep track of changes in the local environment and to the control measures implemented by the competent authorities. We also regularly discuss countermeasures and action plans with members of factory associations and petrochemical associations, tracking the effectiveness of this communication. Regarding policy-related ESG risks, although Taiwan's announced carbon fee regulations only come into effect in 2025 when carbon fees are set to begin, meaning that profits for this year are unaffected, the TSRC Kaohsiung Factory has already actively implemented measures to reduce carbon emissions from manufacturing processes. Energy-saving and carbon reduction technologies have been developed, expanding ESG-related business opportunities. In response to the product sales impact of changes in the European Carbon Border Adjustment Mechanism (CBAM) policy, TSRC will continue to optimize the production capabilities of our China Nantong and U.S. factories, as well as develop new higher value-added products or applications with smaller carbon footprints.

Cyber Security

TSRC actively protects the security of the Company's important information assets and has established a set of Cyber Security Policy and Management. The head of the IT Department of the Finance Division also serves as the head of the Cyber Security Team, which consists of a cyber security supervisor and several specialized IT employees responsible for planning internal cyber security policies and planning and implementing cyber security operations. The Team also holds monitoring outsourcing service reporting meetings with SOC manufacturers each quarter, along with regular internal information project and information security internal control meetings. TSRC also regularly reports to the Board of Directors on the overview of the Company's cyber security each year. Please refer to the TSRC website for more details on the implementation of TSRC cyber security in 2024.

Cyber Security Organization Chart



In recent years, hacking attacks using email and social engineering have been a major cause of threats and losses to businesses and individuals. For this reason, TSRC conducts regular social engineering drills and training sessions to raise employees' awareness of cyber security every year. TSRC adopted the ISO 27001 Information Security Management System standard in 2024 for our global headquarters and IDC server rooms. By following these standards and implementing related measures, we have effectively reduced information security risks, increased customer confidence, and complied with laws and regulations, enhancing our competitiveness and building a positive corporate reputation.

Information Security Management Measures

Strengthening email security awareness

In 2024, TSRC worked with external cyber security consultants to conduct social engineering drills, simulate phishing emails, and assess employees' awareness of cyber security risks. This was supplemented with cyber security education and training to avoid improper email behavior that can lead to cyber security risks. In 2024, we strengthened cyber security through quarterly email reminders and informing employees of recent cyber security incidents, in order to continuously improve employee cyber security awareness.

Strengthening cyber security

In 2024, TSRC received a total of 178 counts of information from the TWCERT/CC on cyber security and multinational cyber security exchanges. TSRC has strengthened cyber security by using the information received for reference and relating this information to our own cyber environment.

Information Security Management Performance Indicators

Less than 10% of simulated phishing emails were opened

In 2024, TSRC conducted simulated phishing emails drills, where the average proportion of phishing emails and phishing attachments opened by employees was 2.22%, beating the 10% goal. These results demonstrated that these drills and education and training have achieved the expected protection outcomes.

Through installing endpoint protection software, achieved a successful blocking rate of threat incidents of 100%

100% of TSRC user endpoint devices are protected with endpoint protection software. In 2024, a total of 149 suspicious threat events were successfully blocked, eliminating the risk of attack.

ISO 27001 Information Security Indicators

TSRC adopted the ISO 27001 Information Security Management System standard in 2024 for our global headquarters and IDC server rooms. By following these standards and implementing related measures, we have reduced information security risks. This year, we fully achieved 100% of the 8 information security indicators we established.



Material topics | Compliance

Corresponding Chapter 4.1.4 Compliance

Policy

- Corporate Governance Guidelines
- Code of Ethics
- Code of Business Conduct
- Management Procedure for Insider Trading
- Management Procedure for Antitrust Compliance
- Environmental Policies

Commitment

TSRC complies with domestic and international laws and regulations on governance, environment, products or services, and finance, fulfilling our social responsibilities and pursuing sustainable development.

Goals and Achievement	Achievements in 2024	2024 Goals	2025 Goals
	There were 3 environmental penalties in violation of the Air Pollution Control Act, incurring total fines of NT$1,200,000	Environment, Health, and Safety (EHS) violation fines ≤2 per year.	Environment, Health, and Safety (EHS) violation fines ≤2 per year.

Actions Taken

- Continuously strengthened environmental management at each plant to comply with various environmental regulations, including those on air pollution, wastewater discharge, and waste disposal.
- Continuously improved employee care and protection to meet local regulations.
- The units responsible took immediate action to remediate negative environmental and social impacts caused by non-compliance.

Processes to Track Effectiveness

- The heads of the Legal Department and the Operational Division each report to the Executive Leadership Team when required on the update and implementation of relevant laws and regulations of the Company and its subsidiaries.
- The head of the Legal Department reports on the implementation status of ethical corporate management to the Board of Directors once a year.
- In the event of non-compliance resulting in environmental, safety and health fines or violation penalties, TSRC will comply with the Group's incident notification and investigation requirements and report the incident in the incident notification system, investigate the incident, formulate corrective measures, incorporate them into operational measures and planning, and continue with tracking to ensure improvement.

Stakeholder Engagement

- In 2024, after actively discovering a violation of ethics, the Company not only imposed disciplinary action pursuant to our rules, but also sent out an internal announcement to the Group's employees to ensure that all employees understand the importance of complying with work rules. This incident did not result in any negative impacts to the Company, and the Company has strengthened education on this topic and implemented related management actions to prevent the incident from happening again.

4.1.4 Compliance

TSRC complies with domestic and international laws and regulations related to governance, environment, products or services, and finance. TSRC's main facilities are located in Taiwan, China, the United States, and Vietnam. According to the regulations of each country, TSRC sets indicators that meet or exceed the legal requirements. TSRC strengthens environmental management activities and regularly monitors compliance with laws and regulations in various areas, with the goal of incurring less than 2 fines per year for environmental, health, and safety (EHS) violations, in the hope of reducing the impact on governance, the environment, and society.

Enforcing and Tracking Compliance

Actions

- Continuously strengthened environmental management at each plant to comply with various environmental regulations, including those on air pollution, wastewater discharge, and waste disposal.
- Continuously improved employee care and protection to meet local regulations.
- The units responsible took immediate action to remediate negative environmental and social impacts caused by non-compliance.



Regular Tracking

- The head of the Legal Department and the head of the Operational Division respectively report to the Executive Leadership Team from time to time on the status of compliance with laws and regulations of the Company and our subsidiaries.
- The head of the Legal Department reports on the implementation status of ethical corporate management to the Board of Directors once a year.
- In terms of EHS management, when non-compliance fines or violation tickets are discovered, TSRC will comply with the Group's incident notification and investigation requirements and report the incident in the incident notification system, investigate the incident, formulate corrective measures, incorporate them into operational measures and planning, and continue with tracking to ensure improvements are made.



In terms of operational management, all employees of TSRC must adhere to the Code of Ethics and are committed to the principle of ethics to comply with the relevant rules, laws, and regulations. In 2024, the Company actively discovered one violation of ethics. The Company imposed disciplinary action, issued an internal announcement, and terminated the employment relationship with the violating party. This incident did not result in any negative impacts to the Company, and we will strengthen management measures to prevent this incident from happening again. In 2024, TSRC did not incur any fines or non-monetary sanctions for violations of corporate governance, economic, and EHS laws and regulations, nor were there any violations of laws and regulations related to consumer health and safety, information or labeling for products, and services.

TSRC had no major violations in 2024. 3 environmental fines were incurred for violations of Article 20, Paragraph 1 of the Air Pollution Control Act, Article 23, Paragraph 2 of the Air Pollution Control Act, and Article 8, Paragraph 3 of the Air Pollution Control Act respectively. These fines totaled NT$1,200,000. For enhanced management measures against air pollution violations, see 2.5.1 Air Pollution Prevention and Management. For the definition of a major violation, and for violations and fines in the previous year, please refer to the Appendix.

4.1.5 Customer Relations

Global Customer Relationship Management

TSRC has established sales and supply bases across Europe, the United States, and Asia, together with five key operating bases in Taiwan, China, Luxembourg, the United States, and Vietnam. As TSRC's two major business lines (synthetic rubber and advanced materials) involve different product types, TSRC implements global and local customer relationship management measures to provide customized services, ensuring that both business lines can provide prompt and high-quality services to customers.

Global Customer Relationship Management for the Two Business Lines

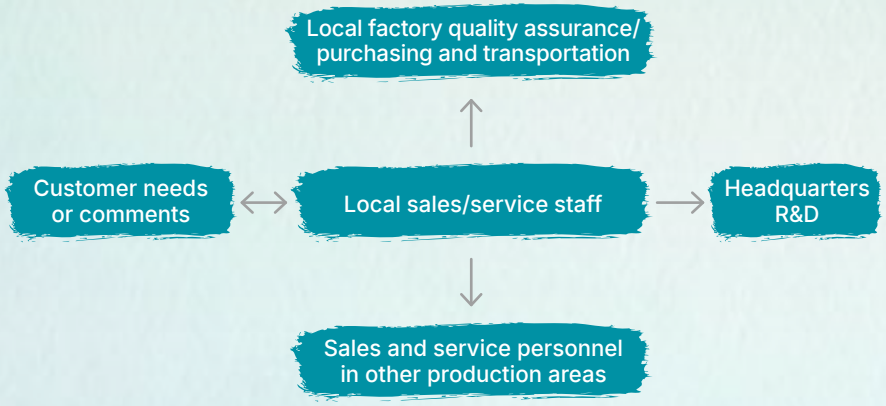
Synthetic Rubber Division

Main Customers Tire and footwear manufacturers

Sales location Taiwan, China

Customer Relationship Management Strategy

- Local sales offices can serve customers directly
- When there are cross-regional service needs or issues with new product development, employees from different regions can jointly discuss and explore solutions to meet customer needs, while employees from the local sales office are in charge of responding.



Advanced Materials Division

Main Customers Medical and healthcare materials manufacturers, footwear companies, and other applied materials manufacturers

Sales location Luxembourg, the United States, Taiwan, China, and Vietnam

Customer Relationship Management Strategy

- TSRC has established a global customer relationship management platform, which enables employees at all locations to exchange problems and opinions received from customers. This accelerates the improvement and adjustment of product quality and allows us to promptly address customer problems.

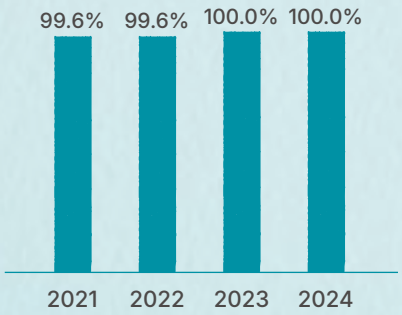


TSRC upholds the spirit of providing customer-oriented services, and has established standardized operating procedures to properly handle customer complaints, reports, and refunds. The contact window is responsible for quickly relaying customer complaints, regulatory requirements, and specific needs to the quality assurance department of each factory. The quality assurance department is then responsible for integrating the progress of each related unit, ensuring that product quality and delivery issues can be resolved in a timely manner. If quality specifications fail to meet customer requirements, TSRC's management system will provide professional solutions and analyze the root cause of the problem for subsequent improvement.

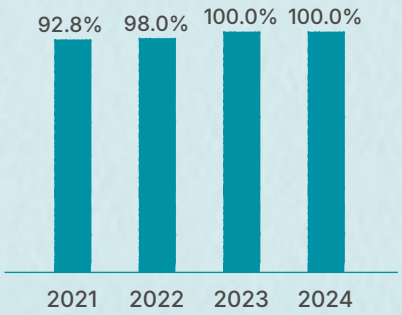
Improve Customer Satisfaction

TSRC's core mission is to become an important partner for customers. TSRC obtains customer feedback through multiple channels, such as irregular customer meetings and annual satisfaction surveys. Every year, TSRC conducts customer satisfaction surveys at our production sites around the world. The survey asks about customer satisfaction regarding our business services, transportation services, product quality, technical services, and complaint handling. Due to the differences in customer characteristics and product features at each site, survey questions are adjusted to reflect the different characteristics of these regions and customers. The 2024 customer satisfaction survey collected opinions from a total of 171 customers. The overall satisfaction rate was 99%, increased by 5 percentage points compared to last year.

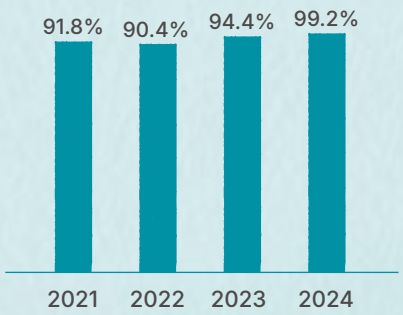
Customer Satisfaction



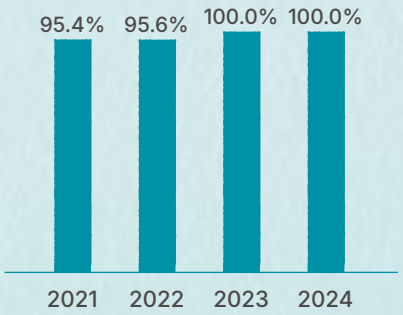
TSRC Corporation



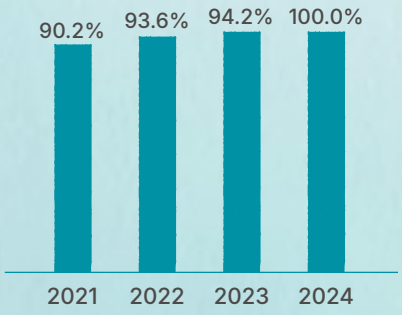
Shen Hua Chemical



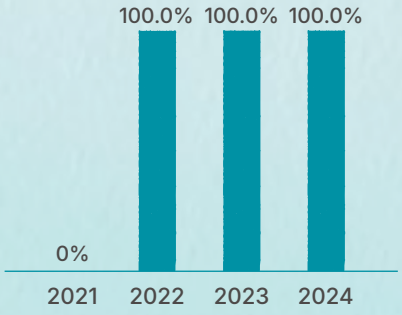
Nantong Industries



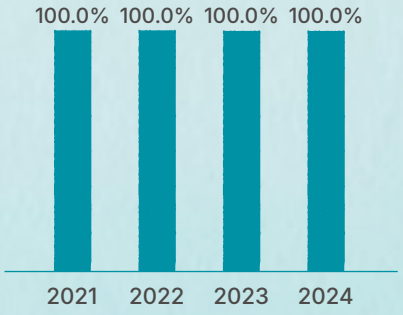
TSRC-UBE



Shanghai Industries



TSRC (Vietnam) Company Limited



TSRC Specialty Materials LLC

Note 1: TSRC (Vietnam) Company Limited officially started operations in 2021, with customer satisfaction surveys being held since 2022.

Note 2: The two trading company subsidiaries (Polybus Corporation Pte Ltd and TSRC (Lux.) Corporation S.à.r.l) which are included within the reporting scope do not have any production activities or customers, and are therefore not included in this table.

Material topics

Sustainable Innovation

Corresponding Chapter: 4.2.1 Innovation Capabilities | 4.2.2 Innovative Products and Technologies

Policy

- Overview of the R&D Management Plan
- Regulations on Research and Development Management
- Regulations on New Product Development

Commitment

TSRC embraces innovation to drive excellent performance and create a virtuous cycle for companies and society to achieve mutual prosperity for sustainable development.

	Achievements in 2024	2024 Goals	2025 Goals	2030 Goals
Goals and Achievement	✓ New products accounted for 18% of total revenue. • Obtained first national patents for 2 patents and received patent awards • Applied for a total of 559 patents globally, with 464 patents approved as of the end of 2024 • 15 patents approved in 2024	Continue to develop new products and increase the share of revenue earned by new products	New products account for more than 15% of revenue.	Continue to increase revenue share of new products

Actions Taken

- Conducted R&D related activities following annual plans, including product or process development and product quality improvements.
- Set up innovation incentive mechanisms to promote innovation and technology development.
- Organized innovative technology exchange activities to promote the positive impact of TSRC's innovative and sustainable products.

Processes to Track Effectiveness

- Evaluate development progress and report to the Executive Leadership Team in a timely manner to grasp the development situation and understand specific results.
- The Executive Leadership Team reviews the revenue share of new products each quarter.

Stakeholder Engagement

- In 2024, we participated in 3 technical exchange meetings and seminars on medical, healthcare, and adhesive materials related to the rubber and plastic industry, organizing multiple technical innovation seminars.

4.2 Develop Innovation Momentum

TSRC embraces innovation to drive excellent performance and create a virtuous cycle for companies and society to achieve mutual prosperity for sustainable development. TSRC's incentives encourage employees to develop new technologies and apply for patents. TSRC continues to focus on reducing the environmental impact of products, developing renewable raw materials, and providing customized green services. TSRC leverages its global customer relationship management platform and global R&D centers in Asia and America to ensure that its products and solutions meet the expectations of the market and customers.

4.2.1 Innovation Capabilities

TSRC has a total of 168 R&D employees worldwide responsible for the planning, development, and implementation of new products and new processes, as well as the management of technical know-how. These R&D experts accompany employees from the Sales and Quality Assurance Departments to meet with customers and discuss product application trends, allowing them to understand customer product expectations and the requirements they have for new materials, and use this information as a basis for developing new products.

TSRC Innovation Management Strategy

Innovation incentives

TSRC has set up incentive measures to encourage employees to create new technologies and apply for patents, continuing to optimize our manufacturing processes.

Information exchange

The TSRC global customer relationship management platform and global R&D centers located in Asia and America, by being able to integrate resources across R&D, market sales, production, and the supply chain with no delay, play a vital role in ensuring that our products and solutions meet market needs.



Green R&D

TSRC focuses on reducing the environmental impact of products, developing renewable raw materials, and providing green services to our customers.

Analyze requirements

TSRC engages with customers to thoroughly understand their processing procedures, in order to make our products easier to process, help customers reduce unnecessary procedures, and avoid consuming extra energy and resources and generating greenhouse gas emissions.

Global R&D Center

The TSRC R&D Center located in Texas, USA, was launched in 2021. It is TSRC's second global R&D center and the first located outside Asia. The R&D Center is co-located with the office of TSRC Specialty Materials LLC, and is TSRC's second multi-function R&D facility after the Global Application Research Center established in Shanghai, China in 2010. The Center provides customers with climate-friendly specialty polymer products and comprehensive environmentally friendly solutions.

As TSRC's innovation base, the R&D center in the USA integrates various resources to focus on the development of SBC products, and provide cost effective solutions. The center integrates process technology development, terminal applications, and technical services for customers. These are developed into medical grade materials, hygiene products, adhesives, film, asphalt modification, and elastic non-woven fabrics for the global market. To continue promoting TSRC's innovative product development, the TSRC management team regularly reviews new product sales, with new product sales of synthetic rubbers and advanced materials accounting for 18% of total revenue in 2024.

2024 Technological Research Results Achieved by TSRC R&D Center in the USA

SIS production line

Fully eliminated the use of talcum powder from the SIS production line to prevent cross-contamination, allowing TSRC products to be even more safely used for hygiene-related applications, and giving consumers greater peace of mind. The production efficiency of the SIS production line was also improved through upgraded engineering technology.



SBS production line

Carbon dioxide neutralization technology was fully adopted for our SBS production lines, applicable to all products. This greatly reduced fouling issues with SBS production lines, leading to increased production capacity and allowing us to better meet customer requirements. Approximately NT$64,196,700[Note] (US$2,000,000) in maintenance expenditures can be saved each year.

Note: Average exchange rate in 2024 was TWD: USD = 32.09835:1.



2024 Global Top 100 R&D Awards

In order to implement a high-value transformation and achieve our sustainable development goals, TSRC worked with the Taiwan Textile Research Institute on using scientific methods to develop a bionic mono-material leather, winning the prestigious 2024 R&D 100 Awards.

This bionic mono-material leather uses specialized SEBS materials developed by TSRC, and features excellent elastic stretchability and fluidity, created using solvent-free biomimetic fiber forming technology. TSRC has successfully used a single material to achieve the multiple textural requirements of leather, developing a product both highly breathable and stretchable, while also achieving sustainability benefits such as process optimization, better recyclability, and a lower carbon footprint.



Incentives of Innovation

To accelerate change and innovation, TSRC has established various innovation award incentives, including for Innovation Contribution, Continual Improvement, and Error Cause Removal. The Innovation Contribution award is given to teams or individuals who have contributed to the development of new products or new production processes. In 2024, 17 Outstanding Teams of the Year were recognized, and total incentives of NT$400,000 were distributed in the Taiwan region, NT$356,362[Note] (RMB 80,000) distributed in the China region, and NT$64,197[Note] (US$2,000) in the US region. Furthermore, the Company organizes continual improvement contests based on industry changes, customer feedback, and business strategies, fostering a culture of continual improvement and enhancing problem solving abilities. In 2024, eight projects were rewarded, with a total of approximately NT$75,000 distributed. Additionally, TSRC encourages employees to use logical and statistical analysis to identify and eliminate error causes, continuously proposing quality and process improvements. A total of 1,737 projects were awarded in 2024, receiving a total of NT$406,799.

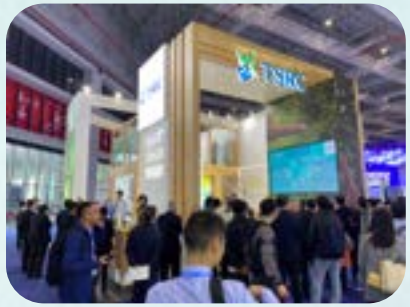
Note: Average exchange rate in 2024 was TWD: RMB = 4.45452:1, TWD: USD = 32.09835:1.

Award description		Representative Projects in 2024	
Innovation Contribution Award (Outstanding Team of the Year)	For encouraging the use of innovative methods to develop new products or processes, optimize production, and propose new key projects	**TPE plant process changeover optimization and new product trial production team** • Optimized the product changeover process, increasing production line efficiency, and reducing steam consumption and carbon emissions. • Implemented improvements to production process of new products and technological breakthroughs. **Public utility plants - Stabilized power supply from public utility systems, conserved energy and reduced carbon** • Strive to provide plants with a stable supply of electricity, steam, water, and air. Also implemented multiple energy conservation and carbon reduction improvement measures to reduce greenhouse gas emissions. **Energy conservation and emissions reduction team at Shen Hua Chemical** • Achieved the best steam consumption per unit in Shen Hua Chemical's history, reducing greenhouse gas emissions. • Improved management of non-methane hydrocarbon in RTO waste gas and wastewater treatment systems, effectively reducing non-methane hydrocarbon emissions and wastewater unit consumption.	**Nantong Industries Recycling and Green Environmental Protection Team** • Brings together business, warehousing, quality assurance, and manufacturing departments to improve shipment packaging, using environmentally friendly materials with extended life cycles and reducing the use of packaging materials. **Nantong Industries Production Unit Hydrogen Recycling and Reuse Team** • Solved issues related to liquid cyclohexane separation and recycling, coolant cooling, and freeze prevention for automatic condensation and condensation pipes. Generated economic benefits through recycling hydrogen and cyclohexane, effectively reducing cyclohexane emissions and energy consumption.
Continual Improvement Award	For fostering a culture of continual improvement, enhancing problem solving abilities	**Reduced the defect rate for SEBS production lines** • Reduced the defect rate of Nantong Industries' SEBS production line by 30% in 2024, compared to 2023. **Reduced finished product contamination and reduced customer complaints** • By analyzing the causes of abnormalities, eliminating product contamination causes, and strengthening training on the production process, effectively reduced the occurrence of black spots on BR finished products from the Kaohsiung Factory and reduced customer complaints. **Improved the process capability index (Cpk) for production of SSBR final products** • Cleaned and repaired pipeline control valves to reduce pipe leakage, improving the Cpk to more than 1.33 for SSBR final products at the Kaohsiung Factory.	
Error Cause Removal Award	For encouraging the use of logical and statistical analysis to improve product quality and processes	**Optimization of butadiene green analysis technology** • Reduced analysis time, allowing samples to be quickly identified and significantly reducing the harm to human health and the environment. **Optimization and improvement of operating procedures** • Optimized operating procedures for automatic packaging system equipment, increasing work efficiency.	

TSRC Innovative Technology Exchanges

Event name	AFERA Technical Seminar	CHINAPLAS 2024	Asia Nonwovens Exhibition and Conference (ANEX)
Number of activities	Gave 1 speech	Organized 11 technical innovation seminars and participated in 1 interview	Gave 2 speeches
Technology demonstration	• Application of SIS materials in hot melt pressure sensitive adhesives	**Technological Innovation Seminars** • TSRC Medical Tube Plug Solutions • TSRC Medical Gel Solutions • TAIPOL SEBS plastic property modification and compound material applications • TAIPOL Sustainable Solutions • Application of VECTOR SIS in flexible films • Application of VECTOR SIS in medical-use adhesives • TAIPOL SEBS ISCC PLUS certification • Application of TAIPOL SEBS in adhesives • Application of VECTOR SIS in label adhesives • Comprehensive shoe materials solution - supercritical physical foaming • Comprehensive shoe materials solution - chemical crosslinking foaming **Interviews** • Introduction to TSRC's medical solutions	• Introduction to TPE applications in the healthcare materials industry • Introduction to VECTOR SIS applications for medical-use elastic films
Outstanding Achievements	• Attended by more than 120 professionals in the European tape industry	• Technology innovation seminars attracted approximately 500 viewers • Interview attracted approximately 200 viewers • Shared information on TPE technology with downstream applications • Interacted with rubber industry professionals in Asia Pacific, Europe, and America	• Lecture attracted approximately 60 viewers • Exchanged information with professionals in the healthcare materials industry chain





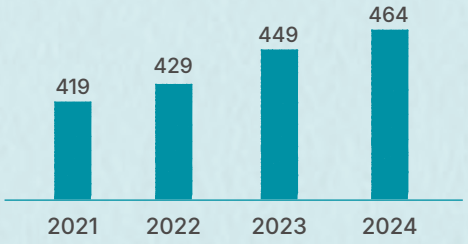


Patent Results

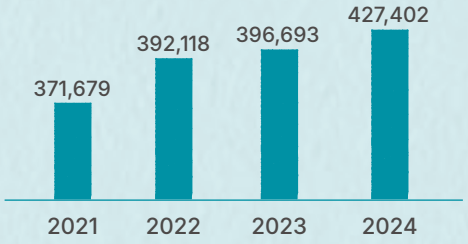
Patents are an important indicator of technological innovation and research and development capabilities. TSRC provides substantial rewards to motivate internal innovation. A total of 2 patents in 2024 were granted as the first national patents for a country, and the TSRC developers have received patent rewards. 15 TSRC patents were approved in total across the year. As of the end of 2024, TSRC has applied for a total of 559 patents worldwide, and 464 patents have been approved.

TSRC regularly conducts patent training programs to enhance employee knowledge and skills, and has established a trade secrets award to enhance the Company's competitive advantage. The TSRC Patent Evaluation Committee discusses each invention proposal to ensure the quality and applicability of patents. For more information about TSRC's intellectual property management, please visit the TSRC website.

Patents and R&D Expenses over the Years



Total Number of Global Patents Approved



R&D Expenses (thousand NTD)

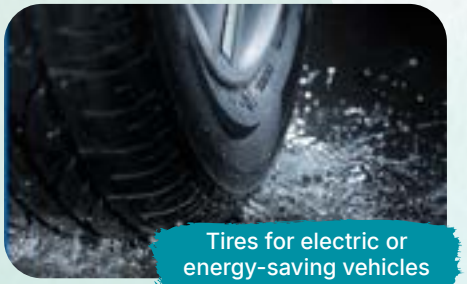
4.2.2 Innovative Products and Technologies

Synthetic Rubber

The main product applications of synthetic rubber are in automotive parts, tires, and shoe soles. TSRC's main strategy is “product optimization, emission reduction, and application enhancement”, using innovative products to support the climate initiatives of our value chain partners.

New-generation synthetic rubber development

- Developed new generation synthetic rubber material solutions, including application research and testing, technology platform and product portfolio for new energy vehicle tires, providing customers with technical knowledge and services in the design and production process.
- This new-generation synthetic rubber has low rolling resistance, anti-slip, and wear resistance properties that improve fuel efficiency and help reduce carbon emissions from tires use. It has received recognition from many international customers. Based on sales volumes in 2024, TSRC's green tires made of new generation synthetic rubber will help reduce carbon dioxide emissions from vehicle travel by 420,000 tons CO_2e.



Tires for electric or energy-saving vehicles



Footwear

Optimization of polybutadiene rubber (BR) products

- TSRC has optimized existing BR product formulas and processes and expanded into new application markets to provide customers with better processing performance. It has received certification from international companies and commercial orders have been increasing.

Advanced Materials

TSRC's advanced materials include thermoplastic elastomers and other materials for customized applications. The main applications of thermoplastic elastomers are in adhesives, elastic films, IV bags/films, and medical tubes. Applied materials are mainly used as foaming materials for footwear. In response to the needs driven by global sustainable development, TSRC has focused on developing innovative new materials such as recyclable thermoplastic elastomers free of hazardous plasticizers and thermoplastic elastomer products which use medical-grade recycled materials as raw materials. We have continued to optimize our polymerization processes, expand downstream applications, and work together with our value chain partners with the goals of replacing raw materials that pose a threat to the environment and human health, in order to promote the circular economy, reduce carbon emissions, and create sustainable value.

High value SBC product development

- TSRC has developed hygiene materials such as thin elastic films and elastic nonwovens fabrics, and applied them to diapers, masks, and hygiene and nursing products. Some of these have been officially launched on the market.
- These materials have outstandingly high fluidity, allowing for more flexible formulas and processing conditions, and has a wide range of application. These materials can be used in medical-use elastic films, and can operate with high efficiency at lower temperatures, saving energy. They have excellent stretchability, and achieve a balance between hardness and flexibility. Can be applied to polymer property modification, increasing resilience and impact resistance for plastic products.



Diapers, masks, and hygiene & care products

Non-crosslinked SCF technology

- Unlike more common chemical crosslinked PU and EVA shoe sole materials, products which utilize supercritical fluid foaming can be recycled. We will continue developing new product applications for this technology, such as for slippers, shoe midsole, and bra pads, and are currently in the process of obtaining certification from various international brands.
- According to TSRC's estimates, the carbon footprint of TSRC SEBS foam material is 5.016 kg CO_2e per ton, which is lower than the 7-8 kg of CO_2e per ton for commercially available TPU materials and 11-12 kg of CO_2e per ton for TPE materials.



Footwear

Medical-grade SEBS

- TSRC has completed the development of medical grade SEBS materials. This SEBS material is transparent and contains no plasticizers. Some international customers have completed testing and certified the product as medical-grade quality, with products already officially launched on the market.
- Medical-grade SEBS is easy to process, supports two-color injection molding, and increases design flexibility. The finished product has fast self-sealing properties, solving the common leakage issue of other materials on the market. In addition, it has zero residue, high permeability, thermoplastic, and recyclability properties, allowing it to meet ISO 15759 standards. This makes it suitable as a replacement for thermosetting polymer materials such as vulcanized rubber, making it a better choice for environmental and sustainability reasons.



Comprehensive medical product applications, including as medical-use tube stoppers, bottle caps, and gaskets

Development of the recycled thermoplastic elastomer (rTPE) product series

- Uses medical-grade post-consumer recycled (PCR) materials as raw materials, such as used IV bags or recycled plastics. Through innovative new compounding process technology, these materials can be used to make high value-added rTPE products.
- The rTPE series includes rTPE products containing 30% and 70% PCR, which can replace polyolefin elastomer (POE) as an anti-impact modifier for recycled polypropylene (rPP). Furthermore, less rTPE is required to provide rPP with even superior impact resistance. rTPE is soft, making it suitable as a raw material in formulas for soft compound materials. This also allows it to meet demand for a wide range of applications on the market.
- rTPE products use PCR as a raw material, reducing the product carbon footprint compared to virgin SEBS products.
- TSRC's rTPE products have obtained Global Recycled Standard (GRS) certification. It is traceable throughout the entire process from production to sale, meeting the sustainable product certification requirements of customers.



rTPE products



Global Recycled Standard (GRS) Certification

rTPE Value Chain

Medical institutions
Recyclables from IV bags

→

Recycling company
Recycled fragments from IV bags
Recycled pellets from IV bags

→

TSRC
Virgin SEBS
+
Recycled pellets from IV bags
=rTPE

→

Recycled polypropylene manufacturer
rTPE can be used as an anti-impact modifier for recycled polypropylene (rPP) to improve impact resistance

→

TPE manufacturer
rTPE is a soft material, making it suitable as a raw material for soft compound materials

Product Applications

A wide range of applications, including automobile bumpers, automobile interior and exterior trim, tool handles, outer casings for electronic products, wire cables, waterproof tent canopies, polyethylene (PE), polypropylene (PP) packaging bags, and shared shipping racks.

Material topics

Sustainable Supply Chain Management

Corresponding Chapter: 4.3.1 Supplier Management | 4.3.2 Green and Local Procurement

Policy

- TSRC Group Supplier Code of Conduct
- TSRC ESG Procurement Policy

Commitment

TSRC attaches importance to the performance of our partners in the environmental, social, and governance dimensions. We continuously promote our supply chain to comply with business ethics, uphold human rights and labor policies, provide a safe working environment, reduce the impact on the environment, and at the same time provide high quality products and reduce the risk of business interruption.

Goals and Achievement

Achievements in 2024	2024 Goals	2025 Goals	2030 Goals
✓ Out of the top 50 suppliers in terms of annual procurement amount, 34 suppliers have conducted greenhouse gas inventories, or have implemented greenhouse gas reduction targets, plans, and actions ✓ Global local procurement of raw materials reached 74% of total procurement spending, and we continued to seek out suitable suppliers for locally sourced renewable raw materials	• Promoted the reduction of greenhouse gas emissions by the top 50 suppliers in terms of annual procurement amount, and established targets and action plans • Global local procurement of raw materials to reach 70% of total procurement spending, seek out suitable suppliers for locally sourced renewable raw materials	• Require primary raw material suppliers to reduce greenhouse gas emissions, and establish targets and action plans • Global local procurement of raw materials to reach 75% of total procurement spending, seek out suitable suppliers for locally sourced renewable raw materials • Promote the reduction of greenhouse gas emissions from our top 50 suppliers in terms of annual procurement amount, and establish targets and action plans	• Optimize procurement portfolio for raw materials in hopes of achieving the Company's future planned Scope 3 greenhouse gas reduction goals • Global local procurement of raw materials to reach 80% of total procurement spending, continue seeking out suitable suppliers for locally sourced renewable raw materials • Promote the reduction of greenhouse gas emissions from all suppliers, establishing targets and action plans

Actions Taken

- Required all suppliers to follow the TSRC Group Supplier Code of Conduct, sign and return the document, and commit to fulfillment.
- Selected suppliers for annual document-based or onsite evaluations to prevent negative impacts on the environment and society.
- Surveyed suppliers' sustainability risks through questionnaires. Conducted physical audits of factory sites and made recommendations to assist suppliers in making improvements if their self-assessment results fail to reach a score of 70.
- TSRC will continue to promote greenhouse gas reduction to our top 50 suppliers by reviewing suppliers' ESG disclosure annually to understand our suppliers' carbon reduction plans and track their implementation status.
- Regularly conduct non-hazardous material surveys on product safety to ensure that product raw materials comply with international non-hazardous material regulations and international customer sustainability requirements.
- When purchasing related equipment or appliances, we prioritize the purchase of products with environmental protection labels and energy labels, in line with circular economy concepts. We promote local procurement at our Taiwan factories, and have also expanded this to our subsidiaries in China, Vietnam, and the USA, to assist local factories in establishing a high-efficiency, low-carbon chemical industry chain.

Processes to Track Effectiveness

- Conduct annual supplier audits and evaluations, and request suppliers to submit improvement results within a specified period of time if they achieve a grade of C or below in the audit evaluation.
- Executive Leadership Team reviews proportion of locally-sourced raw materials each quarter.

Stakeholder Engagement

- Conduct interviews with suppliers from time to time to understand suppliers' ESG risk management measures and adjust TSRC supplier audit evaluation mechanisms.

4.3 Enhance Supply Chain Management

Suppliers are our partners, and we create value together. TSRC focuses on our partners' environmental, social, and governance performance. We require our suppliers to adhere to the TSRC Group Supplier Code of Conduct, the Code of Business Conduct, and the TSRC ESG Procurement Policy to comply with business ethics, protect human rights and labor rights, provide a safe working environment, and reduce environmental impact, while also providing high-quality products and reducing the risk of business interruptions. TSRC closely engages with suppliers by reviewing and evaluating their operational status to manage supply chain sustainability risks.

4.3.1 Supplier Management

TSRC's Executive Leadership Team emphasizes the management of environmental, social, and labor safety and rights issues by suppliers and contractors, and promotes these issues year after year through our annual plans. The Operational Division meets with key supervisors of each function and factory at least once a quarter on ESG-related issues, while the Executive Leadership Team is informed on the implementation of the plan at the quarterly ESG meetings, and makes further recommendations based on the implementation results. In particular, we have conducted in-depth understanding of local procurement, development of renewable raw material suppliers, suppliers' commitment to sign the TSRC Group Supplier Code of Conduct, and the supplier sustainability survey in the hope of promoting the supply chain's common goal of carbon reduction.

TSRC Group Supplier Code of Conduct

Emphasis on Ethical Corporate Management

TSRC is committed to corporate social responsibility and encourages our partners to promote open and fair competitive business activities based on fairness and ethics in order to achieve long-term profits and sustainable operations for TSRC and our partners.

Joint Commitment to Social Responsibility

TSRC believes that the members of the supply chain play a vital role in the implementation and development of corporate social responsibility, and expects our partners to agree and make their best efforts to fulfill their social and environmental responsibilities, adopting these values as guidelines for their business operations.

Compliance with Laws and Regulations

We expect our partners to comply with the TSRC Partner Code of Conduct (PCC), including with its environmental, occupational safety and health, human rights/ethics and labor policies, and to ensure that the products and services provided comply with all local and other applicable laws and regulations.

Upstream raw material suppliers are TSRC's primary value chain partners. TSRC relies on petrochemical raw materials purchased from suppliers for polymerization. Through synthesis, these raw materials are manufactured into chemical materials and rubber material products, which are sold to downstream customers (including tire manufacturers and medical product manufacturers), who then use these materials to produce the final consumer product. To effectively implement supply chain management, TSRC classifies suppliers into raw material suppliers, packaging suppliers, contractors, and general suppliers. For raw material suppliers, we conduct audits based on our annual audit plan to ensure that suppliers have the ability to deliver. We also conduct non-hazardous substance surveys for raw material suppliers and packaging suppliers to ensure that the products provided for use in our manufacturing process do not contain hazardous substances. Contractors refer to labor services (including cleaning, security, cafeteria, and administrative services), and equipment repair, civil engineering, and warehousing and logistics providers. General suppliers are those other than the above three categories. TSRC conducts annual performance evaluations of contractors and general suppliers to ensure that they meet quality and delivery time requirements.

Supplier Sustainability Risk Control and Management

Based on the Responsible Business Alliance (RBA) Code of Conduct, and following the International Labor Organization (ILO) Convention and the United Nations Convention on the Rights of the Child (UNCRC), TSRC has established the TSRC Group Supplier Code of Conduct. This Code regulates the social and environmental performance of suppliers, including their ethical management conduct, human rights and labor policies, occupational safety and health, and environmental protection. TSRC requires new suppliers to comply with and sign the TSRC Group Supplier's Declaration of Compliance with Corporate Sustainability, and also fill out the TSRC Group Sustainable Management Assessment Form and assess themselves on their compliance on a number of topics. Suppliers are also required to sign these documents again should they be updated. Should a supplier have concerns about TSRC's business activities or suffer negative impacts, they may submit a complaint or report via the whistleblower mailbox on the TSRC website.

In 2024, TSRC designated 100 important suppliers (including 48 suppliers of primary raw materials and auxiliary materials and 52 suppliers of packaging materials, labor, and other raw materials) to undergo a sustainable development assessment. The results of this supplier's self-assessment found that no supplier has caused a major negative social or environmental actual impact. TSRC places an emphasis on human rights issues for suppliers. 2 suppliers were found to pose potential human rights risks due to issues with their handling of anonymous employee complaint mechanisms and employee freedom of association rights. Please refer to 3.2.3 Human Rights and Labor-Management Communication for more details on the supplier human rights investigation process and TSRC's response measures. TSRC also attaches importance to supplier environmental management. In particular, 3 suppliers have not yet fully implemented greenhouse gas emissions data records and established carbon reduction goals, 1 supplier has only obtained some of the required environmental permits, and 1 supplier has not yet fully implemented a hazardous waste removal and disposal mechanism. In 2025, we plan to track and understand how suppliers with potential social and environmental risks have conducted business operations, communicating with them on improvement measures. In 2024, TSRC had no suppliers with whom we terminated business relations with due to causing a major negative social or environmental actual impact.

Number and Percentage of New Suppliers Selected in 2024

Number of new suppliers
14

Number of new suppliers that signed the TSRC Group Supplier's Declaration of Compliance with Corporate Sustainability
12

Percentage of new suppliers in compliance with sustainability standards
86 %

The Procurement and Logistics Department is responsible for assessing supplier sustainability risks. TSRC makes procurement decisions based on how suppliers have complied with the Supplier Code of Conduct, and conducts document-based and on-site evaluations each year for suppliers selected based on audit results. These evaluation results are reported to the heads of each department and followed up on. For the results of the 2024 supplier evaluations, please refer to the Supplier Evaluation System. TSRC provides ESG training on sustainable supply chain management for employees in charge of procurement to ensure that they possess basic knowledge of sustainability, fulfilling TSRC's commitment to sustainable supply chain management in daily operations.

Sustainable Procurement Management Training

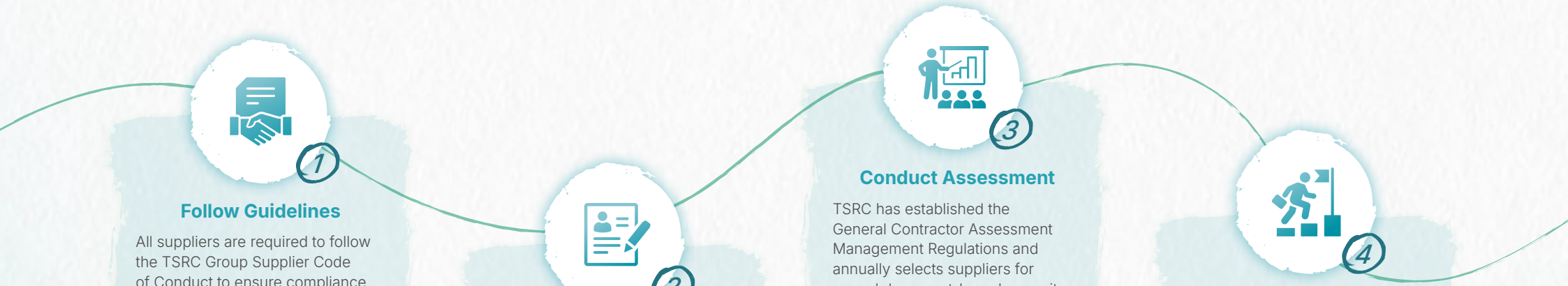
Purpose
Increase awareness of sustainable supply management trends for procurement employees and other employees with related duties, with a focus on improving management.

Training Content
External consultants were invited to share knowledge on sustainable supply chain trends and management, including on important topics such as sustainable supply chain trends, establishing Scope 3 reduction targets, and supplier carbon reduction management.

Results
1 session was held in 2024, attended by a total of 9 procurement employees.



Sustainable Supply Chain Management Process



1 Follow Guidelines

All suppliers are required to follow the TSRC Group Supplier Code of Conduct to ensure compliance with social and environmental responsibility rules on business ethics, human rights and labor policies, occupational safety and health, and environmental protection regulations.

2 Assess Level of Compliance

Suppliers are required to sign the TSRC Group Suppliers' Declaration of Compliance with Corporate Sustainability and complete the TSRC Group Suppliers' Sustainability Assessment Form, according to which TSRC will assess the suppliers' sustainable practices.

3 Conduct Assessment

TSRC has established the General Contractor Assessment Management Regulations and annually selects suppliers for annual document-based or onsite assessment in accordance with the regulations.

4 Follow Guidelines

TSRC conducts supplier improvement tracking after the assessment, which serves as an important reference for supplier selection.

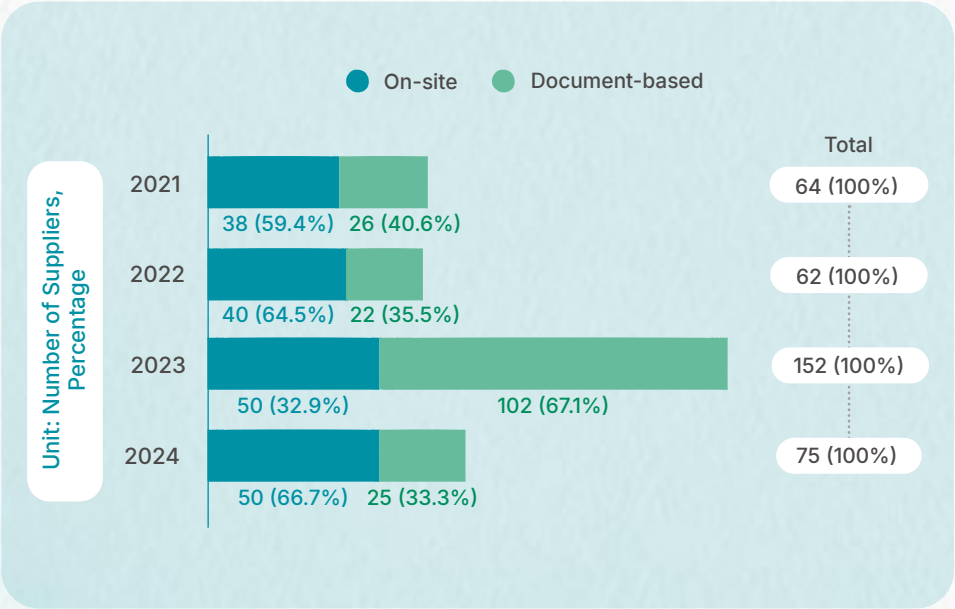
Supplier Evaluation System

TSRC values suppliers that provide stable quality products and services. We also monitor their performance on labor and human rights, occupational safety and health, environmental impact, the Code of Ethics, and social impact. Each year, based on the General Contractor Assessment Management Regulations, we select suppliers through our procurement department after excluding low-risk bulk chemicals (such as BD, SM, KOH, NAOH, etc.), general commercially available chemicals (such as KCL, H_2SO_4, $NaNO_2$, SHS etc.), raw materials with an annual purchase amount of less than NT$3 million and less than two purchases per year. An annual supplier audit program is established to evaluate the Group's suppliers to ensure that the actual performance of suppliers meets standards. In addition, we conduct interviews with suppliers from time to time to understand their ESG risk management measures and to adjust the supplier audit mechanism.

TSRC conducts annual supplier audits and evaluations every year, mainly in the form of on-site assessments. In the event of force majeure incidents at the location, such as the global pandemic, document-based audits may be conducted. For suppliers in Europe and America, a document-based audit may be conducted due to labor and transportation cost considerations and the long distances making on-site audits inconvenient. The evaluation rating scores for each supplier is classified into one of five grades. If the audit result is B, the audit cycle will be shortened to three years, and if it is C, the cycle will be shortened to two years. If the rating does not reach the Grade C level, the supplier is required to submit improvement results within a specified period. If the improvement is not made within the specified period, they will be listed as an unqualified supplier and prohibited from doing business with TSRC. In the event of major quality defects, Hazardous Substances Free (HSF) quality anomalies, delivery delays, or serious violations of work safety regulations affecting the Company's production, quality, and HSF quality, qualified suppliers must review and improve the quality of their products, or else TSRC will suspend orders from the supplier.

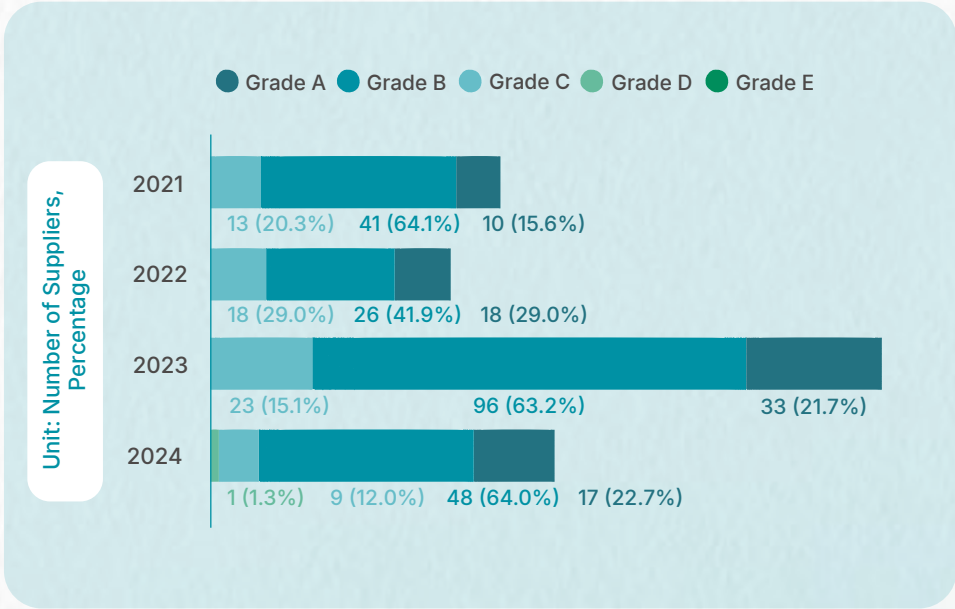
In 2024, TSRC assessed 75 suppliers, 50 of which were assessed on-site and the remainder through a document-based assessment. The 2024 supplier evaluation included new topics on international sustainability standards. 17 suppliers were rated as Grade A suppliers, representing 23% of all suppliers evaluated.

Supplier Evaluation Method



Note: This table includes TSRC Corporation and its six operating subsidiaries, excluding the two trading subsidiaries (Polybus Corporation Pte Ltd, TSRC (Lux.) Corporation S.à.r.l).

Supplier Evaluation Results



Note 1: This table includes TSRC Corporation and its six operating subsidiaries, excluding the two trading subsidiaries (Polybus Corporation Pte Ltd, TSRC (Lux.) Corporation S.à.r.l).

Note 2: Grade description: Grade A indicates an excellent supplier, with no deficiencies. Grade B indicates a reliable supplier, with minor deficiencies that were immediately corrected. Grade C indicates a qualified supplier, where the supplier has been requested to respond with improvement actions for major deficiencies. Grade D indicates a conditionally qualified supplier, where the supplier must submit improvement results and meet Grade C requirements within a specified timeframe. The supplier will become an unqualified supplier if improvements are not completed in time. Grade E indicates an unacceptable supplier.

Collaborating with Suppliers to Reduce Carbon Emissions

TSRC has developed an ESG strategy plan in 2021 with the ultimate goal of achieving carbon neutrality. Supply chain partners are key to TSRC's carbon reduction journey, and TSRC is committed to promoting greenhouse gas emissions reduction among suppliers to increase operational resilience. TSRC requires our 50 largest suppliers to commit to greenhouse gas reduction targets, develop solutions to improve energy efficiency, and minimize energy consumption and greenhouse gas emissions. According to information disclosed in the sustainability reports published by our primary raw materials suppliers, each supplier has established short and medium-term greenhouse gas reduction targets, and is working towards the long-term goal of achieving net zero carbon emissions. In 2024, a survey of our 50 largest suppliers by procurement amount on their greenhouse gas reduction targets confirmed that 34 suppliers carry out annual greenhouse gas inventories, or have established greenhouse gas reduction targets, plans, and actions. Looking ahead to 2025, this goal will transition towards investigating and tracking the carbon reduction targets set by our primary raw materials suppliers. We hope to reduce our Scope 3 carbon emissions through optimizing our procurement portfolio.

4.3.2 Green and Local Procurement

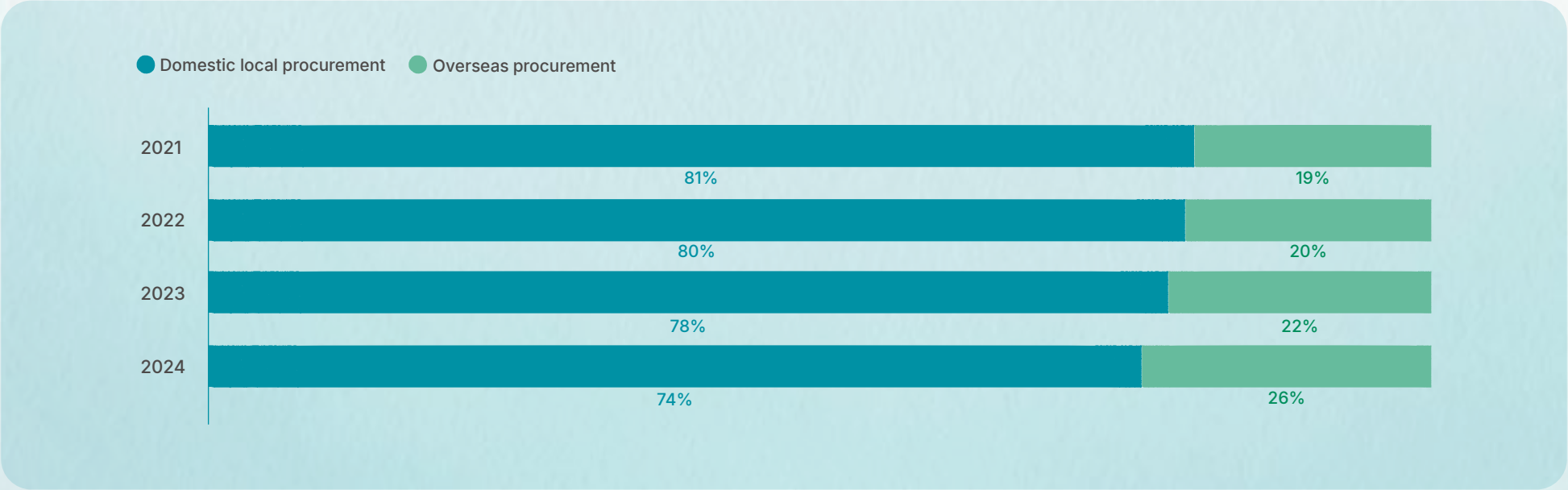
TSRC places an emphasis on positively impacting the environment. When purchasing equipment or devices, we consider not only the functions of goods but also the benefits or impacts on the environment. We implement green procurement practices, giving priority to purchasing products with environmental protection and energy labels, and implementing circular economy concepts through the "rent-instead-of-buy" approach.

In 2024, the green procurement of TSRC Corporation amounted to NT$121,563,273. This included replacing synthetic rubber outer packaging with rented metal boxes instead of disposable packaging such as wooden boxes, wooden pallets, or cardboard boxes. These metal boxes can be reused and significantly reduce the waste of packaging waste. Rented metal boxes accounted for 97% of the green procurement amount, while the rest were energy-saving products such as high-efficiency motors, inverters, and energy-saving lighting fixtures. Our subsidiaries Nantong Industries, Shen Hua Chemical, and TSRC-UBE also made contributions to green procurement, with green procurement amounting to NT$75,535,291[Note] (RMB16,956,999). This procurement amount was mainly from expenditures for rented metal boxes, pallets, energy-saving solenoid valves, and LED lights.

To strengthen our supply chain, TSRC promotes local procurement in Taiwan and has expanded this practice to subsidiaries in China, Vietnam and the United States. The percentage of locally procured raw materials is reported to the Executive Leadership Team each quarter. We have set up independent procurement units in each region to help local plants establish a highly efficient and low-carbon chemical industry chain. The primary raw material butadiene and other chemical raw materials (e.g., potassium hydroxide) are procured locally. The transportation of materials is mainly through pipelines to ensure the safety of chemical materials, which also reduces air pollution and greenhouse gas emissions from tanker trucks. The Group's domestic local procurement accounted for approximately 74% of total procurement in 2024.

Note: Average exchange rate in 2024 was TWD: RMB = 4.45452:1.

Local Procurement Percentage of the TSRC Group



Note 1: This table is calculated based on the procurement amount.
Note 2: "Local procurement" in this table refers to procurement in the country of the business location.
Note 3: This table includes TSRC Corporation and its six operating subsidiaries, excluding the two trading subsidiaries (Polybus Corporation Pte Ltd, TSRC (Lux.) Corporation S.à.r.l).

Appendix

Participation in Industry Associations and Non-Profit Organizations	135
Comparison of Changes in Material Topics to the Previous Year	137
Remediation and Management of Negative Impacts	139
Definition of Significant Instances of Non-compliance and HSE Severe Incidents	144
Sustainability Data	145
GRI Standards Index	169
SASB Index	182
Task Force on Climate-related Financial Disclosures (TCFD) Comparison Table	185
Information Disclosure Required by Taiwan Stock Exchange	186
Independent Third-Party Assurance and Verification Statement	188



Participation in Industry Associations and Non-Profit Organizations

Association Name	Operation	TSRC Roles	Benefits of Participation
Petrochemical Industry Association of Taiwan	• Hold a general meeting annually. • Publish the Petrochemical Industry Journal on a monthly basis and the Petrochemical Industry Annual Report.	Director	• Participate in the development of the petrochemical industry and collect information about the petrochemical industry. • Maintain good relationship with other petrochemical companies to solve common problems.
Taiwan Rubber & Elastomer Industries Association	• Hold a general assembly of members every year. • Provide information about rubber technology.	Director	• Maintain and develop good relationship with downstream manufacturers. • Collect information about rubber processing technologies.
Dashe Petrochemical Industrial Park Manufacturers Association	• Hold regular meetings to discuss and address the common problems of the companies in the industrial park (including fostering good relations with communities).	Director	• Participate in the operation of the Association to protect the rights and interests of the Company in the industrial park, collect the information on other companies, and solve common problems.
The Institute of Internal Auditors, R.O.C.	• Organize theoretical and practical research, workshops, discussions and visits with respect to the internal audit and promote audit education.	Member	• Introduce the latest theories and practices of internal audit, improve the audit capability, and exchange experience in internal audit techniques with other companies.
Human Resource Managers Association of Petrochemical Companies	• Organize regular activities, exchange information, and communicate and coordinate human resource related policies.	Member	• Understand the status of the industry and keep close contact with other companies.
Industrial Safety and Health Association of the R.O.C.	• Hold annual general meeting to review the operation of the Association.	Member	• Collect relevant information on occupational safety and health to facilitate inspection and coordinate of industrial safety.
Ren Da Industrial Park Association for Promoting Labor Safety and Health	• The administration center holds regular meetings.	Member	• Exchange safety and health information with other factories, provide supports with safety equipment, discuss safety and health issues and propose relevant suggestions.
Taiwan Responsible Care Association	• Hold the general meeting on a regular basis, reflecting the opinions of the members to the government, and organize relevant training courses.	Director	• Understand the responsibility of the petrochemical industry to the society in Taiwan and improve the performance in the environment, health and safety on an ongoing basis.
International Institute of Synthetic Rubber Producers (IISRP)	• Hold the annual meeting.	Director	• Collect the information on the global synthetic rubber to form international horizons.

Association Name	Operation	TSRC Roles	Benefits of Participation
The Chinese National Association of Industry and Commerce, Taiwan	• Provide members with relevant information and promote international economic and trading cooperation. • Organize trading and investment events as well as technology discussion and visiting activities for the industries.	Member	• Understand the status quo of the industry and facilitate communication with other companies.
The Education Safety & Health Association of Taiwan	• Hold an annual meeting.	Member	• Prevent accidents with respect to safety, health and environment and perform relevant investigation, research, implementation and prevention.
Association of Bio-based Material Industry	• The members hold regular meetings by rotation. • Provide e-news for the members to collect more information about the industry.	Member	• Explore the development trend of biomass technology, promote technical exchange in the industry, facilitate cooperation with other companies and participation in large-scale cooperative programs, and strive for external supports.
Taiwan Chemical Industry Association	• Hold an annual industrial forum and TSRC dispatches representatives for the forum.	Member	• This is the window for international communication and cooperation. It follows the international development trend and leads the chemical industry in Taiwan to bring innovation and transformation into practice.
Kaohsiung City Gangshan Benjhou Industrial Park Manufacturers Association	• Hold regular meetings to discuss and address the common problems of the companies in the industrial park.	Member	• Participate in the operation of the Association to protect the rights and interests of the Company in the industrial park, collect the information on other companies, and solve common problems.
China Rubber Industry Association	• Hold an annual industrial production technique exchange meeting. • Hold forums and seminars on an irregular basis.	Member	• Communicate the information of the industry and the latest development in the technique, production, safety and environment to promote the healthy and long-term development of the industry.
Nantong Standardizing Association	• Hold an annual meeting. • Hold forums on an irregular basis.	Member	• Understand the development of the international standardization in a timely manner, give effective guidance in the evaluation of quality indicators, and improve the quality development of the products.
Production Safety Management Network, Nantong Economic and Technology Development Area	• Hold a quarterly board meeting.	Director	• Maximize the capability of corporate safety production management and continue the improvement of the self-control, mutual control and joint control capability for the safety production in the area where the factory is located to effectively prevent occurrence of accidents.
Kaohsiung Chamber of Industry	• Hold an annual general meeting pursuant to the Industrial Group Act.	Member	• Understand the status of the industry and keep close contact with other companies.
Chinese Society for Quality	• Organize working committees. • Issue monthly publications. • Hold an annual meeting.	Member	• Collect information on QC technique and training. • Attend QC related workshops. • Introduce applicable QC techniques to improve the QC level of the factory.

Comparison of Changes in Material Topics to the Previous Year

	2023		2024		Differences
	ESG Issues	Material topics	ESG Issues	Material topics	
Governance	Sustainable innovation	✓	Sustainable innovation	✓	No differences
	Business strategies and performance	✓	Business strategies and performance	✓	No differences
	Governance, Integrity and Business Ethics	✗	Governance, Integrity and Business Ethics	✗	No differences. Corporate governance, integrity and business ethics are general disclosure and result-oriented. Although they fall below the materiality threshold based on the impact analysis according to GRI, and are not material topics; however, relevant information is regularly disclosed in the company's annual report, the company's website, and sustainability reports due to the priority concerns of stakeholders.
	Compliance	✓	Compliance	✓	No differences
	Risk management	✓	Risk management	✓	No differences
	Customer relations	✗	Customer relations	✗	No differences
	Sustainable supply chain management	✓	Sustainable supply chain management	✓	No differences
Environmental	Climate strategy and Greenhouse gas emissions	✓	Climate strategy and Greenhouse gas emissions	✓	No differences
	Energy management	✓	Energy management	✓	No differences
	Product Stewardship and Chemical Management	✗	Product Stewardship and Chemical Management	✗	No differences
	Circular economy	✗	Circular economy	✗	No differences
	Water Resource Management	✓	Water Resource Management	✓	No differences
	Waste and hazardous substance management	✓	Waste and hazardous substance management	✓	No differences
	Nature and biodiversity	✗	Nature and biodiversity	✗	No differences

	2023		2024		Differences
	ESG Issues	Material topics	ESG Issues	Material topics	
Society/ People	Employee welfare and sense of belonging	✗	Employee welfare and sense of belonging	✗	No differences
	Diversity, equality, and inclusion (DE&I)	✗	Diversity, equality, and inclusion (DE&I)	✗	No differences
	Talent Development	✓	Talent Development	✓	No differences
	Occupational health and safety	✓	Occupational health and safety	✓	No differences
	Employment and human rights	✗	Employment and human rights	✗	No differences
	Community engagement	✗	Community engagement	✗	No differences

Note: Product stewardship and chemical management, and circular economy are common issues of concern to the chemical industry in DJSI and SASB. Although they do not meet the threshold of materiality in TSRC's materiality assessment, and are not classified as material topics, relevant information is still disclosed with reference to GRI guidance on material topics disclosure.



Remediation and Management of Negative Impacts

No.	ESG Issues	Potential or actual adverse impacts on the economy, the environment and people (including their human rights)	Grievance Mechanism	Stakeholder involvement in grievance mechanism design	Number of complaints in 2024	Remedial measures for complaint cases
1	Climate strategy and Greenhouse gas emissions	**Negative Impact** Greenhouse gas emissions **Environment** TSRC's operations and suppliers emit greenhouse gases that cause climate change and impact the environment, ecology and biodiversity. **Society/People** TSRC's operations and suppliers emit greenhouse gases that cause climate change and related disasters, and damage the rights and interests of society and people. **Economy** TSRC's operations and suppliers emit greenhouse gases that cause climate change and related climate disasters, resulting in overall economic losses.	1. ESG mailbox in English and Chinese on the company website 2. Whistleblower mailbox in English and Chinese on the company website 3. Sustainable development section's contact window on the company website 4. TSRC spokesperson mailbox 5. Shareholders meeting	Stakeholders can communicate and express their opinions through the ESG mailbox and the contact window of the sustainable development section on the website.	0 cases	1. Once a complaint is received, TSRC will handle it immediately and decide how to respond to the complaint based on the nature of the incident and the circumstances involved. 2. The Company will follow up on the status of improvements to the issues that need to be addressed.
2	Energy management	**Negative Impact** Use of fossil fuels **Environment** TSRC and its suppliers use fossil fuels in their operations, resulting in the continued extraction of fossil fuels. The extraction process can pose a threat to water and the ecosystem. **Negative Impact** High energy consumption **Environment** If TSRC consumes a significant amount of energy, it may have a crowding-out effect on the allocation of energy resources in the area of operation, resulting in the competent authorities expanding the construction of power plants or related facilities to meet the energy needs of industries and communities. It may have adverse effects on the environment, ecosystem and wildlife habitats. **Society/People** If TSRC consumes a substantial amount of energy, it may cause crowding-out effects on the allocation of energy resources, which may harm the rights and interests of local communities in the use of energy.	1. ESG mailbox in English and Chinese on the company website 2. Sustainable development section's contact window on the company website 3. TSRC spokesperson mailbox	Stakeholders can communicate and express their opinions through the ESG mailbox and the contact window of the sustainable development section on the website.	0 cases	1. Once a complaint is received, TSRC will handle it immediately and decide how to respond to the complaint based on the nature of the incident and the circumstances involved. 2. The Company will follow up on the status of improvements to the issues that need to be addressed.

No.	ESG Issues	Potential or actual adverse impacts on the economy, the environment and people (including their human rights)	Grievance Mechanism	Stakeholder involvement in grievance mechanism design	Number of complaints in 2024	Remedial measures for complaint cases
3	Water resource management	**Negative Impact** High water consumption **Environment** If TSRC has a high consumption of tap water, it may lead to crowding-out effects on allocated water resources in the area of operation, resulting in the competent authorities expanding the construction of reservoirs or water storage facilities to meet the water consumption of industries and local communities. The construction may adversely impact the environment, ecosystem, and wildlife habitats. **Society/People** If TSRC has a high consumption of tap water, it may lead to crowding-out effects on the allocation of water resources, which may harm the rights and interests of local communities in the use of water. **Negative Impact** Improper treatment of wastewater **Environment** If the wastewater generated by TSRC is directly discharged without proper treatment, it may lead to environmental and water pollution and affect the balance of the ecosystem. **Society/People** If the wastewater generated by TSRC is directly discharged without proper treatment, it may affect the health of employees and local communities.	1. ESG mailbox in English and Chinese on the company website 2. Sustainable development section's contact window on the company website 3. TSRC spokesperson mailbox	Stakeholders can communicate and express their opinions through the ESG mailbox and the contact window of the sustainable development section on the website.	0 cases	1. Once a complaint is received, TSRC will handle it immediately and decide how to respond to the complaint based on the nature of the incident and the circumstances involved. 2. The Company will follow up on the status of improvements to the issues that need to be addressed.
4	Waste and hazardous substance management	**Negative Impact** Improper waste disposal **Environment** If the waste generated by TSRC is disposed of or discharged without proper treatment, it may cause ecological impacts. **Society/People** If the waste generated by TSRC is discharged or discarded without proper treatment, it may affect the health of the local community.	1. ESG mailbox in English and Chinese on the company website 2. Sustainable development section's contact window on the company website 3. TSRC spokesperson mailbox 4. Environmental Protection Bureau, Kaohsiung City Government 5. Industrial Park Service Center	Stakeholders can communicate and express their opinions through the ESG mailbox and the contact window of the sustainable development section on the website.	0 cases	1. Once a complaint is received, TSRC will handle it immediately and decide how to respond to the complaint based on the nature of the incident and the circumstances involved. 2. The Company will follow up on the status of improvements to the issues that need to be addressed.

No.	ESG Issues	Potential or actual adverse impacts on the economy, the environment and people (including their human rights)	Grievance Mechanism	Stakeholder involvement in grievance mechanism design	Number of complaints in 2024	Remedial measures for complaint cases
4	Waste and hazardous substance management	Negative Impact **Toxic chemical spills** Environment If TSRC produces harmful chemicals and discharges them into water or soil, it may cause the death of animals and plants, resulting in an ecological disaster. Society/People If TSRC discharges harmful chemicals into water or soil, the local community or end-users will be directly exposed to the toxic substances, resulting in physiological disorders or chronic poisoning through biomagnification and long-term accumulation in the human body.	1. ESG mailbox in English and Chinese on the company website 2. Sustainable development section's contact window on the company website 3. TSRC spokesperson mailbox 4. Environmental Protection Bureau, Kaohsiung City Government 5. Industrial Park Service Center	Stakeholders can communicate and express their opinions through the ESG mailbox and the contact window of the sustainable development section on the website.	0 cases	1. Once a complaint is received, TSRC will handle it immediately and decide how to respond to the complaint based on the nature of the incident and the circumstances involved. 2. The Company will follow up on the status of improvements to the issues that need to be addressed.
5	Occupational health and safety	Negative Impact **Work-related injuries** Society/People If TSRC's occupational health and safety activities are not properly managed, it may result in occupational injuries and illnesses, affecting the labor rights and health of employees.	1. Employee feedback mailbox 2. Occupational Safety and Health Committee 3. Local competent authorities	Discussion by employee representatives of the Occupational Safety and Health Committee.	0 cases	1. Once a complaint is received, TSRC will handle it immediately and decide how to respond to the complaint based on the nature of the incident and the circumstances involved. 2. The Company will follow up on the status of improvements to the issues that need to be addressed.
6	Risk management	Negative Impact **Mismanagement of risk** Economy If TSRC fails to properly manage finances, strategies, operations, industrial risks and climate risks, the Company will incur losses and affect the tax revenue and overall economic development of the region in which it operates. Society/People If TSRC's mismanagement of risks results in major violations or operating losses, it will damage the rights and interests of employees, shareholders, and customers.	1. ESG mailbox in English and Chinese on the company website 2. TSRC Shareholders' Service center contact window on the company website 3. TSRC spokesperson mailbox 4. Shareholders meeting 5. Employee feedback mailbox	Stakeholders can express their opinions or make suggestions at the shareholders' meeting through the Shareholders Service Contact Window.	0 cases	1. Once a complaint is received, TSRC will handle it immediately and decide how to respond to the complaint based on the nature of the incident and the circumstances involved. 2. The Company will follow up on the status of improvements to the issues that need to be addressed.

No.	ESG Issues	Potential or actual adverse impacts on the economy, the environment and people (including their human rights)	Grievance Mechanism	Stakeholder involvement in grievance mechanism design	Number of complaints in 2024	Remedial measures for complaint cases
7	Compliance	**Negative Impact** Violation of laws and regulations **Economy** If TSRC violates corporate governance laws and regulations, resulting in ethical integrity and other governance-related failures that lead to the Company being fined by the relevant authorities, overall economic development and efficiency will be reduced. **Environment** If TSRC violates environmental laws and regulations, causing environmental pollution or other negative effects and disrupting the ecological balance, TSRC will be subject to penalties imposed by the relevant authorities. **Society/People** If TSRC violates labor, human rights, or product labeling laws and regulations, it will be fined by the relevant authorities and the rights of employees, and customers will be harmed.	1. ESG mailbox in English and Chinese on the company website 2. Whistleblower mailbox in English and Chinese on the company website 3. Sustainable development section's contact window on the company website 4. TSRC spokesperson mailbox 5. Employee feedback mailbox 6. Contractors communication meeting 7. Local competent authorities	Stakeholders can communicate and express their opinions through the ESG mailbox and the contact window of the sustainable development section on the website.	0 cases	1. Once a complaint is received, TSRC will handle it immediately and decide how to respond to the complaint based on the nature of the incident and the circumstances involved. 2. The Company will follow up on the status of improvements to the issues that need to be addressed.
8	Sustainable supply chain management	**Negative Impact** Mismanagement of the supply chain **Economy** TSRC's mismanagement of the supply chain has resulted in suppliers being dishonest, corrupt, or fraudulent, affecting the development of the rubber industry and the overall economic efficiency. **Environment** TSRC's mismanagement of the supply chain has resulted in suppliers causing environmental pollution, damaging the ecological balance and quality of the environment. **Society/People** TSRC's mismanagement of the supply chain has resulted in labor rights violations by suppliers, causing harm to workers' rights and interests.	1. ESG mailbox in English and Chinese on the company website 2. Whistleblower mailbox in English and Chinese on the company website 3. Sustainable development section's contact window on the company website 4. TSRC spokesperson mailbox 5. Employee feedback mailbox	Stakeholders can communicate and express their views through the ESG mailbox and the sustainable development section contact window on the website.	0 cases	1. Once a complaint is received, TSRC will handle it immediately and decide how to respond to the complaint based on the nature of the incident and the circumstances involved. 2. The Company will follow up on the status of improvements to the issues that need to be addressed.

No.	ESG Issues	Potential or actual adverse impacts on the economy, the environment and people (including their human rights)	Grievance Mechanism	Stakeholder involvement in grievance mechanism design	Number of complaints in 2024	Remedial measures for complaint cases
9	Product Stewardship and Chemical Management	Negative Impact **Improper management of chemicals and labeling** Environment TSRC's failure to manage chemical safety during the product life cycle has resulted in negative impacts on the environment during the manufacturing process and product use, jeopardizing the ecological balance and species. Society/People TSRC's improper chemical safety management and unclear labeling may cause health and safety hazards to customers due to improper use.	1. ESG mailbox in English and Chinese on the company website 2. Sustainable development section's contact window on the company website 3. TSRC spokesperson mailbox 4. Business unit contact window	Stakeholders can communicate and express their views through the ESG mailbox and the sustainable development section contact window on the website.	0 cases	1. Once a complaint is received, TSRC will handle it immediately and decide how to respond to the complaint based on the nature of the incident and the circumstances involved. 2. The Company will follow up on the status of improvements to the issues that need to be addressed.
10	Biodiversity and natural environment	Negative Impact **Destruction of habitat and biodiversity** Environment The operation of existing TSRC factories and the development of new factories may destroy ecological habitats and causes disturbance to species, resulting in a decrease in the number of species or an increase in the risk of extinction, affecting biodiversity and the natural environment. Society/People The operation of existing TSRC factories and the development of new factories may destroy ecological habitats and affect the ecosystem's ability to provide sufficient resources for human society, affecting the entire population.	1. ESG mailbox in English and Chinese on the company website 2. Sustainable development section's contact window on the company website 3. TSRC spokesperson mailbox	Stakeholders can communicate and express their views through the ESG mailbox and the sustainable development section contact window on the website.	0 cases	1. Once a complaint is received, TSRC will handle it immediately and decide how to respond to the complaint based on the nature of the incident and the circumstances involved. 2. The Company will follow up on the status of improvements to the issues that need to be addressed.
11	Employment and human rights	Negative Impact **Violations of labor rights** Society/People Forced labor, discrimination, harassment, denial of freedom of speech, and other human rights abuses occur at TSRC's operations or at its suppliers, infringing on employees' rights and interests at work.	1. Submit a complaint to the unit supervisor 2. Whistleblower mailbox in English and Chinese on the company website 3. Employee feedback mailbox 4. Contractors communication meeting 5. Local competent authorities	1. Regular discussions between union representatives and representatives of the Company's management team. 2. Non-employees can communicate and discuss with contractors at their communication meetings.	1 case	1. 1 complaint of an illegal infringement was received in 2024, but the complaint was determined to be unsubstantiated after being reviewed by the Company's internal committee. 2. Once a complaint is received, TSRC will handle it immediately and decide how to respond to the complaint based on the nature of the incident and the circumstances involved. 3. The Company will follow up on the status of improvements to the issues that need to be addressed.

Definition of Significant Instances of Non-compliance and HSE Severe Incidents

TSRC defines significant non-compliance as an incident in which a company is penalized for violating laws and regulations. TSRC classifies significant HSE incidents into three categories (severe, moderate, and minor) with reference to OSHA 1904, API RP754, and TSRC's historical incidents. Severe incidents are defined as follows:

Occupational Health and Safety

- Fatality
- Lost Time Injury (LTI)

Environmental Safety and Health penalty

Penalty amounts greater than US$ 20,000

Environment

Loss of more than US$ 75,000

Fire Accident

Loss of more than US$ 75,000

Production Process Safety

Tier-1 PSE

Others

Loss of more than US$ 75,000



Sustainability Data

Operating Performance

2022-2024 Revenues and Expenses

(Unit: thousand NTD)

	Direct economic value generated	Economic value distributed						Economic value retained=direct economic value generated-economic value distributed
	Consolidated revenue	Operating costs	Employee wages and benefits	Payments to providers of capital (cash dividends)	Payments to government (income tax)	Payments to government (fines)	Community investments	
2022	33,841,197	28,327,924	2,354,249	2,228,062	946,491	1,270	2,811	(19,610)
2023	31,426,889	28,118,423	2,412,279	1,055,102	370,313	645	2,863	(532,736)
2024	37,208,665	33,093,008	2,519,134	640,712	575,216	1,200	3,015	376,380

Production volume

2021-2024 Production Volume (by Subsidiaries)

(Unit: metric tons)

	TSRC Corporation		Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	Total of TSRC Group
	Kaohsiung Factory	Gangshan Factory							
2021	194,194		170,988	73,815	65,285	9,934	0	47,921	562,138
2022	176,496	2,015	170,522	72,821	67,216	5,485	577	44,894	540,026
2023	176,121	2,249	171,221	66,747	67,622	6,094	1,101	39,846	531,001
2024	176,551	2,176	181,266	68,434	68,253	6,540	1,291	47,732	552,243

Note 1: This table only includes manufacturing plants and subsidiaries that engage in manufacturing activities within the reporting boundary. The two holding companies, Polybus and TSRC (Lux.), which mainly engage in trading activities, and the Global Business Headquarters, which mainly engage in office activities, do not have any production activities.

Greenhouse Gas Emissions

2021-2024 Greenhouse Gas Emissions and Emission Intensity (by Subsidiary)

(Unit: t CO_2e)

		TSRC Corporation (includes the Global Business Headquarters, Gangshan Factory, and Kaohsiung Factory)	Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	Polybus	TSRC (Lux.)	TSRC Group Total
2021	Scope 1	90,211.10	5,069.98	9,074.54	3,213.34	30.84	7.32	21,968.98	0.00	0.00	129,576.10
	Scope 2	70,806.11	101,334.73	153,827.13	80,507.77	1,751.53	1,820.73	21,038.58	1.57	20.82	431,108.98
	Scope 1+2	161,017.21	106,404.71	162,901.67	83,721.11	1,782.37	1,828.05	43,007.56	1.57	20.82	560,685.08
	Production volume	194,194	170,988	73,815	65,285	9,934	0	47,921	0	0	562,138
	GHG Emissions Intensity (tCO_2e/metric ton of production)	0.83	0.62	2.21	1.28	0.18	0.00	0.90	0.00	0.00	1.00
2022	Scope 1	96,900.17	6,380.22	7,485.08	3,192.44	25.81	5.58	24,274.45	0.00	0.00	138,263.75
	Scope 2	53,670.89	96,102.37	149,597.03	84,735.95	1,135.13	840.36	21,150.90	1.54	0.11	407,234.28
	Scope 1+2	150,571.06	102,482.59	157,082.11	87,928.39	1,160.94	845.94	45,425.35	1.54	0.11	545,498.03
	Production volume	178,484	170,522	72,822	67,217	5,494	577	44,910	0	0	540,026
	GHG Emissions Intensity (tCO_2e/metric ton of production)	0.84	0.60	2.16	1.31	0.21	1.47	1.01	0.00	0.00	1.01
2023	Scope 1	101,462.37	6,474.18	8,658.28	3,237.44	32.63	5.74	19,379.14	0.00	0.00	139,249.78
	Scope 2	44,228.41	93,787.78	130,157.52	85,609.78	1,024.61	995.63	19,113.65	1.15	0.17	374,918.70
	Scope 1+2	145,690.78	100,261.96	138,815.80	88,847.22	1,057.24	1,001.37	38,492.79	1.15	0.17	514,168.48
	Production volume	178,370	171,221	66,747	67,622	6,094	1,101	39,846	0	0	531,001
	GHG Emissions Intensity (tCO_2e/metric ton of production)	0.82	0.59	2.08	1.31	0.17	0.91	0.97	0.00	0.00	0.97

(Unit: t CO_2e)

(Continued)

		TSRC Corporation (includes the Global Business Headquarters, Gangshan Factory, and Kaohsiung Factory)	Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	Polybus	TSRC (Lux.)	TSRC Group Total
2024	Scope 1	107,440.13	5,781.87	7,763.53	4,252.66	29.26	6.71	26,088.11	0.00	0.00	151,362.26
	Scope 2	34,438.12	91,750.15	121,349.87	82,971.64	1,472.96	1,011.38	23,425.09	1.05	0.18	356,420.45
	Scope 1+2	141,878.25	97,532.02	129,113.40	87,224.30	1,502.23	1,018.09	49,513.20	1.05	0.18	507,782.71
	Production volume	178,727	181,266	68,434	68,253	6,540	1,291	47,732	0	0	552,243
	GHG Emissions Intensity (tCO_2e/metric ton of production)	0.79	0.54	1.89	1.28	0.23	0.79	1.04	0.00	0.00	0.92

Note 1: This table includes seven types of greenhouse gases: carbon dioxide, methane, nitrous oxide, HFCs, PFCs, sulfur hexafluoride, and nitrogen trifluoride. GWP values for 2021 are based on IPCC AR5, and GWP values for 2022-2024 are based on IPCC AR6.

Note 2: Scope 1 emissions are calculated using the emissions factor and the mass balance calculation method. Scope 2 and 3 emissions are calculated using emissions factors, and the factors used in this table are as follows:

- Taiwan: Global Business Headquarters, Kaohsiung Factory, Gangshan Factory: Uses emission factors published by the Taiwan Environmental Protection Agency (version 6.0.4).
- China: 2021-2023: Shen Hua Chemical, Nantong Industries, and TSRC-UBE uses China's provincial electricity emission factors, the United Nations Intergovernmental Panel on Climate Change (IPCC) assessment reports, and the Shanghai Bureau of Ecology and Environment [2022] No. 34 The Notice of Shanghai Ecological Environment Bureau on the Adjustment of Emission Factor Values related to the City's Greenhouse Gas Emission Accounting Guidelines. 2024: Based on the information announced by the competent authority in China and due to differences in operations between different factories, we have used the China average carbon dioxide emissions factor for electricity (not including electricity from market-traded non-fossil fuel energy) of 0.5856 kg CO_2/kWh for Nantong Industries, and the China average carbon dioxide emissions factor for electricity of 0.5366 kg CO_2/kWh, as well as data from the United Nations IPCC assessment report, for Shen Hua Chemical, TSRC-UBE, and Shanghai Industries.
- Vietnam: TSRC (Vietnam) Company Limited: Uses the electricity emission factors published by Vietnam's Ministry of Industry and Trade and Ministry of Natural Resources and Environment and the IPCC assessment reports.
- USA: TSRC Specialty Materials LLC: Uses the US Environmental Protection Agency database and the IPCC assessment reports.

Note 3: Pursuant to the ISO14064-1:2018 standards, the Greenhouse Gas Verification Statement disclosed that Shen Hua Chemical, Nantong Industries, TSRC-UBE, and Shanghai Industries all cited the China average carbon dioxide emissions factor for electricity (not including electricity from market-traded non-fossil fuel energy) of 0.5856kg CO_2/kW, resulting in the TSRC Group having 360,432.32 metric tons CO_2e of Scope 2 emissions for 2024.

Note 4: The 2021-2024 reporting boundary covers all factories and subsidiaries identical to the reporting scope in the financial statements. The operational control approach is adopted in accordance with ISO14064-1:2018. Verification conducted by DNV GL Business Assurance Co., Ltd. (DNV) in 2024. Data is rounded to the second decimal place. Please refer to the TSRC website for the Verification Statement.

2023-2024 Scope 1 Emissions Covered under Emission-limiting Regulations

(Unit: metric tons CO_2e)

		Emissions from locations covered under emission-limiting regulations	Emissions from locations not covered under emission-limiting regulations but subject to voluntary disclosure	Total
		Kaohsiung Factory, Shen Hua Chemical, Nantong Industries, TSRC-UBE	Global Business Headquarters, Gangshan Factory, Shanghai Industries, TSRC (Vietnam) Co., Ltd., TSRC Specialty Materials LLC, Polybus, TSRC (Lux.)	
2023	Scope 1	119,796.17	19,453.61	139,249.78
	As a percentage of TSRC Group's Scope 1 emissions	86.03%	13.97%	100.00%
2024	Scope 1	125,224.69	26,137.57	151,362.26
	As a percentage of TSRC Group's Scope 1 emissions	82.73%	17.27%	100.00%

Note 1: Locations governed by emissions-limiting regulations refer to locations that are required by local laws to declare greenhouse gas emissions, including Kaohsiung Factory, Shen Hua Chemical, Nantong Industries and TSRC-UBE. Locations not governed by emissions-limiting regulations refer to locations that do not need to make declarations and are not subject to emission trading or other regulations, including Global Business Headquarters, Gangshan Factory, Shanghai Industries, TSRC (Vietnam) Co., Ltd., TSRC Specialty Materials LLC, Polybus and TSRC (Lux.)

Note 2: This table covers seven greenhouse gases: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride. GWP values are from the IPCC AR6.

Note 3: The reporting boundary of this table covers all factories and subsidiaries identical to the reporting scope in the financial statements. The operational control approach is adopted in accordance with ISO14064:2018. Verification conducted by DNV GL Business Assurance Co., Ltd. (DNV). Data is rounded to the second decimal place. Please refer to the TSRC website for the Verification Statement.

Energy Management

2021-2024 TSRC Purchased Energy (by Subsidiary)

	Purchased Energy		TSRC Corporation (includes the Global Business Headquarters, Gangshan Factory, and Kaohsiung Factory)	Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	Polybus	TSRC (Lux.)	TSRC Group Total
2021	Consumption of purchased electricity (MWh)		108,106	54,051	60,513	21,338	4,170	2,290	20,413	n/a	n/a	270,881
	Consumption of purchased steam (metric ton)		59,025	192,407	392,510	230,190	0	0	139,154	n/a	n/a	1,013,286
	Total consumption of purchased energy (GJ)	Electricity	389,182	194,584	217,847	76,817	15,012	8,245	73,487	n/a	n/a	975,173
		Steam	133,397	434,839	887,073	520,229	0	0	314,488	n/a	n/a	2,290,026
		Electricity + Steam	522,578	629,423	1,104,919	597,046	15,012	8,245	387,975	n/a	n/a	3,265,197
	Production volume (metric tons)		194,194	170,988	73,815	65,285	9,934	0	47,921	n/a	n/a	562,138
	Indirect energy intensity per unit of product (GJ/ton)		2.69	3.68	14.97	9.15	1.51	0	8.10	n/a	n/a	5.81
2022	Consumption of purchased electricity (MWh)		92,803	53,899	65,727	21,165	2,703	1,164	20,850	4	2	258,317
	Consumption of purchased steam (metric tons)		27,993	177,090	320,918	215,399	0	0	138,157	0	0	879,556
	Total consumption of purchased energy (GJ)	Electricity	334,091	194,038	236,616	76,195	9,730	4,190	75,060	14	9	929,941
		Steam	63,263	400,222	951,927	638,929	0	0	312,235	0	0	2,366,577
		Electricity + Steam	397,355	594,260	1,188,543	715,123	9,730	4,190	387,295	14	9	3,296,518
	Product volume (metric tons)		178,484	170,522	72,822	67,217	5,494	577	44,910	0	0	540,026
	Indirect energy intensity per unit of product (GJ/ton)		2.22	3.48	16.32	10.64	1.77	7.26	8.62	0	0	6.10

(Continued)

	Purchased Energy		TSRC Corporation (includes the Global Business Headquarters, Gangshan Factory, and Kaohsiung Factory)	Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	Polybus	TSRC (Lux.)	TSRC Group Total
2023	Consumption of purchased electricity (MWh)		89,225	56,633	51,395	20,831	2,440	1,379	18,683	3	3	240,591
	Consumption of purchased steam (metric tons)		223	183,646	291,595	225,965	0	0	125,417	0	0	826,846
	Total consumption of purchased energy (GJ)	Electricity (non-renewable energy)	321,212	203,880	185,020	74,992	8,782	4,964	67,257	10	11	866,128
		Electricity (renewable energy)	0	0	36,001	0	0	0	0	0	0	36,001
		Steam	504	415,040	864,947	670,271	0	0	283,442	0	0	2,234,204
		Electricity + Steam	321,716	618,920	1,085,968	745,263	8,782	4,964	350,700	10	11	3,136,333
	Production volume (metric tons)		178,370	171,221	66,747	67,622	6,094	1,101	39,846	0	0	531,001
	Indirect energy intensity per unit of product (GJ/ton)		1.80	3.61	16.27	11.02	1.44	4.51	8.80	0	0	5.91
2024	Consumption of purchased electricity (MWh)		63,816	57,626	44,432	21,504	2,735	1,495	19,683	3	3	211,297
	Consumption of purchased steam (metric tons)		10,407	181,687	292,166	218,924	0	0	169,231	0	0	872,414
	Total consumption of purchased energy (GJ)	Electricity (non-renewable energy)	229,737	207,452	159,956	77,416	9,848	5,381	70,859	9	11	760,669
		Electricity (renewable energy)	0	0	63,594	0	0	0	0	0	0	63,594
		Steam	23,520	410,612	866,640	649,386	0	0	382,461	0	0	2,332,619
		Electricity + Steam	253,256	618,064	1,090,190	726,801	9,848	5,381	453,321	9	11	3,156,881
	Production volume (metric tons)		178,727	181,266	68,434	68,253	6,540	1,291	47,732	0	0	552,243
	Indirect energy intensity per unit of product (GJ/ton)		1.42	3.41	15.93	10.65	1.51	4.17	9.50	0	0	5.72

Note 1: The table uses the following conversion units:
- 1 kWh = 1 kWh;1W = 1 Joule/second (J/S);1,000 kWh = 1,000kW*3,600 seconds/hour = 3,600,000 KJ = 3,600 MJ.
- For 2023-2024 data, except for Nantong Industries and TSRC-UBE, the amount of heat required to vaporize one ton of water is calculated as 2.96626GJ. For other factories, this value was calculated based on the amount of heat required to vaporize one ton of water as 2.26 GJ.

2021-2024 TSRC Energy Consumption

(Unit: Gigajoule (GJ))

		2021	2022	2023	2024
Non-renewable energy	Bituminous coal	0.00	0.00	0.00	0.00
	Fuel oil	0.00	0.00	0.00	0.00
	Diesel in factory area	5,283.02	12,126.96	9,936.36	11,521.72
	Natural gas	1,822,886.21	1,763,823.66	1,815,902.91	1,923,062.93
	Liquefied petroleum gas (LPG)	1,824.44	769.22	239.91	1,021.19
	Gasoline	1,415.94	1,241.03	1,530.97	1,371.03
	Recycled butadiene	59,917.15	66,979.31	76,259.51	42,606.65
	Purchased electricity	975,172.68	929,941.41	866,128.46	760,668.85
	Purchased steam	2,290,025.73	2,366,576.76	2,234,203.88	2,332,618.67
	Subtotal	5,156,525.17	5,141,458.35	5,004,202.00	5,072,871.06
Renewable energy	Purchased electricity	0.00	0.00	36,000.60	63,593.86
	Self-generated electricity	0.00	0.00	2,077.38	8,649.56
	Subtotal	0.00	0.00	38,077.98	72,243.42
Total energy consumption		5,156,525.17	5,141,458.35	5,042,279.98	5,145,114.47
Self-generated electricity (non-renewable energy + renewable energy)		22,952.62	60,071.87	84,226.28	177,784.80
Percentage of electricity used from the power grid (%)		97.70%	93.93%	87.81%	75.91%
Percentage of renewable energy (%)		0.00%	0.00%	0.76%	1.40%
Percentage of electricity from the grid out of total energy consumption (%)		18.91%	18.09%	17.18%	14.78%

Note 1: The 2021 data includes the Global Business Headquarters, two factories (Kaohsiung and Gangshan), and 6 subsidiaries that engage in manufacturing activities within the reporting boundary. 2 holding companies Polybus and TSRC (Lux.) which mainly engage in trading activities were excluded.

Note 2: The 2022-2024 data includes within the reporting boundary the Global Business Headquarters, two factories (Kaohsiung and Gangshan), 6 subsidiaries that engage in manufacturing activities, and 2 holding companies Polybus and TSRC (Lux.) which mainly engage in trading activities.

Note 3: The energy conversion factors are based on the Greenhouse Gas Emissions Guidelines published by the Environmental Protection Administration of Taiwan. The data is calculated based on the Lower Heating Values (LHV) of the fuels. The results are rounded to the second decimal place.

Note 4: Total energy consumption of organization = the internal energy consumption = non-renewable energy + renewable energy.

Note 5: Percentage of electricity used from the power grid (%) = (Purchased electricity (non-renewable energy))/(Purchased electricity (non-renewable energy) + Purchased electricity (renewable energy) + self-generated electricity (renewable energy) + self-generated electricity (Non-renewable energy)).

Note 6: Percentage of renewable energy (%) = (Purchased electricity (Renewable energy) + Self-generated electricity (renewable energy))/Total energy consumption.

Note 7: Percentage of electricity from the grid out of total energy consumption (%) = Purchased electricity (non-renewable energy)/Total energy consumption.

Note 8: The Heating value conversion factor for each type of energy used is based on version 6.0.4 of the Greenhouse Gas Emission Factor Management Table of the Environmental Protection Agency of Taiwan. Among them, the recycled butadiene reference petroleum heating value, is calculated as 7,800 kcal/L. For steam, except for Shen Hua Chemical and Nantong Industries, a standard conversion factor of 2.26 GJ for the heat required to vaporize one ton of water at one atmosphere pressure is used. Shen Hua Chemical and Nantong Industries use a conversion factor provided by their supplier, which is 2.96626 GJ for one ton of water.

Note 9: Starting from 2021, all TSRC manufacturing factories no longer use bituminous coal and fuel oil as energy sources.



Waste Management

2021-2024 Generation, Recycling and Percentage of General Industrial Waste and Hazardous Industrial Waste (by Subsidiary)

(Unit: metric tons)

		TSRC Corporation		Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	TSRC Group Total
		Kaohsiung Factory	Gangshan Factory							
2021	Total weight of general industrial waste	1,306.04		344.78	1,612.06	316.57	21.50	8.99	338.47	3,948.41
	General industrial waste recycled	491.73		311.27	1,572.18	299.59	6.00	0.00	0.00	2,680.76
	Percentage of general industrial waste recycled	90.00%		90.28%	97.53%	94.64%	27.91%	0.00%	0.00%	67.89%
	Total weight of hazardous industrial waste	75.23		1,323.12	350.59	346.30	48.80	0.50	371.57	2,150.97
	Hazardous industrial waste recycled	0.00		143.22	23.29	1.54	0.00	0.00	0.00	168.04
	Percentage of hazardous industrial waste recycled	0.00%		10.82%	6.64%	0.44%	0.00%	0.00%	0.00%	7.81%
2022	Total weight of general industrial waste	1,230.62	86.01	283.49	1,296.55	203.86	3.80	29.79	434.52	3,568.65
	General industrial waste recycled	770.64	21.68	225.34	1,222.97	170.32	3.80	28.33	0.00	2,473.09
	Percentage of general industrial waste recycled	62.62%	25.21%	90.07%	94.33%	83.55%	100.00%	95.10%	0.00%	69.30%
	Total weight of hazardous industrial waste	136.46	0.00	845.36	475.26	287.08	23.00	1.32	591.76	1,793.88
	Hazardous industrial waste recycled	0.00	0.00	94.29	23.96	6.50	22.93	0.00	0.00	147.67
	Percentage of hazardous industrial waste recycled	0.00%	0.00%	11.15%	5.04%	2.26%	99.70%	0.00%	0.00%	8.23%
2023	Total weight of general industrial waste	1,134.51	73.62	299.36	1,480.98	134.02	89.11	25.13	365.84	3,602.57
	Non-recyclable general industrial waste	411.30	50.95	7.48	74.00	31.72	52.83	1.10	365.84	995.21
	General industrial waste recycled	492.83	22.67	291.88	1,406.98	102.30	36.28	24.03	0.00	2,376.97
	General industrial waste reused	230.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	230.38
	Percentage of general industrial waste recycled and reused	63.75%	30.79%	97.50%	95.00%	76.33%	40.71%	95.62%	0.00%	72.37%
	Total weight of hazardous industrial waste	125.67	0.00	1,343.25	432.38	244.30	37.35	2.63	617.21	2,219.54
	Non-recyclable hazardous industrial waste	125.67	0.00	1,173.05	406.24	234.38	0.14	2.63	33.96	1,976.08
	Hazardous industrial waste recycled	0.00	0.00	170.20	26.14	9.92	37.21	0.00	0.00	243.46
	Percentage of hazardous industrial waste recycled	0.00%	0.00%	12.67%	6.05%	4.06%	99.63%	0.00%	0.00%	10.97%

(Continued)

(Unit: metric tons)

		TSRC Corporation		Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	TSRC Group Total
		Kaohsiung Factory	Gangshan Factory							
2024	Total weight of general industrial waste	1,262.53	63.14	291.42	1,353.95	161.84	62.01	55.26	604.64	3,854.79
	Non-recyclable general industrial waste	401.34	27.97	23.72	74.54	31.94	8.16	2.60	603.74	1,174.01
	General industrial waste recycled	861.19	0.00	267.70	1,279.41	129.90	53.86	16.39	0.90	2,609.34
	General industrial waste reused	0.00	35.17	0.00	0.00	0.00	0.00	36.27	0.00	71.44
	Percentage of general industrial waste recycled and reused	68.21%	55.70%	91.86%	94.49%	80.26%	86.85%	95.30%	0.15%	69.54%
	Total weight of hazardous industrial waste	135.76	0.00	1,080.44	420.52	298.39	37.41	4.47	109.49	2,086.47
	Non-recyclable hazardous industrial waste	135.76	0.00	797.82	391.37	283.33	0.24	4.47	109.49	1,722.48
	Hazardous industrial waste recycled	0.00	0.00	112.90	11.28	10.22	37.17	0.00	0.00	171.57
	Hazardous industrial waste reused	0.00	0.00	169.72	17.86	4.84	0.00	0.00	0.00	192.42
	Percentage of hazardous industrial waste recycled and reused	0.00%	0.00%	26.16%	6.93%	5.05%	99.36%	0.00%	0.00%	17.45%

Note 1: This table only includes manufacturing factories and subsidiaries that engage in manufacturing activities within the reporting boundary. The two trading-based subsidiaries, Polybus and TSRC (Lux.), the Global Business Headquarters, and the TSRC Specialty Materials LLC office, which are mainly office operations, generate only general domestic waste, not industrial waste.

Note 2: Data for all factories in 2024 is derived from the waste removal and disposal (transfer) records provided by waste disposal vendors. Data figures are summed up in full, before being rounded to the second decimal place. The TSRC Kaohsiung Factory, Gangshan Factory, Nantong Industries, TSRC-UBE, Shen Hua Chemical submit reports to the government waste platform every month. Shanghai Industries and TSRC (Vietnam) Co., Ltd. report to the government on an annual basis. TSRC Specialty Materials LLC reports to the government every two years.

Note 3: Non-hazardous general industrial waste includes: (1) Non-recyclable general industrial waste disposed of via incineration, landfill, and thermal treatment, including non-recyclable waste plastic mixtures, inorganic sludge, waste rubber, and waste packaging materials.(2) Recyclable general industrial waste, including waste iron, waste paper, scrap rubber, waste bulk bags, and waste metal boxes.(3) Reusable general industrial waste, including waste rubber, waste wood, and waste lubricant.

Note 4: Hazardous industrial waste includes: (1) Non-recyclable waste oils, waste liquids, organic waste, sludge, waste chemicals, and containers for hazardous substances;(2) Recyclable waste oil, waste packaging materials, and waste containers. These waste materials are defined based on the regulations announced by the competent authorities:

- Taiwan: Kaohsiung Factory, Gangshan Factory: Based on the definitions provided in the Hazardous Industrial waste Recognition Standard published by the Taiwan Environmental Protection Agency.
- China: Shen Hua Chemical, Nantong Industries, TSRC-UBE, Shanghai Industries: Based on the definitions provided in China's Directory of National Hazardous Wastes.
- Vietnam: TSRC (Vietnam) Company Limited: 08/2022/NĐ-CP, 02/2022/TT-BTNMT.
- USA: TSRC Specialty Materials LLC: 40 CFR (Code of Federal Regulations) parts 260 through 273. Louisiana Administrative Code, Title 33, Part V.

Note 5: Restatements of information:

- Due to TSRC Specialty Materials LCC revising the scope for what materials are included in calculations of hazardous industrial waste (excluding low purity waste solvents for sale), total hazardous industrial waste for 2021 was revised from 2,516.11 metric tons to 2,150.97 metric tons, with the change being $1.45x10^{-1}$ of the original amount generated. Hazardous industrial waste for 2022 was revised from 2,360.24 metric tons to 1,793.88 metric tons, with the change being $2.40x10^{-1}$ of the original amount generated, and hazardous industrial waste for 2023 was revised from 2,802.79 metric tons to 2,219.54 metric tons, with the change being $2.08x10^{-1}$ of the original amount generated.
- The amount of waste recycled has also been recalculated due to the above changes described above, with the amount for 2021 revised from 533.18 metric tons to 168.04 metric tons, with the change being $6.85x10^{-1}$ of the original amount, amount of waste recycled for 2022 revised from 714.03 metric tons to 147.67 metric tons, with the change being $7.93x10^{-1}$ of the original amount, and the amount of waste recycled for 2023 revised from 826.71 metric tons to 243.46 metric tons, with the change being $7.06x10^{-1}$ of the original amount.
- The proportion of hazardous industrial waste recycled was recalculated due to the changes described above, with the proportion recycled changing from 21.19% to 7.81% for 2021, from 30.25% to 8.23% for 2022, and from 29.50% to 10.97% for 2023.

2024 Waste Recycling and Reuse (by Subsidiary)

(Unit: Metric tons)

	Method of recycling and reuse	TSRC Corporation				Shen Hua Chemical		Nantong Industries		TSRC-UBE		Shanghai Industries		TSRC (Vietnam) Company Limited		TSRC Specialty Materials LLC		TSRC Group Total	
		Kaohsiung Factory		Gangshan Factory															
		on-site	off-site	on-site	off-site	on-site	off-site	on-site	off-site	on-site	off-site	on-site	off-site	on-site	off-site	on-site	off-site	on-site	off-site
General Industrial waste	Reused	0.00	0.00	0.00	35.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36.27	0.00	0.00	0.00	71.44
	Recycled	0.00	861.19	0.00	0.00	0.00	267.70	0.00	1,279.41	0.00	129.90	0.00	53.86	0.00	16.39	0.00	0.90	0.00	2,609.34
	Other recycling methods	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hazardous Industrial waste	Reused	0.00	0.00	0.00	0.00	0.00	169.72	0.00	17.86	0.00	4.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	192.42
	Recycled	0.00	0.00	0.00	0.00	0.00	112.90	0.00	11.28	0.00	10.22	0.00	37.17	0.00	0.00	0.00	0.00	0.00	171.57
	Other recycling methods	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2024 Direct Waste Disposal (by Subsidiary)

(Unit: Metric tons)

	Direct disposal method	TSRC Corporation				Shen Hua Chemical		Nantong Industries		TSRC-UBE		Shanghai Industries		TSRC (Vietnam) Company Limited		TSRC Specialty Materials LLC		TSRC Group Total	
		Kaohsiung Factory		Gangshan Factory															
		on-site	off-site	on-site	off-site	on-site	off-site	on-site	off-site	on-site	off-site	on-site	off-site	on-site	off-site	on-site	off-site	on-site	off-site
General Industrial waste	Incineration (with energy recovery)	0.00	227.35	0.00	0.00	0.00	23.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.60	0.00	0.00	0.00	253.67
	Incineration (without energy recovery)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.16	0.00	0.00	0.00	0.00	0.00	8.16
	Landfilling	0.00	18.57	0.00	19.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	603.74	0.00	641.34
	Other disposal operations	0.00	155.42	0.00	8.94	0.00	0.00	0.00	74.54	0.00	31.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	270.84
Hazardous Industrial waste	Incineration (with energy recovery)	0.00	134.78	0.00	0.00	508.61	289.21	0.00	262.01	0.00	125.47	0.00	0.00	0.00	3.16	0.00	33.17	508.61	847.79
	Incineration (without energy recovery)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	102.49	0.00	102.11	0.00	0.24	0.00	0.00	0.00	74.82	0.00	279.66
	Landfilling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.00	1.50
	Other disposal operations	0.00	0.98	0.00	0.00	0.00	0.00	0.00	26.88	0.00	55.75	0.00	0.00	0.00	1.31	0.00	0.00	0.00	84.92

Note 1: This table only includes manufacturing factories and subsidiaries that engage in manufacturing activities within the reporting boundary. The two trading-based subsidiaries, Polybus and TSRC (Lux.), the Global Business Headquarters, and the TSRC Specialty Materials LLC office, which are mainly office operations, generate only general domestic waste, not industrial waste.

Note 2: Data for all factories in 2024 is derived from the waste removal and disposal (transfer) records provided by waste disposal vendors. Data figures are summed up in full, before being rounded to the second decimal place. The TSRC Kaohsiung Factory, Gangshan Factory, Nantong Industries, TSRC-UBE, Shen Hua Chemical submit reports to the government waste platform every month. Shanghai Industries and TSRC (Vietnam) Co., Ltd. report to the government on an annual basis. TSRC Specialty Materials LLC reports to the government every two years.

Water Resource Management

2024 Water Withdrawal, Discharge, and Consumption (by Water-stressed Areas)

(Unit: 1,000 m³=million liters)

Categorized at the province, county/city level	Regions with Extremely High Water Stress	Regions with High Water Stress		Regions with Moderate to High Water Stress					Regions With Low to Moderate Water Stress		Regions with Low Water Stress		TSRC Group
	Shanghai Industries	TSRC Corporation		Shen Hua Chemical	Nantong Industries	TSRC-UBE	TSRC Specialty Materials LLC (office)	TSRC (Lux.)	TSRC (Vietnam) Company Limited	TSRC Corporation	TSRC Specialty Materials LLC (factory)	Polybus	Total
		Kaohsiung Factory	Gangshan Factory							Global business headquarters			
Tap water withdrawal	9.70	1,569.69	3.11	924.73	325.03	258.06	1.67	0.07	5.47	2.35	229.73	0.01	3,329.63
Groundwater withdrawal	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
Purchased steam	0.00	10.41	0.00	182.75	292.17	218.92	0.00	0.00	0.00	0.00	169.23	0.00	873.48
Wastewater recycled	0.00	549.62	0.00	91.98	258.30	140.28	0.00	0.00	0.00	0.00	0.00	0.00	1,040.18
Purchased reclaimed water	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	198.26	0.00	198.26
Total water withdrawal	9.70	1,569.74	3.11	924.73	325.03	258.06	1.67	0.07	5.47	2.35	229.73	0.01	3,329.67
Water usage	9.70	2,129.76	3.11	1,199.46	875.50	617.27	1.67	0.07	5.47	2.35	597.22	0.01	5,441.59
Water discharged	9.70	1,011.89	2.34	788.56	234.95	253.09	1.67	0.07	1.57	2.35	447.00	0.01	2,753.20
Water Consumption	0.00	1,117.88	0.77	410.90	640.54	364.18	0.00	0.00	3.90	0.00	150.22	0.00	2,688.39

Note 1: Tap water withdrawal refers to freshwater supplied by the local water company (≤1,000 mg/L TDS).TSRC Kaohsiung Factory also draws groundwater.

Note 2: Total water withdrawal = Tap water withdrawal + Groundwater withdrawal.

Note 3: Water usage = Fresh water withdrawal + Groundwater withdrawal + Purchased steam + Wastewater recycled + Purchased reclaimed water.

Note 4: Water consumption=Water usage-Water discharge.

Note 5: Purchased steam is also used as a process water source after the heat exchange purpose is achieved in the relevant process, and the evaporation amount is not considered in the data.

Note 6: Data figures are first summed up in full, then rounded to the second decimal place.

Note 7: Regarding water resource risks:

The TSRC Specialty Materials LLC factory in Louisiana, USA, and the trading-based subsidiary Polybus in Singapore face low water risks (<10%).TSRC (Vietnam) Company Limited, which is based in Vietnam, and our global business headquarters face low to medium water stress risk (10-20%).China-based Shen Hua Chemical, Nantong Industries and TSRC-UBE based in Jiangsu Province, our trading-based subsidiary TSRC (Lux.) based in Luxembourg, and the TSRC Specialty Materials LLC offices in Texas face a medium to high water stress risk (20%-40%).Shanghai Industries, located in the Shanghai region of China, faces an extremely high water stress risk (>80%).

Regardless of whether it is the dry or rainy season, TSRC's Kaohsiung Factory and Gangshan Factory are at high risk for drought in the past and the future (2015-2039), according to the report published by the National Science and Technology Center for Disaster Reduction.

Note 8: In 2024, fresh water and groundwater withdrawal in areas with high water stress and extremely high risk (according to regional analysis) accounted for 47.53% of the group's total water withdrawal, and water consumption in areas with high water stress and extremely high risk accounted for 41.61% of the group's total water consumption.

Air Pollution Prevention and Management

2021-2024 Emissions of Air Pollutants (by Subsidiary)

(Unit: metric tons)

		TSRC Corporation		Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	TSRC Group Total
		Kaohsiung Factory	Gangshan Factory							
2021	Nitrogen oxides (NOx)	5.02		0	0	0	0	0	10.33	15.35
	Sulfur oxides (SOx)	0.1344		0	0	0	0	0	0.7285	0.8629
	Volatile organic compounds (VOCs)	169.77	4.73	13.91	32.95	13.83	0	0	227.74	462.93
2022	Nitrogen oxides (NOx)	3.17	0.00	0.48	0.00	0.00	0.00	0.00	3.77	7.42
	Nitrogen oxides excluding N_2O (NOx)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Sulfur oxides (SOx)	0.18	0.00	1.06	0.00	0.00	0.00	0.00	0.0008	1.24
	Volatile organic compounds (VOCs)	149.67	4.42	13.05	29.95	11.90	0.00	0.26	127.13	336.38
	Hazardous Air Pollutants (HAPs)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.17	4.17
2023	Nitrogen oxides (NOx)	4.08	N/A	2.38	1.70	0.9162	N/A	N/A	10.69	19.76
	Nitrogen oxides excluding N_2O (NOx)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Sulfur oxides (SOx)	N/A	N/A	1.57	1.70	0.5256	N/A	N/A	0.68	4.48
	Volatile organic compounds (VOCs)	147.42	5.67	6.15	25.00	15.72	0.00	0.09	140.34	340.39
	Hazardous Air Pollutants (HAPs)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.70	3.70
	Particulate Matter (PM)	2.71	0.00	1.34	3.31	0.3226	N/A	N/A	16.42	24.11

(Continued)

(Unit: metric tons)

		TSRC Corporation		Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	TSRC Group Total
		Kaohsiung Factory	Gangshan Factory							
2024	Nitrogen oxides (NOx)	9.74	N/A	2.69	1.61	0.91	N/A	N/A	12.81	27.76
	Nitrogen oxides excluding N_2O (NOx)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Sulfur oxides (SOx)	0.00	N/A	1.63	1.94	0.91	N/A	N/A	0.81	5.30
	Volatile organic compounds (VOCs)	142.54	5.08	6.19	25.06	17.40	0.06	0.05	168.19	364.59
	Hazardous Air Pollutants (HAPs)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.95	4.95
	Particulate Matter (PM)	2.59	0.01	0.92	1.63	0.52	0.06	N/A	18.21	23.92

Note 1: This chart only includes manufacturing sites and subsidiaries with manufacturing activities within the reporting boundary. The two trading-based subsidiaries, Polybus and TSRC (Lux.), and the Global Business Headquarters, which mainly handle office activities, have no production activities and are therefore omitted from the table.

Note 2: Measurement method:

1. NOx emissions figures for the Kaohsiung Factory comes from data provided by the Continuous Emissions Monitoring System (CEMS), data on VOCs, SOx, and PM emissions is estimated based on gas vent inspection records (the Kaohsiung Factory replaced its NOx CEMS in 2024, resulting in there being six months where NOx emissions figures were also estimated from the gas vent inspection records).
2. For the Gangshan Factory, Shanghai Industries, and TSRC (Vietnam) Company Limited, VOCs and PM emissions are estimated based on the regular gas vent inspection records.
3. For Shen Hua Chemical, Nantong Industries, and TSRC-UBE, VOC emissions data comes from data provided by the Continuous Emissions Monitoring System (CEMS), while data for NOx, SOx, and PM emissions are estimated based on the regular gas vent inspection records.
4. 2024 Data for our US subsidiary TSRC Specialty Materials LLC is estimated based on the production ratio between 2024 and 2023. This data is expected to be updated after TSRC Specialty Materials LLC submits its report to the Emissions Reporting and Inventory Center (ERIC) in Q2 2025.

Note 3: TSRC air pollution detection is monitored by CEMS pursuant to laws and regulations, and is not tested for individual pollutants. N_2O cannot be deducted from Nitrogen oxides (NOx).

Note 4: Since sulfur oxides were deregulated in 2023, there is no data on detected emissions for the Kaohsiung Factory and Gangshan Factory.

Note 5: Only the US Factory is required to perform HAPs testing due to regulatory requirements. Other factories have not tested for HAPs since they are not required by law to do so.

Note 6: Restatements of information:
The 2023 ERIC report for TSRC Specialty Materials has been published, and estimated emissions for 2023, which were previously estimated based on production volume, have been amended to the actual emissions amount. NOx emissions were amended from 3.35 metric tons to 10.69 metric tons, accounting for 2.19×10^{0} of the original emissions amount. SOx emissions were amended from 0.00 metric tons to 0.68 metric tons, with the change accounting for 9.44×10^{2} of the original amount. VOC emissions were amended from 112.76 metric tons to 140.34 metric tons, with the change accounting for 2.45×10^{-1} of the original amount. TSRC Group's NOx emissions were amended from 12.42 metric tons to 19.76 metric tons, with the change accounting for 5.91×10^{-1} of the original amount. SOx emissions were amended from 3.80 metric tons to 4.48 metric tons, with the change accounting for 1.79×10^{-1} of the original emissions amount. VOC emissions were amended from 312.81 metric tons to 340.39 metric tons, with the change accounting for 8.82×10^{-2} of the original emissions amount.



Product Stewardship

2021-2024 Sales of Products that Contain Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Substances

(Unit: thousand NTD; %)

	2021	2022	2023	2024
Total sales of all company products	32,533,238	33,841,197	31,426,889	37,208,665
Total sales of products containing GHS hazardous substances classified as a Category 1 or 2 health or environment hazard	31,440,852	32,718,567	30,277,231	35,555,707
Total sales of products containing GHS hazardous substances classified as a Category 1 or 2 health or environment hazard, as a percentage of total product sales	96.64%	96.68%	96.34%	95.56%
Total sales of products containing GHS hazardous substances classified as a Category 1 or 2 health or environment hazard, and which have been subject to a hazard assessment by the Company	31,440,852	32,718,567	30,277,231	35,555,707
Total sales of products containing GHS hazardous substances classified as a Category 1 or 2 health or environment hazard, and which have been subject to a hazard assessment by the Company, as a percentage of total sales of products containing GHS hazardous substances classified as a Category 1 or 2 health or environment hazard	100%	100%	100%	100%

Note: TSRC products currently containing the GHS Category 1 health hazard Butadiene (makes up 95-100 w/w%).

2021-2024 Revenue from Products with Environmental Contributions

(unit: thousand NTD)

Product Category	Product Description	2021	2022	2023	2024
New Generation Synthetic Rubber Products	• The application of new-generation synthetic rubber to tires can help reduce tire rolling resistance, increase wear resistance, and improve vehicle fuel efficiency. • Applying this material to shoe materials can increase wear resistance and prolongs the lifecycle of shoe materials. These properties above can help to reduce carbon emissions in the environment and extend the lifecycle of products.	371,765	459,279	638,148	1,214,470

Employee Structure

Number of TSRC Employees in 2024 (by Subsidiary, Gender, Region, and Type of Employee Contract)

(Unit: Number of Employees)

Region		Taiwan	China				Vietnam	USA		Singapore	Europe	TSRC Group Total
		TSRC Corporation (Global Business Headquarters, Gangshan Factory, and Kaohsiung Factory)	Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	TSRC (USA)	Polybus	TSRC (Lux.)	
Permanent Employees	Male	542	313	289	96	57	15	67	1	2	7	1,389
	Female	115	39	34	20	22	10	22	0	0	7	269
Total (by company)		657	352	323	116	79	25	89	1	2	14	1,658
Total (by region)		657	870				25	90		2	14	1,658

Note 1: The term "Employees" in this table refers to permanent full-time employees, and does not include part-time employees or employees without guaranteed hours. We have also employed 4 temporary employees, 3 of whom are full-time employees (1 of whom is a visually impaired masseur), and 1 part-time employee. We do not have any temporary employees without guaranteed hours.

Note 2: The number of employees in this table is calculated as number of people employed on December 31, 2024.

Note 3: The calculation of this table includes factories and subsidiaries in the scope of the report and TSRC (USA) Investment Corporation. TSRC (USA) Investment Corporation is a non-operating holding company of TSRC, which is not within the scope of the reporting boundary. It is included in the calculation due to the employment of one permanent full-time employee.

Number of TSRC Employees in 2024 (by Age)

(Unit: Number of Employees)

Region	Taiwan	China				Vietnam	USA		Singapore	Europe	TSRC Group Total
	TSRC Corporation (Global Business Headquarters, Gangshan Factory, and Kaohsiung Factory)	Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	TSRC (USA)	Polybus	TSRC (Lux.)	
30 years old and younger	23	78	52	15	4	8	11	0	0	0	191
30-50 years old	446	183	241	94	61	15	40	0	1	5	1,086
50 years old and older	188	91	30	7	14	2	38	1	1	9	381
Total	657	352	323	116	79	25	89	1	2	14	1,658

Note 1: The term "Employees" in this table refers to permanent full-time employees, and does not include part-time employees or employees without guaranteed hours. We have also employed 4 temporary employees, 3 of whom are full-time employees (1 of whom is a visually impaired masseur), and 1 part-time employee. We do not have any temporary employees without guaranteed hours.

Note 2: The number of employees in this table is calculated as number of people employed on December 31, 2024.

Note 3: The calculation of this table includes factories and subsidiaries in the scope of the report and TSRC (USA) Investment Corporation. TSRC (USA) Investment Corporation is a non-operating holding company of TSRC, which is not within the scope of the reporting boundary. It is included in the calculation due to the employment of one permanent full-time employee above the age of 50.

Number of Non-Employee Workers in 2024 (by Subsidiary, Gender, and Region)

(Unit: Number of People)

Region		Taiwan	China				Vietnam	USA		Singapore	Europe	TSRC Group Total
		TSRC Corporation (Global Business Headquarters, Gangshan Factory, and Kaohsiung Factory)	Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	TSRC (USA)	Polybus	TSRC (Lux.)	
Non-employee workers	Male	58	67	90	31	12	6	47	0	0	1	312
	Female	6	8	12	4	3	5	6	0	0	0	44
	Total (by company)	64	75	102	35	15	11	53	0	0	1	356

Note 1: The number of employees in this table is calculated as number of people employed on December 31, 2024.
Note 2: Non-employee workers include security guards, cleaning staff, on-site support staff, and substitute employees filling in for employees on maternity leave.

Number of Female Managers in TSRC Group in 2024 (by Subsidiary, Managerial Level, and Gender)

		TSRC Corporation (Global Business Headquarters, Gangshan Factory, and Kaohsiung Factory)		Shen Hua Chemical		Nantong Industries		TSRC-UBE		Shanghai Industries		TSRC (Vietnam) Company Limited		TSRC Specialty Materials LLC		TSRC (USA)		Polybus		TSRC (Lux.)		TSRC Group Total
		Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	
Senior Management	Male	21	22.58%	2	6.67%	1	4.76%	1	9.09%	0	0.00%	0	0.00%	2	12.50%	1	100.00%	0	0.00%	1	50.00%	29
	Female	3	3.23%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	3
Mid-level Management	Male	28	30.11%	7	23.33%	5	23.81%	1	9.09%	3	18.75%	1	50.00%	3	18.75%	0	0.00%	0	0.00%	0	0.00%	48
	Female	11	11.83%	3	10.00%	1	4.76%	0	0.00%	0	0.00%	0	0.00%	1	6.25%	0	0.00%	0	0.00%	1	50.00%	17
Entry-level Management	Male	20	21.51%	13	43.33%	10	47.62%	6	54.55%	7	43.75%	0	0.00%	8	50.00%	0	0.00%	1	100.00%	0	0.00%	65
	Female	10	10.75%	5	16.67%	4	19.05%	3	27.27%	6	37.50%	1	50.00%	2	12.50%	0	0.00%	0	0.00%	0	0.00%	31
Total (by company)		93	100.00%	30	100.00%	21	100.00%	11	100.00%	16	100.00%	2	100.00%	16	100.00%	1	100.00%	1	100.00%	2	100.00%	193

Note 1: The number of employees in this table is calculated as number of people employed on December 31, 2024.
Note 2: Percentage of managers = number of managers at each level/total number of managers. Calculated figures are rounded to the second decimal place.
Note 3: The calculation of this table includes factories and subsidiaries in the scope of the report and TSRC (USA) Investment Corporation. TSRC (USA) Investment Corporation is a non-operating holding company of TSRC, which is not within the scope of the reporting boundary. It is included in the calculation due to the employment of one permanent full-time employee, in order to ensure consistency with TSRC's other reports.

TSRC New Employees in 2024 (by Subsidiary, Age, Gender, and Region)

Region		Taiwan		China								Vietnam		USA				Singapore		Europe		TSRC Group Total
		TSRC Corporation (Global Business Headquarters, Gangshan Factory, and Kaohsiung Factory)		Shen Hua Chemical		Nantong Industries		TSRC-UBE		Shanghai Industries		TSRC (Vietnam) Company Limited		TSRC Specialty Materials LLC		TSRC (USA)		Polybus		TSRC (Lux.)		
		Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	
Gender	Male	47	73.44%	32	94.12%	24	92.31%	15	93.75%	5	100.00%	3	100.00%	8	72.73%	0	0.00%	0	0.00%	1	100.00%	135
	Female	17	26.56%	2	5.88%	2	7.69%	1	6.25%	0	0.00%	0	0.00%	3	27.27%	0	0.00%	0	0.00%	0	0.00%	25
Age	30 years old and younger	14	21.88%	28	82.35%	20	76.92%	9	56.25%	0	0.00%	2	66.67%	6	54.55%	0	0.00%	0	0.00%	0	0.00%	79
	30-50 years old	46	71.88%	5	14.71%	6	23.08%	7	43.75%	4	80.00%	1	33.33%	3	27.27%	0	0.00%	0	0.00%	1	100.00%	73
	50 years old and older	4	6.25%	1	2.94%	0	0.00%	0	0.00%	1	20.00%	0	0.00%	2	18.18%	0	0.00%	0	0.00%	0	0.00%	8
Total number of new employees		64	100.00%	34	100.00%	26	100.00%	16	100.00%	5	100.00%	3	100.00%	11	100.00%	0	0.00%	0	0.00%	1	100.00%	160
Total number of permanent full-time employees		657		352		323		116		79		25		89		1		2		14		1,658
Annual new employment ratio=Total number of new employees/ Total number of permanent full-time employees (by company)		9.74%		9.66%		8.05%		13.79%		6.33%		12.00%		12.36%		0.00%		0.00%		7.14%		9.65%

Note 1: New employment ratio=Total number of new employees/Total number of permanent full-time employees. Turnover rate = Total number of departing employees/Total number of permanent full-time employees. When calculating the new employment ratio and turnover rate, decimals are rounded to the second decimal place.

Note 2: The total number of permanent full-time employees is calculated as of December 31, 2024.The performance review and the training mechanisms of the Group is not applicable to the 4 temporary employees due to the nature of their work. The new employee ratio for this division is calculated based on the ratio of new employees to permanent full-time employees.

Note 3: The calculation of this table for 2024 includes the scope of the report and TSRC (USA) Investment Corporation. TSRC (USA) Investment Corporation is a non-operating holding company of TSRC, which is not within the scope of the reporting boundary. It is included in the calculation due to the employment of one full-time employee. In 2024, TSRC (USA) Investment Corporation had no departing employees.

Departing Employees in 2024 (by Subsidiary, Age, Gender, and Region)

Region		Taiwan		China								Vietnam		USA				Singapore		Europe		TSRC Group Total
		TSRC Corporation (Global Business Headquarters, Gangshan Factory, and Kaohsiung Factory)		Shen Hua Chemical		Nantong Industries		TSRC-UBE		Shanghai Industries		TSRC (Vietnam) Company Limited		TSRC Specialty Materials LLC		TSRC (USA)		Polybus		TSRC (Lux.)		
		Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	
Gender	Male	54	84.38%	16	76.19%	28	96.55%	15	88.24%	1	100.00%	5	100.00%	8	72.73%	0	0.00%	0	0.00%	1	100.00%	128
	Female	10	15.63%	5	23.81%	1	3.45%	2	11.76%	0	0.00%	0	0.00%	3	27.27%	0	0.00%	0	0.00%	0	0.00%	21
Age	30 years old and younger	4	6.25%	13	61.90%	14	48.28%	6	35.29%	0	0.00%	3	60.00%	1	9.09%	0	0.00%	0	0.00%	0	0.00%	41
	30-50 years old	34	53.13%	1	4.76%	12	41.38%	11	64.71%	0	0.00%	1	20.00%	5	45.45%	0	0.00%	0	0.00%	0	0.00%	64
	50 years old and older	26	40.63%	7	33.33%	3	10.34%	0	0.00%	1	100.00%	1	20.00%	5	45.45%	0	0.00%	0	0.00%	1	100.00%	44
Total number of departing employees		64	100.00%	21	100.00%	29	100.00%	17	100.00%	1	100.00%	5	100.00%	11	100.00%	0	0.00%	0	0.00%	1	100.00%	149
Total number of permanent full-time employees		657		352		323		116		79		25		89		1		2		14		1,658
Annual turnover rate=Total number of departing employees/ Total number of permanent full-time employees (by company)		9.74%		5.97%		8.98%		14.66%		1.27%		20.00%		12.36%		0.00%		0.00%		7.14%		8.99%

Note 1: New employment ratio=Total number of new employees/Total number of permanent full-time employees. Turnover rate = Total number of departing employees/Total number of permanent full-time employees. When calculating the new employment ratio and turnover rate, decimals are rounded to the second decimal place.

Note 2: The total number of permanent full-time employees is calculated as of December 31, 2024. The performance review and the training mechanisms of the Group are not applicable to the 4 temporary employees due to the nature of their work. The turnover rate for this division is calculated based on the ratio of departing employees to permanent full-time employees.

Note 3: The calculation of this table for 2024 includes the scope of the report and TSRC (USA) Investment Corporation. TSRC (USA) Investment Corporation is a non-operating holding company of TSRC, which is not within the scope of the reporting boundary. It is included in the calculation due to the employment of one full-time employee. In 2024, TSRC (USA) Investment Corporation had no departing employees.

Employees Training

Averaged Training Hours of TSRC Employees and Total Resources Invested in 2024 (by Subsidiary and Gender)

Category		Unit	TSRC Corporation (Global Business Headquarters, Gangshan Factory, and Kaohsiung Factory)	Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	TSRC (USA)	Polybus	TSRC (Lux.)	TSRC Group Total
Gender	(Male) Total training hours of employees	Hours	21,400	29,441	29,817	9,936	1,527	1,209	3,439	1	27	140	96,935
	(Female) Total training hours of employees	Hours	4,116	1,443	1,963	1,226	488	382	1,004	0	0	140	10,762
	Total training hours of employees	Hours	25,516	30,884	31,780	11,162	2,015	1,591	4,443	1	27	280	107,697
	(Male) Number of employees	Persons	542	313	289	96	57	15	67	1	2	7	1,389
	(Female) Number of employees	Persons	115	39	34	20	22	10	22	0	0	7	269
	Total number of employees	Persons	657	352	323	116	79	25	89	1	2	14	1,658
	(Male) Averaged training hours of employees	Hours/ Person	39.48	94.06	103.17	103.50	26.79	80.58	51.33	0.50	13.50	19.93	69.79
	(Female) Averaged training hours of employees	Hours/ Person	35.79	36.99	57.74	61.30	22.18	38.20	45.64	-	-	20.00	40.01
	Averaged training hours of employees	Hours/ Person	38.84	87.74	98.39	96.22	25.50	63.63	49.92	0.50	13.50	19.96	64.96

Note 1: Average hours of training that each employee has undertaken=Total training hours/Total number of permanent full-time employees. Data figures are first summed up in full, then rounded to the second decimal place. Data figures for total employee training hours are first summed up in full, then rounded to the second decimal place.

Note 2: The total number of permanent full-time employees is calculated as of December 31, 2024. Due to the nature of their work, the 4 temporary employees are not included in the number of employees undergoing education and training, and the total training hours.

Note 3: The calculation of this table for 2024 includes the scope of the report and TSRC (USA) Investment Corporation. TSRC (USA) Investment Corporation is a non-operating holding company of TSRC, which is not within the scope of the reporting boundary. It is included in the calculation due to the employment of one permanent full-time employee who has undertaken training.

Averaged Training Hours of TSRC Employees and Total Resources Invested in 2024 (by Subsidiary and Employee Category)

Category		Unit	TSRC Corporation (Global Business Headquarters, Gangshan Factory, and Kaohsiung Factory)	Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	TSRC (USA)	Polybus	TSRC (Lux.)	TSRC Group Total
Employee Category	Total training hours of Senior Management	Hours	451	65	84	197	0	0	39	1	0	9	846
	Total training hours of Mid/Entry Level Management	Hours	2,979	1,239	1,706	726	499	101	737	0	22	38	8,047
	Total training hours of Indirect Employees	Hours	8,810	3,935	5,272	2,193	895	760	1,472	0	5	233	23,575
	Total training hours of Direct Employees	Hours	13,276	25,645	24,718	8,046	621	730	2,195	0	0	0	75,229
	Total training hours for permanent employees	Hours	25,516	30,884	31,780	11,162	2,015	1,591	4,443	1	27	280	107,697
	Number of Senior Management	Persons	24	2	1	1	0	0	2	1	0	1	32
	Number of Mid/Entry Level Management	Persons	69	28	20	10	16	2	14	0	1	1	161
	Number of Indirect Employees	Persons	258	93	82	33	40	16	47	0	1	12	582
	Number of Direct Employees	Persons	306	229	220	72	23	7	26	0	0	0	883
	Total number of permanent employees	Persons	657	352	323	116	79	25	89	1	2	14	1,658
	Averaged training hours of Senior Management	Hours	18.79	32.50	84.00	197.00	-	-	19.50	0.50	-	9.00	26.42
	Averaged training hours of Mid/Entry Level Management	Hours	43.17	44.25	85.30	72.60	31.19	50.50	52.64	-	22.00	38.00	49.98
	Averaged training hours of Indirect Employees	Hours	34.15	42.31	64.29	66.45	22.38	47.50	31.32	-	5.00	19.38	40.51
	Averaged training hours of Mid/Entry Direct Employees	Hours	43.39	111.99	112.35	111.75	26.99	104.23	84.43	-	-	-	85.20
	Averaged training hours of permanent employees	Hours/ Person	38.84	87.74	98.39	96.22	25.50	63.63	49.92	0.50	13.50	19.96	64.96

Note 1: Average hours of training that each employee has undertaken=Total training hours/Total number of permanent full-time employees. Data figures are first summed up in full, then rounded to the second decimal place. Data figures for total employee training hours are first summed up in full, then rounded to the second decimal place.

Note 2: The total number of permanent full-time employees is calculated as of December 31, 2024. Due to the nature of their work, the 4 temporary employees are not included in the number of employees undergoing education and training, and the total training hours.

Note 3: The calculation of this table for 2024 includes the scope of the report and TSRC (USA) Investment Corporation. TSRC (USA) Investment Corporation is a non-operating holding company of TSRC, which is not within the scope of the reporting boundary. It is included in the calculation due to the employment of one permanent full-time employee who has undertaken training.

Performance Evaluation

Number and Percentage of Employees Receiving Regular Performance and Career Development Reviews (by Subsidiary, Category and Gender)

		TSRC Corporation (Global Business Headquarters, Gangshan Factory, and Kaohsiung Factory)		Shen Hua Chemical		Nantong Industries		TSRC-UBE		Shanghai Industries		TSRC (Vietnam) Company Limited		TSRC Specialty Materials LLC		TSRC (USA)		Polybus		TSRC (Lux.)		TSRC Group Total	
		Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage
Employee Category	Senior Management	24	3.65%	2	0.57%	1	0.31%	1	0.86%	0	0.00%	0	0.00%	2	2.25%	1	100.00%	0	0.00%	1	7.14%	32	1.93%
	Mid/Entry Level Management	69	10.50%	28	7.95%	20	6.19%	10	8.62%	16	20.25%	2	8.00%	14	15.73%	0	0.00%	1	50.00%	1	7.14%	161	9.71%
	Indirect Employees	258	39.27%	93	26.42%	82	25.39%	33	28.45%	40	50.63%	16	64.00%	47	52.81%	0	0.00%	1	50.00%	12	85.71%	582	35.10%
	Direct Employees	306	46.58%	229	65.06%	220	68.11%	72	62.07%	23	29.11%	7	28.00%	26	29.21%	0	0.00%	0	0.00%	0	0.00%	883	53.26%
Gender	Male	542	82.50%	313	88.92%	289	89.47%	96	82.76%	57	72.15%	15	60.00%	67	75.28%	1	100.00%	2	100.00%	7	50.00%	1,389	83.78%
	Female	115	17.50%	39	11.08%	34	10.53%	20	17.24%	22	27.85%	10	40.00%	22	24.72%	0	0.00%	0	0.00%	7	50.00%	269	16.22%
Number of Employees Receiving Performance Reviews		657	100.00%	352	100.00%	323	100.00%	116	100.00%	79	100.00%	25	100.00%	89	100.00%	1	100.00%	2	100.00%	14	100.00%	1,658	100.00%
Total number of permanent full-time employees		657		352		323		116		79		25		89		1		2		14		1,658	

Note 1: The percentage of per employee receiving performance reviews = total number of employees receiving performance reviews/total number of permanent full-time employees. The data in this table is rounded to two decimal places.

Note 2: The total number of permanent full-time employees is calculated as of December 31, 2024. Due to the nature of their work, the 4 temporary employees are not included in the number of the Group's employees receiving performance reviews.

Note 3: Senior managers refer to G19 and above managers, mid/entry level managers refer to deputy managers and managers. Direct employees refer to employees directly responsible for production lines, including operators, technicians, shift leaders, and analysts. Indirect employees are all employees that are not direct employees.

Note 4: The calculation of this table for 2024 includes the scope of the report and TSRC (USA) Investment Corporation. TSRC (USA) Investment Corporation is a non-operating holding company of TSRC, which is not within the scope of the reporting boundary. It is included in the calculation due to the employment of one permanent full-time employee who has undergone a performance review.

Occupational Health and Safety

2021-2024 TSRC Occupational Health and Safety Management System Auditing in Accordance with the ISO 45001 (by Subsidiary)

			TSRC Corporation (Kaohsiung Factory and Gangshan Factory only)		Shen Hua Chemical		Nantong Industries		TSRC-UBE		Shanghai Industries	
			Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage	Number of people	Percentage
2021	Number of employees being internally audited	TSRC employees	506	91%	299	100%	310	100%	109	100%	73	95%
		Non-employee workers	5	1%	70	100%	105	100%	41	100%	4	100%
	Number of employees being externally audited	TSRC employees	553	91%	299	100%	310	100%	109	100%	59	77%
		Non-employee workers	10	2%	70	100%	0	0%	41	100%	4	100%
2022	Number of employees being internally audited	TSRC employees	490	76%	298	100%	320	100%	117	100%	74	97%
		Non-employee workers	90	14%	79	100%	105	100%	38	100%	8	100%
	Number of employees being externally audited	TSRC employees	450	70%	298	100%	320	100%	117	100%	74	97%
		Non-employee workers	90	14%	79	100%	0	0%	0	0%	8	100%
2023	Number of employees being internally audited	TSRC employees	563	98%	340	100%	328	100%	119	100%	77	100%
		Non-employee workers	94	100%	72	100%	105	100%	40	100%	7	100%
	Number of employees being externally audited	TSRC employees	563	98%	340	100%	328	100%	119	100%	77	100%
		Non-employee workers	94	100%	72	100%	105	100%	40	100%	7	100%
2024	Number of employees being internally audited	TSRC employees	583	99%	352	100%	324	100%	118	100%	78	99%
		Non-employee workers	101	100%	93	100%	105	100%	39	100%	6	100%
	Number of employees being externally audited	TSRC employees	504	86%	326	93%	324	100%	118	100%	78	99%
		Non-employee workers	101	100%	93	100%	105	100%	39	100%	6	100%

Note 1: This table only includes the number of employees and non-employees working in factories that have undergone internal audits and external verification following ISO45001 within the reporting boundaries. Subsidiaries such as TSRC (Vietnam) Co., Ltd. and TSRC Specialty Materials LLC, as well as the two holding subsidiaries Polybus and TSRC (Lux.) that mainly engage in trading business, and the Global Business Headquarters that mainly engage in office affairs, are not subject to ISO 45001 occupational health and safety management system audits, and are therefore omitted from the table.

Note 2: The total number of employees at each subsidiary in this table refers to the total number of employees at the time of internal audit and external audit, and is therefore different from the total number of employees as of December 31, 2024, as calculated.

2024 Occupational Injuries and Illness of TSRC Employees (by Subsidiary)

		Unit	TSRC Corporation (Global Business Headquarters, Gangshan Factory, and Kaohsiung Factory)	Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	TSRC (USA)	Polybus	TSRC (Lux.)	TSRC Group Total
Total employee working hours		Hours	1,264,670	840,371	753,344	275,200	178,767	53,583	173,415	1,936	3,928	22,588	3,567,802
Occupational Injury Rate (Total recordable incidence rate, TRIR)	Number of recordable occupational injury cases among employees	Cases	1	1	0	0	0	0	0	0	0	0	2
	Number of employees involved in recordable occupational injury	Number of people	1	1	0	0	0	0	0	0	0	0	2
	Total recordable incidence rate (TRIR)		0.16	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11

Note 1: The employees in this table refers to permanent employees and temporary employees.

Note 2: Total recordable incidence rate (TRIR) calculation method: Number of incidents/Total work hours X 200,000. The definition of recordable occupational incidence includes: death, days away from work, restricted work or transfer to another job, medical treatment beyond first aid, loss of consciousness, or a significant injury or illness diagnosed by a physician or other licensed healthcare professional (even if it does not result in death, days away from work, restricted work or transfer to another job, medical treatment beyond first aid, or loss of consciousness).

Note 3: In 2024, there were no reports of occupational fatalities, severe occupational injuries, occupational illnesses, occupational disease fatalities, or work-related deaths among TSRC employees.

2024 Occupational Injuries and Illness of TSRC Non-employee Workers (by Subsidiary)

		Unit	TSRC Corporation (Global Business Headquarters, Gangshan Factory, and Kaohsiung Factory)	Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	TSRC (USA)	Polybus	TSRC (Lux.)	TSRC Group Total
Total working hours of non-employee workers		Hours	479,772	267,885	268,814	103,274	28,206	35,441	108,094	N/A	N/A	1,468	1,292,954
Occupational Injury Rate (Total recordable incidence rate, TRIR)	Number of recordable occupational injury cases among non-employee workers	Cases	1	0	1	0	0	0	0	N/A	N/A	0	2
	Number of non-employee workers involved in recordable occupational injury cases	Number of people	1	0	1	0	0	0	0	N/A	N/A	0	2
	Total recordable incidence rate for non-employee workers (TRIR)		0.42	0.00	0.74	0.00	0.00	0.00	0.00	N/A	N/A	0.00	0.31

Note 1: Non-employee workers are defined as those whose job content is monitored by TSRC Group alone or jointly with other organizations, but who are not directly employed by TSRC Group.

Note 2: Total recordable incidence rate (TRIR) calculation method: Number of incidents/Total work hours X 200,000. The definition of recordable occupational incidence includes: death, days away from work, restricted work or transfer to another job, medical treatment beyond first aid, loss of consciousness, or a significant injury or illness diagnosed by a physician or other licensed healthcare professional (even if it does not result in death, days away from work, restricted work or transfer to another job, medical treatment beyond first aid, or loss of consciousness).

Note 3: Definition of severe recordable occupational injury rate: Number of serious occupational injuries/total work hours X 200,000. The definition of severe recordable occupational injury includes: death, an injury that renders it impossible or difficult for the worker to return to their pre-injury state of health within six months.

Note 4: In 2024, there were no reports of occupational fatalities, severe occupational injuries, occupational illnesses, occupational disease fatalities, or work-related deaths among non-employee workers at TSRC Group. TSRC USA and Polybus did not employ any non-employee workers, so their data is marked as N/A.

TSRC Process Safety Incidents, Process Safety Total Incident Rate, and Process Safety Incident Severity Rate in 2024

	TSRC Corporation (Global Business Headquarters, Gangshan Factory, and Kaohsiung Factory)	Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	Polybus	TSRC (Lux.)	TSRC Group Total
Process safety incidents count (PSIC)	0	0	0	0	0	0	0	0	0	0
Process safety total incident rate (PSTIR)	0	0	0	0	0	0	0	0	0	0
Process safety incident severity rate (PSISR)	0	0	0	0	0	0	0	0	0	0

Note 1: TSRC Group did not have any transportation accidents during production in 2024.
Note 2: The process safety incidents, process safety total incident rate and process safety incident severity rate counted in this table are in accordance with the definition of American Petroleum Institute (API) and RP 754 Tier 1 of American National Standards Institute, ANSI.

Employee Benefits

2021-2024 Employee Benefits Expenses (by Subsidiary)

Year	TSRC Corporation (Global Business Headquarters, Gangshan Factory, and Kaohsiung Factory)	Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	TSRC (USA)	Polybus	TSRC (Lux.)	Total
2021	160,161,520	95,792,433	95,783,717	36,287,585	22,992,036	5,129,351	47,553,067	277,949	559,880	7,928,722	472,466,260
2022	179,880,832	117,431,497	111,366,012	42,904,477	26,643,185	4,791,076	54,852,400	297,979	611,817	9,948,281	548,727,556
2023	177,090,570	134,395,311	122,907,723	47,747,693	28,103,661	3,692,955	58,649,866	169,939	703,886	8,853,754	582,315,358
2024	182,099,350	141,919,660	130,170,750	50,322,299	29,727,095	3,527,633	59,241,155	264,302	748,221	9,019,556	607,040,021

Note 1: Benefits include insurance, holiday bonuses, meal and transportation allowances, pension, housing allowances, sickness and injury allowances, and other employee benefits.
Note 2: Average exchange rate in 2024 was TWD: USD = 32.09835:1, TWD: RMB = 4.45452:1, TWD: VND = 0.00128:1, TWD: EUR = 34.73302:1, TWD: SGD = 24.02765:1, TWD: CHF = 36.47846:1.
Note 3: Restatements of information: Calculation scope was adjusted for 2021-2023 to include the scope of this report and TSRC (USA) Investment Corporation. TSRC (USA) Investment Corporation is a non-operating holding company of TSRC, which is not within the scope of the reporting boundary. It is included in the calculation due to the employment of a permanent full-time employee who has been provided with employee benefits.

Labor-Management Communication

2022-2024 Number and Percentage of Employees Covered by the Collective Bargaining Agreement at TSRC Group (by Subsidiary)

(Unit: Persons, %)

		TSRC Corporation (Global Business Headquarters, Gangshan Factory, Kaohsiung Factory)	Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	Polybus	TSRC (Lux.)
2022	Number of permanent full-time employees covered by collective bargaining agreement	481	0	0	0	76	24	N/A	N/A	N/A
	Percentage of permanent full-time employees covered by collective bargaining agreement	72.22%	0.00%	0.00%	0.00%	100.00%	80.00%	N/A	N/A	N/A
2023	Number of permanent full-time employees covered by collective bargaining agreement	477	0	0	0	77	25	N/A	N/A	N/A
	Percentage of permanent full-time employees covered by collective bargaining agreement	72.21%	0.00%	0.00%	0.00%	100.00%	96.15%	N/A	N/A	N/A
2024	Number of permanent full-time employees covered by collective bargaining agreement	476	0	0	0	79	23	N/A	N/A	N/A
	Percentage of permanent full-time employees covered by collective bargaining agreement	72.56%	0.00%	0.00%	0.00%	100.00%	92.00%	N/A	N/A	N/A

Note 1: The percentage of employees covered by the collective bargaining = number of employees covered by the collective bargaining/total number of permanent full-time employees. The data in this table is rounded to two decimal places.

Note 2: TSRC Specialty Materials LLC, Polybus, and TSRC(Lux.) do not have labor unions, so the data is marked as N/A.

Note 3: Restatements of information: Data figures on the number and percentage of permanent full-time employees covered by the collective bargaining agreement for 2022 and 2023 were adjusted to reflect our actual operating conditions and due to a re-examination of the contract signing situation.

Note 4: The three subsidiaries Shen Hua Chemical, Nantong Industries, and TSRC-UBE all have labor unions. While no collective bargaining agreement has been signed due to the actual operating needs at each location, these unions regularly convene labor-management meetings to facilitate discussion and communication on various important topics including amendments to the labor contract, labor conditions, and benefits.

Compliance

2023-2024 Fines for Violations of Regulations

(Unit: NTD; Number of cases)

	Non-compliance with laws and regulations on governance/economics aspects		Non-compliance with laws and regulations on environment aspects		Non-compliance with laws and regulations on social/people aspects (Occupational safety and health included)	
	Fines	Cases	Fines	Cases	Fines	Cases
2023	0	0	645,000	2	0	0
2024	0	0	1,200,000	3	0	0

GRI Standards Index

General Disclosures

• **Statement of use:** TSRC has reported information in accordance with the GRI Standards for the period from January 1, 2024 to December 31, 2024. | • **GRI 1 used:** GRI 1: Foundation (2021) | •**Applicable GRI Sector Standard(s):** None.

GRI 2: General Disclosures (2021)		Chapter	Report page number
The Organization and its reporting practices			
2-1	Organizational details	Company Information	5,14
2-2	Entities included in the organization's sustainability reporting	Scope of Reporting	3
2-3	Reporting period, frequency and contact point	Reporting Period and Frequency	3
		Contact	3
2-4	Restatements of information	Restatements of Information	3
2-5	External assurance	Third-party Verification and Assurance	3
Activities and workers			
2-6	Activities, value chain and other business relationships	1.1.2 Main Products and Applications	15
		4.3.1 Supplier Management	129
2-7	Employees	3.1.1 Employee Structure	73
		Appendix Sustainability Data Number of TSRC Employees in 2024 (by Subsidiary, Gender, Region, and Type of Employee Contract)	158
2-8	Workers who are not employees	Appendix Sustainability Data Number of Non-Employee Workers in 2024 (by Subsidiary, Gender, and Region)	159

GRI 2: General Disclosures (2021)		Chapter	Report page number
Governance			
2-9	Governance structure and composition	4.1.1 Board of Directors and Functional Committees	105
		1.2.1 ESG Management Structure	17
2-10	Nomination and selection of the highest governance body	4.1.1 Board of Directors and Functional Committees	106
2-11	Chair of the highest governance body	4.1.1 Board of Directors and Functional Committees	106
2-12	Role of the highest governance body in overseeing the management of impacts	4.1.1 Board of Directors and Functional Committees	105
		1.2.1 ESG Management Structure	17
2-13	Delegation of responsibility for managing impacts	1.2.1 ESG Management Structure	17
2-14	Role of the highest governance body in sustainability reporting	About the Report	3
2-15	Conflicts of interest	4.1.1 Board of Directors and Functional Committees	106
2-16	Communication of critical concerns	1.2.1 ESG Management Structure	17
		4.1.1 Board of Directors and Functional Committees	106
2-17	Collective knowledge of the highest governance body	4.1.1 Board of Directors and Functional Committees	106
2-18	Evaluation of the performance of the highest governance body	4.1.1 Board of Directors and Functional Committees	106
2-19	Remuneration policies	4.1.1 Board of Directors and Functional Committees	107
2-20	Process to determine remuneration	4.1.1 Board of Directors and Functional Committees	107
2-21	Annual total compensation ratio	4.1.1 Board of Directors and Functional Committees	108
Strategy, policies and practices			
2-22	Statement on sustainable development strategy	Letter from the CEO	4
		ESG Strategy	6

GRI 2: General Disclosures (2021)		Chapter	Report page number
2-23	Policy commitments	4.1.2 Ethical Corporate Management	108
		3.2.3 Human Rights and Labor-Management Communication	95
2-24	Embedding policy commitments	4.1.2 Ethical Corporate Management	108
		4.3.1 Supplier Management	129
2-25	Processes to remediate negative impacts	Appendix Remediation and Management of Negative Impacts	139
2-26	Mechanisms for seeking advice and raising concerns	4.1.2 Ethical Corporate Management	109
2-27	Compliance with laws and regulations	4.1.4 Compliance	117
		2.5.1 Air Pollution Prevention and Management	64
		Appendix Sustainability Data 2023-2024 Fines for Violation of Regulations	168
		Appendix Definition of Significant Instances of Non-compliance and HSE Severe Incidents	144
2-28	Membership associations	Appendix Participation in Industry Associations and Non-Profit Organizations	135
Stakeholder Engagement			
2-29	Approach to stakeholder engagement	1.2.2 Stakeholder Engagement	19
2-30	Collective bargaining agreements	3.2.3 Human Rights and Labor-Management Communication	99
		Appendix Sustainability Data 2022-2024 Number and Percentage of Employees Covered by the Collective Bargaining Agreement at TSRC Group (by Subsidiary)	168

GRI 3: Material Topics (2021)		Chapter	Report page number
3-1	Process to determine material topics	1.2.3 ESG Material Topics	21
3-2	List of material topics	Appendix Comparison of Changes in Material Topics to the Previous Year	137

Material Topics Disclosure

The following are disclosures on material topics identified by TSRC in 2024, based on the GRI material topics

Disclosure Items		Chapter	Report page number
Material topic: Business Strategies and Performance			
GRI 3: Material topics disclosure (2021)			
3-3	Management of material topics	Letter from the CEO	4
		1.2.3 ESG Material Topics	27
		1.1.3 Key Business Achievements	16
		4.1.3 Risk Management 2024 Priority Risks and Countermeasures	113
GRI 201: Economic Performance (2016)			
201-1	Direct economic value generated and distributed	Appendix Sustainability Data 2022-2024 Revenues and Expenses	145
Material topic: Climate Strategy and Greenhouse Gas Emissions			
GRI 3: Material topics disclosure (2021)			
3-3	Management of material topics	1.2.3 ESG Material Topics	23
		Management of Material Topics	31

Disclosure Items		Chapter	Report page number
GRI 305: Emissions (2016)			
305-1	Direct (Scope 1) GHG emissions	2.1.2 Greenhouse Gas Management GHG Emissions and Carbon Emission Intensity per Unit Product	42
		Appendix Sustainability Data 2021-2024 Greenhouse Gas Emissions and Emission Intensity (by Subsidiary)	146
305-2	Energy indirect (Scope 2) GHG emissions	2.1.2 Greenhouse Gas Management GHG Emissions and Carbon Emission Intensity per Unit Product	42
		Appendix Sustainability Data 2021-2024 Greenhouse Gas Emissions and Emission Intensity (by Subsidiary)	146
305-3	Other indirect (Scope 3) GHG emissions	2.1.2 Greenhouse Gas Management Other Indirect Greenhouse Gas Emissions in 2024	43
305-4	GHG emissions intensity	2.1.2 Greenhouse Gas Management GHG Emissions and Carbon Emission Intensity per Unit Product	42
		Appendix Sustainability Data 2021-2024 Greenhouse Gas Emissions and Emission Intensity (by Subsidiary)	146
305-5	Reduction of GHG emissions	2.1.2 Greenhouse Gas Management	44
Material topic: Energy Management			
GRI 3: Material topics disclosure (2021)			
3-3	Management of material topics	1.2.3 ESG Material Topics	24
		Management of Material Topics	45

Disclosure Items		Chapter	Report page number
GRI 302: Energy (2016)			
302-1	Energy consumption within the organization	2.2.1 Energy Use Energy Consumption	46
		Appendix Sustainability Data 2021-2024 TSRC Purchased Energy (by Subsidiary)	148
		Appendix Sustainability Data 2021-2024 TSRC Energy Consumption	150
302-3	Energy intensity	2.2.1 Energy Use Energy Consumption	46
		Appendix Sustainability Data 2021-2024 TSRC Purchased Energy (by Subsidiary)	148
302-4	Reduction of energy consumption	2.2.2 Energy Conservation and Carbon Reduction	47
Material topic: Waste and Hazardous Substance Management			
GRI 3: Material topics disclosure (2021)			
3-3	Management of material topics	1.2.3 ESG Material Topics	26
		Management of Material Topics	49
GRI 306: Waste (2020)			
306-1	Waste generation and significant waste-related impacts	2.3.1 Waste Management	50
306-2	Management of significant waste-related impacts	2.3.1 Waste Management	50,54
306-3	Waste generated	2.3.1 Waste Management Waste Generation	52

Disclosure Items		Chapter	Report page number
306-4	Waste diverted from disposal	2.3.1 Waste Management Waste Generation and Disposal in 2024	53
		Appendix Sustainability Data 2024 Waste Recycling and Reuse (by Subsidiary)	153
306-5	Waste directed to disposal	2.3.1 Waste Management Waste Generation and Disposal in 2024	53
		Appendix Sustainability Data 2024 Direct Waste Disposal (by Subsidiary)	153
Material topic: Water Resource Management			
GRI 3: Material topics disclosure (2021)			
3-3	Management of material topics	1.2.3 ESG Material Topics	25
		Management of Material Topics	55
GRI 303: Water and Effluents (2018)			
303-1	Interactions with water as a shared resource	2.4.1 Water Resource Management	56
303-2	Management of water discharge-related impacts	2.4.1 Water Resource Management	58
303-3	Water withdrawal	2.4.1 Water Resource Management Water Withdrawal and Use Volume	57
		Appendix Sustainability Data 2024 Water Withdrawal, Discharge, and Consumption (by Water-stressed Areas)	154

Disclosure Items		Chapter	Report page number
303-4	Water discharge	2.4.1 Water Resource Management Water Discharge	58
		Appendix Sustainability Data 2024 Water Withdrawal, Discharge, and Consumption (by Water-stressed Areas)	154
303-5	Water consumption	2.4.1 Water Resource Management Water Consumption	58
		Appendix Sustainability Data 2024 Water Withdrawal, Discharge, and Consumption (by Water-stressed Areas)	154
Material topic: Talent Development			
GRI 3: Material topics disclosure (2021)			
3-3	Management of material topics	1.2.3 ESG Material Topics	27
		Management of Material Topics	71
GRI 404: Training and Education (2016)			
404-1	Average hours of training per year per employee	3.1.2 Talent Attraction and Empowerment Average Training Hours per Employee and Total Investment Amount	76
		Appendix Sustainability Data Averaged Training Hours of TSRC Employees and Total Resources Invested in 2024 (by Subsidiary and Gender)	162
		Appendix Sustainability Data Averaged Training Hours of TSRC Employees and Total Resources Invested in 2024 (by Subsidiary and Employee Category)	163

Disclosure Items		Chapter	Report page number
404-3	Percentage of employees receiving regular performance and career development reviews	3.1.2 Talent Attraction and Empowerment Number and Percentage of Employees Receiving Regular Performance and Career Development Reviews (by Category)	79
		3.1.2 Talent Attraction and Empowerment Number and Percentage of Employees Receiving Regular Performance and Career Development Reviews (by Gender)	79
		Appendix Sustainability Data Number and Percentage of Employees Receiving Regular Performance and Career Development Reviews (by Subsidiary, Category and Gender)	164
Self-identified indicators			
	Number of employees (cumulative) receiving multiple competency training	ESG Strategy	8
		Management of Material Topics	71
Material topic: Occupational Health and Safety			
GRI 3: Material topics disclosure (2021)			
3-3	Management of material topics	1.2.3 ESG Material Topics	27
		Management of Material Topics	80
GRI 403: Occupational Health and Safety (2018)			
403-1	Occupational health and safety management system	3.2.1 Occupational Health and Safety	82,84
403-2	Hazard identification, risk assessment, and incident investigation	3.2.1 Occupational Health and Safety	83,90-91
403-3	Occupational health services	3.2.1 Occupational Health and Safety	87
403-4	Worker participation, consultation, and communication on occupational health and safety	3.2.1 Occupational Health and Safety	84
403-5	Worker training on occupational health and safety	3.2.1 Occupational Health and Safety	86
403-6	Promotion of worker health	3.2.1 Occupational Health and Safety	88
403-7	Prevention and mitigation of occupational health and safety impacts directly linked to business relationships	3.2.1 Occupational Health and Safety	85

Disclosure Items		Chapter	Report page number
403-8	Workers covered by occupational health and safety management system	3.2.1 Occupational Health and Safety TSRC Workers Covered by an Occupational Health and Safety Management System	83
		Appendix Sustainability Data 2021-2024 TSRC Occupational Health and Safety Management System Auditing in Accordance with ISO 45001 (by Subsidiary)	165
403-9	Work-related injuries	3.2.1 Occupational Health and Safety	91
		Appendix Sustainability Data 2024 Occupational Injuries and Illness of TSRC Employees (by Subsidiary)	166
		Appendix Sustainability Data 2024 Occupational Injuries and Illness of TSRC Non-employee Workers (by Subsidiary)	166
403-10	Work-related ill health	3.2.1 Occupational Health and Safety	91
		Appendix Sustainability Data 2024 Occupational Injuries and Illness of TSRC Employees (by Subsidiary)	166
		Appendix Sustainability Data 2024 Occupational Injuries and Illness of TSRC Non-employee Workers (by Subsidiary)	166
Material topic: Compliance			
GRI 3: Material topics disclosure (2021)			
3-3	Management of material topics	1.2.3 ESG Material Topics	28
		Management of Material Topics	116
Self-identified indicators			
	Fines for Environment, Health, and Safety (EHS) violations	Management of Material Topics	116

Disclosure Items		Chapter	Report page number
Material topic: Risk management			
GRI 3: Material topics disclosure (2021)			
3-3	Management of material topics	1.2.3 ESG Material Topics	27
		Management of Material Topics	110
Self-identified indicators			
	Establishment and disclosure of the climate-related risk management and assessment system	ESG Strategy	9
		2.1.1 Climate Resilience	32
	Disclosure of risk management monitoring status	ESG Strategy	9
		4.1.3 Risk Management	111
Material topic: Sustainable innovation			
GRI 3: Material topics disclosure (2021)			
3-3	Management of material topics	1.2.3 ESG Material Topics	28
		Management of Material Topics	120
Self-identified indicators			
	New product revenue share	Management of Material Topics	120
Material topic: Sustainable supply chain management			
GRI 3: Material topics disclosure (2021)			
3-3	Management of material topics	1.2.3 ESG Material Topics	28
		Management of Material Topics	128

Disclosure Items		Chapter	Report page number
GRI 204: Procurement practices (2016)			
204-1	Proportion of spending on local suppliers	4.3.2 Green and Local Procurement	133
GRI 308: Supplier Environmental Assessment (2016)			
308-1	New suppliers that were screened using environmental criteria	4.3.1 Supplier Management Number and Percentage of New Suppliers Selected in 2024	130
308-2	Negative environmental impacts in the supply chain and actions taken	4.3.1 Supplier Management	130
GRI 414: Supplier Social Assessment (2016)			
414-1	New suppliers that were screened using social criteria	4.3.1 Supplier Management Number and Percentage of New Suppliers Selected in 2024	130
414-2	Negative social impacts in the supply chain and actions taken	4.3.1 Supplier Management	130
Self-identified indicators			
	Suppliers' greenhouse gas emission reduction targets and plans	ESG Strategy	9
		4.3.1 Supplier Management	132



Voluntary Disclosure

The following are the voluntary disclosure items corresponding to the GRI standards for TSRC's concerned topics

Disclosure Items		Chapter	Report page number
GRI 401: Employment			
401-1	New employee hires and employee turnover	3.1.1 Employee Structure Number of New Employees and New Employee Ratio	74
		3.1.1 Employee Structure Number of Departing Employees and Turnover Rate	74
		Appendix Sustainability Data TSRC New Employees in 2024 (by Subsidiary, Age, Gender, and Region)	160
		Appendix Sustainability Data Departing Employees in 2024 (by Subsidiary, Age, Gender, and Region)	161
GRI 405: Employee Diversity and Equal Opportunity (2016)			
405-1	Diversity of governance units and employees	Appendix Sustainability Data Number of Female Managers in TSRC Group in 2024 (by Subsidiary, Managerial Level, and Gender)	159
		4.1.1 Board of Directors and Functional Committees	105
405-2	Ratio of basic salary and remuneration of women to men	3.2.2 Employee remuneration and benefits Ratio of Basic Salary and Remuneration of Women to Men	92
GRI 416: Customer Health and Safety (2016)			
416-1	Assessment of the health and safety impacts of product and service categories	Appendix Sustainability Data 2021-2024 Sales of Products that Contain Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Substances	157

SASB Index

SASB Code	Metric	Unit of measurement	Chapter position in report	Report page number	External assurance and verification
Sustainability Disclosure Topics & Metrics					
RT-CH-110a.1	Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations	Metric tons (t) carbon dioxide equivalent, percentage (%)	Appendix Sustainability Data 2023-2024 Scope 1 Emissions Covered under Emission-limiting Regulations	147	• TSRC Group's Scope 1 emissions have been verified by DNV • SGS AA1000 Type II Moderate
RT-CH-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	n/a	2.1.2 Greenhouse Gas Management	44	• SGS AA1000 Type II Moderate
RT-CH-120a.1.	Emissions of the following pollutants: (1) NOx (excluding N_2O), (2) SOx, (3) volatile organic compounds (VOCs), and (4) hazardous air pollutants (HAPs)	Metric ton (t)	2.5.1 Air Pollution Prevention and Management Air Pollutant Emissions	63	• SGS AA1000 Type II Moderate
			Appendix Sustainability Data 2021-2024 Emissions of Air Pollutants (by Subsidiary)	155	• SGS AA1000 Type II Moderate
RT-CH-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable and (4) total self-generated energy	Gigajoules (GJ), percentage (%)	2.2.1 Energy Use Energy Consumption	46	• KPMG Assurance (ISAE 3000) • SGS AA1000 Type II Moderate
			Appendix Sustainability Data Data [2021-2024 TSRC Energy Consumption	150	
RT-CH-140a.1.	(1) Total water withdrawn, (2) total water consumed; percentage of each in regions with High or Extremely High Baseline Water Stress	Thousand cubic meters (m^3), percentage (%)	2.4.1 Water Resource Management Water Withdrawal and Use Volume	57	• KPMG Assurance (ISAE 3000) • SGS AA1000 Type II Moderate
			Appendix Sustainability Data 2024 Water Withdrawal, Discharge, and Consumption (by Water-stressed Areas)	154	
RT-CH-140a.2.	Number of incidents of non-compliance associated with water quality permits, standards and regulations	Number	2.4.1 Water Resource Management	58	• SGS AA1000 Type II Moderate

SASB Code	Metric	Unit of measurement	Chapter position in report	Report page number	External assurance and verification
RT-CH-140a.3.	Description of water management risks and discussion of strategies and practices to mitigate those risks	n/a	2.4.1 Water Resource Management	57	• SGS AA1000 Type II Moderate
RT-CH-150a.1.	(1) Amount of hazardous waste generated, (2) percentage recycled	Metric tons (t), percentage (%)	2.3.1 Waste Management Weight and Proportion of Hazardous Waste Recycled and Disposed	54	• KPMG Assurance (ISAE 3000) • SGS AA1000 Type II Moderate
			Appendix Sustainability Data 2021-2024 Generation, Recycling and Percentage of General Industrial Waste and Hazardous Industrial Waste (by Subsidiary)	151	
RT-CH-210a.1.	Discussion of engagement processes to manage risks and opportunities associated with community interests	n/a	3.3.1 Social Impact	100	• SGS AA1000 Type II Moderate
RT-CH-320a.1.	(1) Total Recordable Incident Rate (TRIR) and (2) fatality rate for (a) direct employees and (b) contracted employees	Rate	Appendix Sustainability Data 2024 Occupational Injuries and Illness of TSRC Employees (by Subsidiary)	166	• KPMG Assurance (ISAE 3000) • SGS AA1000 Type II Moderate
			Appendix Sustainability Data 2024 Occupational Injuries and Illness of TSRC Non-employee Workers (by Subsidiary)	166	
RT-CH-320a.2.	Description of efforts to assess, monitor, and reduce exposure of employees and contract workers to long-term (chronic) health risks	n/a	3.2.1 Occupational Health and Safety	87	• SGS AA1000 Type II Moderate
RT-CH-410a.1.	Revenue from products designed for use-phase resource efficiency	Presentation currency	Appendix Sustainability Data 2021-2024 Revenue from Products with Environmental Contributions	157	• SGS AA1000 Type II Moderate
RT-CH-410b.1.	(1) Percentage of products that contain Globally Harmonized System of Classification and Labelling of Chemicals (GHS) Category 1 and 2 Health and Environmental Hazardous Substances, (2) percentage of such products that have undergone a hazard assessment	Percentage calculated based on revenue (%), percentage (%)	Appendix Sustainability Data 2021-2024 Sales of Products that Contain Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Substances	157	• SGS AA1000 Type II Moderate

SASB Code	Metric	Unit of measurement	Chapter position in report	Report page number	External assurance and verification
RT-CH-410b.2.	Discussion of strategy to (1) manage chemicals of concern and (2) develop alternatives with reduced human or environmental impact	n/a	2.6.2 Product stewardship and chemical management	68	• SGS AA1000 Type II Moderate
RT-CH-410c.1.	Percentage of products by revenue that contain genetically modified organisms (GMOs)	Percentage calculated based on revenue (%)	TSRC does not produce products that contain GMOs	n/a	• SGS AA1000 Type II Moderate
RT-CH-530a.1.	Discussion of corporate positions related to government regulations or policy proposals that address environmental and social factors affecting the industry	n/a	4.1.3 Risk management	114	• SGS AA1000 Type II Moderate
			2.1.1 Climate resilience Impact of and Responses to Important Climate-related Risks and Opportunities	36	
			3.2.3 Human rights and labor-management communication	95	
RT-CH-540a.1.	Process Safety Incidents Count (PSIC), Process Safety Total Incident Rate (PSTIR), and Process Safety Incident Severity Rate (PSISR)	Number of incidents, percentage	Appendix Sustainability Data TSRC Process Safety Incidents, Process Safety Total Incident Rate, and Process Safety Incident Severity Rate in 2024	167	• SGS AA1000 Type II Moderate
RT-CH-540a.2.	Number of transport incidents	Number	Appendix Sustainability Data TSRC Process Safety Incidents, Process Safety Total Incident Rate, and Process Safety Incident Severity Rate in 2024	167	• SGS AA1000 Type II Moderate
RT-CH-000.A	Production by reportable segment	Metric ton (t)	Appendix Sustainability Data 2021-2024 Production Volume (by Subsidiary)	145	• SGS AA1000 Type II Moderate



Task Force on Climate-related Financial Disclosures (TCFD) Comparison Table

TCFD Recommended Disclosure Items	Chapter position in report	Report page number
Governance		
Board of Directors oversight of climate-related risks and opportunities	2.1.1 Climate Resilience TSRC Climate Management Organization Structure and Actions	32-33
Role of management in assessing and managing climate-related risks and opportunities	2.1.1 Climate Resilience TSRC Climate Management Organization Structure and Actions	32-33
Strategy		
Short, medium, and long-term climate-related risks and opportunities identified by the organization	2.1.1 Climate Resilience Impact of and Responses to Important Climate-related Risks and Opportunities	36
Impact of climate-related risks and opportunities on the organization's business, strategy, and financial planning	2.1.1 Climate Resilience Financial impact of Climate-related Risks and Opportunities	38
The organization's strategic resilience considering various different climate scenarios (including scenarios of a 2°C or higher temperature change)	2.1.1 Climate Resilience Climate Risk Scenario Analysis	38
Risk Management		
The organization's processes for identifying and assessing climate-related risks	2.1.1 Climate Resilience Climate-related Risks and Opportunities Identification and Management Process	34
The organization's processes for managing climate-related risks	2.1.1 Climate Resilience Climate-related Risks and Opportunities Identification and Management Process	34
Integrating processes for identifying, assessing, and managing climate-related risks into the organization's overall risk management	2.1.1 Climate Resilience Climate-related Risks and Opportunities Identification and Management Process	35
Metrics and Targets		
Disclose the indicators used by the organization to assess climate-related risks and opportunities in line with our strategy and risk management process	ESG Strategy	7
Scope 1, Scope 2 and Scope 3 (where applicable) greenhouse gas emissions and associated risks	2.1.2 Greenhouse Gas Management GHG Emissions and Carbon Emission Intensity per Unit Product Other Indirect Greenhouse Gas Emissions in 2024	42-43
Goals used by the organization to assess climate-related risks and opportunities, and goal achievement performance	2.1 Towards Carbon Neutrality	31
	2.2 Energy Management	45
	2.4 Water Resource Optimization	55
	2.6 Design Green Products	66

Information Disclosures Required by the Taiwan Stock Exchange

The Company has referenced the Rules Governing the Preparation and Filing of Sustainability Reports by TWSE Listed Companies, Appendix 1-2 Sustainability Disclosure Indicators - Chemical Industry

No.	Indicators	Type of indicator	Unit	Chapter position in report	Report page number
I	Total energy consumption, percentage of purchased electricity, renewable energy utilization rate, and total self-generated and self-use energy.	Quantitative	Gigajoules, percentage (%)	Appendix Sustainability Data 2021-2024 TSRC Energy Consumption	150
II	Total water withdrawn, total water consumption, mandatorily or voluntarily disclosed total wastewater (sewage) discharged.	Quantitative	1,000 cubic meters (m^3), percentage (%)	Appendix Sustainability Data 2024 Water Withdrawal, Discharge, and Consumption (by Water-stressed Areas)	154
III	Total amount of hazardous waste generated during the production process of products required to be disclosed under the law or disclosed voluntarily.	Quantitative	Metric tons (t), percentage (%)	2.3.1 Waste Management Weight and Proportion of Hazardous Waste Recycled and Disposed	54
IV	Number of employees involved in occupation accidents, and rate of occupational accidents	Quantitative	Percentage (%), quantity	Appendix Sustainability Data 2024 Occupational Injuries and Illness of TSRC Employees (by Subsidiary) 2024 Occupational Injuries and Illness of TSRC Non-employee Workers (by Subsidiary)	166
V	Operations with significant actual and potential negative impacts on local communities.	Qualitative description	N/A	4.3.1 Supplier Management Collaborating with Suppliers to Reduce Carbon Emissions 3.2.1 Occupational Health and Safety Contractor and Supplier Operational Safety Managemen 3.2.3 Human Rights and Labor-Management Communication Assessment of supplier human rights risks Appendix Remediation and Management of Negative Impacts	132 85 97 139
VI	Concrete valid mechanisms and actions implemented by the company itself and its suppliers to mitigate negative environmental or social impact.	Qualitative description	N/A	Appendix Remediation and Management of Negative Impacts	139
VII	Production by product category.	Quantitative	Varies by product category	Appendix Sustainability Data 2021-2024 Production Volume (by Subsidiary)	145

Appendix 2 Climate-related Information for TWSE Listed Companies

Item	Chapter position in report	Report page number
Implementation of climate-related information		
1. Describes the supervision and governance of climate-related risks and opportunities by the Board of Directors and management.	2.1.1 Climate Resilience TSRC Climate Management Organization Structure and Actions	32-33
2. Describes how identified climate-related risks and opportunities affect the company's business, strategy, and finances in the short, medium, and long term.	2.1.1 Climate Resilience Impact of and Responses to Important Climate-risks and Opportunities	36
3. Describes the financial impact of extreme weather events and transition measures.	2.1.1 Climate Resilience Financial Impact of Climate-related Risks and Opportunities	38
4. Describes how the identification, assessment, and management of climate risks is integrated into the overall risk management system.	2.1.1 Climate Resilience Climate-related Risks and Opportunities Identification and Management Process	35
5. If scenario analysis has been used to assess the company's resilience against climate change risks, describe the scenarios, parameters, assumptions, analysis factors, and major financial impacts used.	2.1.1 Climate Resilience Financial Impact of Climate-related Risks and Opportunities	38
6. If a transition plan for managing climate-related risks has been adopted, describe the contents of the plan and the indicators and goals used to identify and manage physical and transition risks.	2.1. Towards Carbon Neutrality	31
	2.2 Energy Management	45
	2.4 Water Resource Optimization	55
	2.6 Design Green Products	66
7. If an internal carbon price has been used as a planning tool, describe the basis used to determine this price.	2.1.1 Climate Resilience	39
8. If climate-related goals have been set, provide information such as the activities covered by these goals, the scope of greenhouse gas emissions, planned timeline for achieving these goals, and the progress achieved each year. If carbon offset credits or renewable energy certificates (RECs) have been used to achieve these goals, describe the source and amount of carbon offset credits and RECs used.	2.1.1 Climate Resilience	32
	2.1.2 Greenhouse Gas Management	42
Information on the Company's greenhouse gas inventory and assurance for the last two years		
Greenhouse gas inventory information Describe the total greenhouse gas emissions (metric tons CO_2e), emissions intensity (metric tons CO_2e/NT$1 million), and emissions boundaries used for the past two years.	2.1.2 Greenhouse Gas Management	42
Greenhouse gas assurance information Describe the assurances obtained in the past two years, including the assurance scope, assurance institution, assurance standards, and assurance statements issued.	2.1.2 Greenhouse Gas Management	42
	Appendix Sustainability Data 2021-2024 Greenhouse Gas Emissions and Emission Intensity (by Subsidiary)	146
Greenhouse gas reduction goals, strategies, and specific action plans		
Describe the base year used to measure greenhouse gas reductions, greenhouse gas reduction data, goals, strategies, and specific action plans, and the achievement of greenhouse gas reduction goals.	2.1. Towards Carbon Neutrality	31

Independent Third-Party Assurance and Verification Statement

SGS

ASSURANCE STATEMENT

SGS TAIWAN LTD.'S REPORT ON SUSTAINABILITY ACTIVITIES IN THE TSRC Corporation'S SUSTAINABILITY REPORT FOR 2024

NATURE AND SCOPE OF THE ASSURANCE

SGS Taiwan Ltd. (hereinafter referred to as SGS) was commissioned by TSRC Corporation (hereinafter referred to as TSRC) to conduct an independent assurance of the Sustainability Report for 2024 (hereinafter referred to as the Report). The assurance is based on the SGS Sustainability Report Assurance methodology and AA1000 Assurance Standardv3 Type 2 moderate level during 2025/03/04 to 2025/04/11. The boundary of this report includes TSRC Taiwan and TSRC overseas operational, production and service sites in TSRC's Sustainability Report of 2024. The boundary is the same as TSRC'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 TSRC's Stakeholders.

RESPONSIBILITIES

The information in the TSRC's Sustainability Report of 2024 and its presentation are the responsibility of the directors or governing body and the management of TSRC. 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 2 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 Option	
1	AA1000 Accountability Principles (2018)
2	In Accordance with GRI Standards 2021
3	SASB Chemicals Sustainability Accounting Standard (Version No. 2023-12)
4	Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)

TWLPP 5008 Issue 2502

- The evaluation of the reliability and quality of specified sustainability performance information in TSRC's Sustainability Report is limited to determined material topics and those clearly marked in the Report as conducted in accordance with type 2 of AA1000AS v3 sustainability assurance engagement at a moderate level of scrutiny for TSRC and moderate level of scrutiny for its subsidiaries or joint ventures
- The assurance of the Report against the requirements of GRI Standards, includes GRI 1, GRI 2, GRI 3, 200, 300 and 400 series claimed in the Appendix of the Report: GRI content index as material topics and is conducted in accordance with the Standards.
- The evaluation of the Report against TCFD is conducted at a type 2 moderate level of scrutiny since it includes forward-looking information.

SPECIFIED PERFORMANCE INFORMATION AND DISCLOSURES INCLUDED IN SCOPE

The specified performance information includes the data for 2024, which is related to GRI 2, GRI 3, GRI 200, 300, 400 series, and the SASB insert Sector Standard, version 2018-10 claimed in the GRI content index as material in the Appendix of the Report.

ASSURANCE METHODOLOGY

The assurance comprised a combination of desktop research, interviews with relevant employees, superintendents, ESG committee members and the senior management in Taiwan; documentation and record review and validation with external bodies and stakeholders where relevant.

LIMITATIONS

Financial data drawn directly from independently audited financial accounts, Greenhouse Gas Emission verified by external certification body have, and non-material topics and the related indicators have not been checked back to source as part of this assurance process.

INDEPENDENCE AND COMPETENCE

The SGS Group of companies is the world leader in inspection, testing and verification, operating in more than 140 countries and providing services including management systems and service certification; quality, environmental, social and ethical auditing and training; environmental, social and sustainability report assurance. SGS affirm our independence from TSRC, being free from bias and conflicts of interest with the organization, its subsidiaries and stakeholders.

The assurance team was assembled based on their knowledge, experience and qualifications for this assignment, and comprised auditors registered with professional qualifications such as ISO 26000, ISO 20121, ISO 50001, RBA, QMS, EMS, SMS, GPMS, CFP, WFP, GHG Verification and GHG Validation Lead Auditors and experience on the SRA Assurance service provisions.

FINDINGS AND CONCLUSIONS

ASSURANCE OPINION

On the basis of the methodology described and the assurance work performed, we are satisfied that the specified performance information included in the scope of assurance is accurate, reliable, has been fairly stated and has been prepared, in all material respects, in accordance with the AA1000 AccountAbility Principles (2018).

The assurance team believe that the organization has chosen an appropriate level of assurance for this stage in their reporting.

TWLPP 5008 Issue 2502

ADHERENCE TO AA1000 ACCOUNTABILITY PRINCIPLES (2018)

INCLUSIVITY

TSRC has demonstrated a good commitment to stakeholder inclusivity and stakeholder engagement. A variety of engagement efforts such as survey and communication to employees, customers, investors, suppliers, and other stakeholders are implemented to underpin the organization's understanding of stakeholder concerns. TSRC has integrated stakeholder engagement and responses into relevant policies, operational procedures and systems

MATERIALITY

TSRC has established effective processes for determining issues that are material to the business. Formal review has identified stakeholders and those issues that are material to each group and the report addresses these at an appropriate level to reflect their importance and priority to these stakeholders.

RESPONSIVENESS

Integration of the responsiveness of impact management into the organization, including through relevant organizational processes, such as risk management, compliance and strategy development. The report includes coverage given to stakeholder engagement and channels for stakeholder feedback.

IMPACT

TSRC has performed robust processes to understand, measure, evaluate and manage the organization's impacts that are applied across the organization under the governance of top management, including key cross-functional involvement. Measurement and evaluation of its impacts related to material topic were in place at target setting with combination of qualitative measurements.

QUALITY AND RELIABILITY OF SPECIFIED PERFORMANCE INFORMATION

On the basis of the verification work performed, we have checked top management meeting minutes, internal document policy and procedure, internal audit report, routine operation records from multiple departments, external third party certification. The assurance team have confidence that the specified performance information included in the scope of assurance is reliable at a moderate level of scrutiny for TSRC and at a moderate level of scrutiny for its subsidiaries or joint ventures.

ADHERENCE TO GRI

The report, TSRC' Sustainability Report of 2024, is reporting in accordance with the GRI Universal Standards 2021. The significant impacts were assessed and disclosed in accordance with the requirement defined in GRI 3: Material Topic 2021 and the relevant 200/300/400 series Topic Standard related to the material topics claimed in GRI content index, the Appendix of the Report. The report has properly disclosed information related to TSRC contributions and progress to sustainability development. By the report assurance process, TSRC has demonstrated leadership and accountability in its impact management, due diligence conducted, and solid execution for annual indicators and the plan through upright self-governance. For future reporting, it is recommended to consider and integrate the fiscal report materiality into the process of sustainability materiality assessment, to further aligning with accounting metrics of SASB, and stay compliance with the listing corporation disclosure requirement of Taiwan in the near future.

ADHERENCE TO SASB

TSRC has conformed with SASB Standards, Chemicals Sustainability Accounting Standard, Resource Transformation Sector, VERSION 2018-10 to disclose information of material topics that are vital for enterprise value creation. The reporting boundaries of the disclosed SASB information correspond to the financial data reported in TSRC's audited consolidated financial statements of 2024. Process to identify, assess, and manage SASB-topic-related risks and opportunities, including the disclosed indicator and information, were integrated into TSRC's overall management process.

ADHERENCE TO TCFD

Based on the assurance methodology performed, no systematic errors were detected, and we are satisfied that TSRC has met SGS TCFD performance assessment criteria at the disclosure level. The actual and potential impacts of climate-related risks and opportunities has been considered and identified over the relevant short-, medium-, and long-term time horizons. The resilience of TSRC' strategy were taking into consideration with different climate-related scenarios including SPI-3, SSP2-4.5, SSP5-8 scenarios. The scope1, scope 2 and scope 3 greenhouses gas (GHG) emissions inventory has been conducted and verified annually. The metrics and targets has been used by TSRC to manage climate-related risks and opportunities and performance against targets. It is recommended that TSRC to continually monitor the climate risk management according to the operation site in the assessment as well as the national compliance requirement change if any in the following reporting period.

Signed:
For and on behalf of SGS Taiwan Ltd.



AA1000
Licensed Report
000-8/V3-WC0YB

Stephen Pao
Business Assurance Director
Taipei, Taiwan
16 May, 2025
WWW.SGS.COM

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Independent Limited Assurance Report

To TSRC Corporation Ltd.:

We were engaged by TSRC Corporation ("TSRC") to provide limited assurance over the selected information attached ("the Subject Matter Information") on the 2024 Sustainability Report of TSRC ("the Report") for the year ended December 31, 2024.

Applicable Criteria of the Subject Matter Information

TSRC shall prepare the Subject Matter Information in accordance with the Sustainability Accounting Standards for Chemicals Industry issued by Sustainability Accounting Standards Board ("SASB") as set forth in Appendix I.

Management's Responsibilities

TSRC is responsible for determining its objectives with respect to sustainable development performance and reporting, including the identification of stakeholders and material aspects, and using the applicable criteria to fairly prepare and present the Subject Matter Information. TSRC is also responsible for establishing and maintaining internal controls relevant to the preparation and presentation of the Subject Matter Information that is free from material misstatement, whether due to fraud or error.

Our Responsibilities

We performed our work in accordance with the Standard on Assurance Engagements TWSAE3000 "Assurance Engagements Other than Audits or Reviews of Historical Financial Information" issued by the Accounting Research and Development Foundation in Taiwan and to issue a limited assurance conclusion on whether the Subject Matter Information is free from material misstatement. Also, we have considered appropriate limited assurance procedures according to the understanding of relevant internal controls in the circumstances, but not for the purposes of expressing a conclusion as to the effectiveness of the internal control over the design or implementation of the Report.

Independence and Standards on Quality Management

We have complied with the independence and other ethical requirements of the Code of Professional Ethics for Certified Public Accountant in the Republic of China, which is founded on the fundamental principles of integrity, objectivity, professional competence and due care, confidentiality, and professional behavior. In addition, we applied Standards on Quality Management. Accordingly, we maintained a comprehensive system of quality management, including documented policies and procedures regarding compliance with ethical requirements and professional standards as well as applicable legal and regulatory requirements.

Summary of Work Performed

As stated in applicable criteria of the Subject Matter Information paragraph, our main work on the selected information included:

- Reading the Report of TSRC;
- Inquiries with responsible management level and non-management level personnel to understand the operational processes and information systems used to collect and process the Subject Matter Information.
- On the basis of the understanding obtained mentioned above, perform analytical procedures on the Subject Matter Information and if necessary, inspect related documents to gather sufficient and appropriate evidence in a limited assurance engagement.

The work described above is based on professional judgment and consideration of the level of assurance and our assessment of the risk of material misstatement of the Subject Matter Information, whether due to fraud or error. We believe that the work performed and evidence we have obtained are sufficient and appropriate to provide a basis of our conclusion. However, the work performed in a limited assurance engagement varies in nature and timing from, and is less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

Inherent limitations

The Report for the year ended December 31, 2024 includes the disclosures of non-financial information that involved significant judgments, assumptions and interpretations by the management of TSRC. Therefore, the different stakeholders may have different interpretations of such information.

Conclusion

Based on the work we have performed and the evidence we have obtained, as described above, nothing has come to our attention that causes us to believe that the Subject Matter Information has not been properly prepared, in all material aspects, in accordance with the applicable criteria.

Other Matters

We shall not be responsible for conducting any further assurance work for any change of the subject matter information or the criteria applied after the issuance date of this report.

The engagement partner on the assurance resulting in this independent auditors' report is Huang, Yu-Ting.

KPMG

Taipei, Taiwan (Republic of China)
April 18, 2025

Notes to readers

The limited assurance report and the accompanying selected information are the English translation of the Chinese version prepared and used in the Republic of China. If there is any conflict between, or any difference in the interpretation of, the English and Chinese language limited assurance report and the selected information, the Chinese version shall prevail.

Appendix I: Summary of the Subject Matter Information

No.	Corresponding Section	Subject Matter Information	Applicable Criteria
1	2.2.2 Energy Conservation and Carbon Reduction	■ Low-Carbon Processes **Optimizing Process Operations**: TSRC promotes the optimization of process operations to achieve energy conservation and carbon reduction targets by adjusting parameters and operating methods. **Optimizing Utility Systems**: For lighting systems, air conditioning systems, and other utilities, TSRC uses a combination of equipment replacement and optimized operating conditions to save electricity. **Investing in High-Efficiency Equipment**: TSRC actively invests in highly energy-efficient process equipment to reduce energy consumption and carbon emissions per unit product. ■ Improving Energy Efficiency ➢ TSRC's continues to implement measures to improve energy efficiency and reduce energy consumption across our global operations. In addition to innovating low-carbon processes and replacing process equipment to achieve carbon reduction targets, our key factories and subsidiaries (Kaohsiung Factory, Shen Hua Chemical, Nantong Industries, TSRC-UBE) have also set annual energy conservation goals.	SASB Chemicals RT-CH-130a.1 (1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable, (4) total self-generated energy
	Appendix_ Energy Management	■ 2024 TSRC Energy Consumption ➢ Unit: GJ	

Non-renewable energy	Bituminous coal	0.00
	Fuel oil	0.00
	Diesel in factory area	11,521.72
	Natural gas	1,923,062.93
	Liquefied petroleum gas (LPG)	1,021.19
	Gasoline	1,371.03
	Recycled butadiene	42,606.65
	Purchased electricity	760,668.85
	Purchased steam	2,332,618.67
	Subtotal	5,072,871.06
Renewable energy	Purchased electricity	63,593.86
	Self-generated electricity	8,649.56
	Subtotal	72,243.42
Total energy consumption		5,145,114.47
Self-generated electricity (non-renewable energy + renewable energy)		177,784.80
Percentage of electricity used from the power grid (%)		75.91%
Percentage of renewable energy (%)		1.40%
Percentage of electricity from the grid out of total energy consumption (%)		14.78%

Note 1: 2024 data includes within the reporting boundary the Global Business Headquarters, two factories (Kaohsiung and Gangshan), 6 subsidiaries that engage in manufacturing activities, and 2 holding companies Polybus and TSRC (Lux.) which mainly engage in trading activities.

No.	Corresponding Section	Subject Matter Information	Applicable Criteria
		Note 2: The energy conversion factors are based on the Greenhouse Gas Emissions Guidelines published by the Environmental Protection Administration of Taiwan. The data is calculated based on the Lower Heating Values (LHV) of the fuels. The results are rounded to the second decimal place. Note 3: Total energy consumption of organization = the internal energy consumption = non-renewable energy + renewable energy. Note 4: Percentage of electricity used from the power grid (%)=(Purchased electricity (non-renewable energy))/(Purchased electricity (non-renewable energy)+Purchased electricity (renewable energy)+self-generated electricity (renewable energy)+self-generated electricity (Non-renewable energy)). Note 5: Percentage of renewable energy (%)=(Purchased electricity (Renewable energy)+Self-generated electricity (renewable energy))/Total energy consumption. Note 6: Percentage of electricity from the grid out of total energy consumption (%)=Purchased electricity (non-renewable energy)/Total energy consumption. Note 7: The Heating value conversion factor for each type of energy used is based on version 6.0.4 of the Greenhouse Gas Emission Factor Management Table of the Environmental Protection Agency of Taiwan. Among them, the recycled butadiene reference petroleum heating value, is calculated as 7,800 kcal/L. For steam, except for Shen Hua Chemical and Nantong Industries, a standard conversion factor of 2.26 GJ for the heat required to vaporize one ton of water at one atmosphere pressure is used. Shen Hua Chemical and Nantong Industries use a conversion factor provided by their supplier, which is 2.96626 GJ for one ton of water. Note 8: Starting from 2021, all TSRC manufacturing factories no longer use bituminous coal and fuel oil as energy sources.	
2	Appendix_ Water Resource Management	■ 2024 Water Withdrawal, Discharge, and Consumption (by Water-stressed Areas)	SASB Chemicals RT-CH-140a.1 (1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress

Categorized at the province, county/city level	Regions with Extremely High Water Stress	Regions with High Water Stress		Regions with Moderate to High Water Stress					Regions With Low to Moderate Water Stress		Regions with Low Water Stress		TSRC Group
		TSRC Corporation											
(Unit: 1,000 m3 =million liters)	Shanghai Industries	Kaohsiung Factory	Gangshan Factory	Shen Hua Chemical	Nantong Industries	TSRC-UBE	TSRC Specialty Materials LLC (office)	TSRC (Lux.)	TSRC (Vietnam) Company Limited	TSRC Corporation Global business headquarters	TSRC Specialty Materials LLC (factory)	Polybus	Total
Tap water withdrawal	9.70	1,569.69	3.11	924.73	325.03	258.06	1.67	0.07	5.47	2.35	229.73	0.01	3,329.63
Groundwater withdrawal	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
Purchased steam	0.00	10.41	0.00	182.75	292.17	218.92	0.00	0.00	0.00	0.00	169.23	0.00	873.48
Wastewater recycled	0.00	549.62	0.00	91.98	258.30	140.28	0.00	0.00	0.00	0.00	0.00	0.00	1,040.18
Purchased reclaimed water	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	198.26	0.00	198.26
Total water withdrawal	9.70	1,569.74	3.11	924.73	325.03	258.06	1.67	0.07	5.47	2.35	229.73	0.01	3,329.67

No.	Corresponding Section	Subject Matter Information	Applicable Criteria

Water usage	9.70	2,129.76	3.11	1,199.46	875.50	617.27	1.67	0.07	5.47	2.35	597.22	0.01	5,441.59
Water discharged	9.70	1,011.89	2.34	788.56	234.95	253.09	1.67	0.07	1.57	2.35	447.00	0.01	2,753.20
Water Consumption	0.00	1,117.88	0.77	410.90	640.54	364.18	0.00	0.00	3.90	0.00	150.22	0.00	2,688.39

Note 1: Tap water withdrawal refers to freshwater supplied by the local water company (≤1,000 mg/L TDS).TSRC Kaohsiung Factory also draws groundwater.

Note 2: Total water withdrawal = Tap water withdrawal + Groundwater withdrawal.

Note 3: Water usage = Fresh water withdrawal + Groundwater withdrawal + Purchased steam + Wastewater recycled + Purchased reclaimed water.

Note 4: Water consumption=Water usage-Water discharge.

Note 5: Purchased steam is also used as a process water source after the heat exchange purpose is achieved in the relevant process, and the evaporation amount is not considered in the data.

Note 6: Data figures are first summed up in full, then rounded to the second decimal place.

Note 7: Regarding water resource risks:

- The TSRC Specialty Materials LLC factory in Louisiana, USA, and the trading-based subsidiary Polybus in Singapore face low water risks (<10%).TSRC (Vietnam) Company Limited, which is based in Vietnam, and our global business headquarters face low to medium water stress risk (10-20%).China-based Shen Hua Chemical, Nantong Industries and TSRC-UBE based in Jiangsu Province, our trading-based subsidiary TSRC (Lux.) based in Luxembourg, and the TSRC Specialty Materials LLC offices in Texas face a medium to high water stress risk (20%-40%).Shanghai Industries, located in the Shanghai region of China, faces an extremely high water stress risk (>80%).
- Regardless of whether it is the dry or rainy season, TSRC's Kaohsiung Factory and Gangshan Factory are at high risk for drought in the past and the future (2015-2039), according to the report published by the National Science and Technology Center for Disaster Reduction.

Note 8: In 2024, fresh water and groundwater withdrawal in areas with high water stress and extremely high risk (according to regional analysis) accounted for 47.53% of the group's total water withdrawal, and water consumption in areas with high water stress and extremely high risk accounted for 41.61% of the group's total water consumption.

No.	Corresponding Section	Subject Matter Information	Applicable Criteria
3	Appendix _ Waste Management	■ 2024 Generation, Recycling and Percentage of General Industrial Waste and Hazardous Industrial Waste (by Subsidiary)	SASB Chemicals RT-CH-150a.1. Amount of hazardous waste generated, percentage recycled

(Unit: metric tons)	TSRC Corporation		Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	**TSRC Group Total**
	Kaohsiung Factory	Gangshan Factory							
Total weight of hazardous industrial waste	135.76	0.00	1,080.44	420.52	298.39	37.41	4.47	109.49	2,086.47
Hazardous industrial waste recycled	0.00	0.00	112.90	11.28	10.22	37.17	0.00	0.00	171.57
Hazardous industrial waste reused	0.00	0.00	169.72	17.86	4.84	0.00	0.00	0.00	192.42
Percentage of hazardous industrial waste recycled and reused	0.00%	0.00%	26.16%	6.93%	5.05%	99.36%	0.00%	0.00%	17.45%

Note 1: This table only includes manufacturing factories and subsidiaries that engage in manufacturing activities within the reporting boundary. The two trading-based subsidiaries, Polybus and TSRC (Lux.), the Global Business Headquarters, and the TSRC Specialty Materials LLC office, which are mainly office operations, generate only general domestic waste, not industrial waste.

Note 2: Data for all factories in 2024 is derived from the waste removal and disposal (transfer) records provided by waste disposal vendors. Data figures are summed up in full, before being rounded to the second decimal place. The TSRC Kaohsiung Factory, Gangshan Factory, Nantong Industries, TSRC-UBE, Shen Hua Chemical submit reports to the government waste platform every month. Shanghai Industries and TSRC (Vietnam) Co., Ltd. report to the government on an annual basis. TSRC Specialty Materials LLC reports to the government every two years.

Note 3: Non-hazardous general industrial waste includes: (1) Non-recyclable general industrial waste disposed of via incineration, landfill, and thermal treatment, including non-recyclable waste plastic mixtures, inorganic sludge, waste rubber, and waste packaging materials.(2) Recyclable general industrial waste, including waste iron, waste paper, scrap rubber, waste bulk bags, and waste metal boxes.(3) Reusable general industrial waste, including waste rubber, waste wood, and waste lubricant.

Note 4: Hazardous industrial waste includes: (1) Non-recyclable waste oils, waste liquids, organic waste, sludge, waste chemicals, and containers for hazardous substances;(2) Recyclable waste oil, waste packaging materials, and waste containers. These waste materials are defined based on the regulations announced by the competent authorities:

- [Taiwan] Kaohsiung Factory, Gangshan Factory: Based on the definitions provided in the Hazardous Industrial waste Recognition Standard published by the Taiwan Environmental Protection Agency.
- [China] Shen Hua Chemical, Nantong Industries, TSRC-UBE, Shanghai Industries: Based on the definitions provided in China's Directory of National Hazardous Wastes.
- [Vietnam] TSRC (Vietnam) Company Limited: 08/2022/NĐ-CP, 02/2022/TT-BTNMT.
- [USA] TSRC Specialty Materials LLC: 40 CFR (Code of Federal Regulations) parts 260 through 273. Louisiana Administrative Code, Title 33, Part V.

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No.	Corresponding Section	Subject Matter Information	Applicable Criteria
4	Appendix_ Occupational Health and Safety	■ 2024 Occupational Injuries and Illness of TSRC Employees (by Subsidiary)	SASB Chemicals RT-CH-320a.1. (1) Total recordable incident rate (TRIR) and (2) fatality rate for (a) direct employees and (b) contract employees

Occupational Injuries and Illness of TSRC Employee Workers Statistics	Unit		TSRC Corporation (Global Business Headquarters, Gangshan Factory, and Kaohsiung Factory)	Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	TSRC (USA)	Polybus	TSRC (Lux.)	TSRC Group Total
Total employee working hours	Hours		1,264,670	840,371	753,344	275,200	178,767	53,583	173,415	1,936	3,928	22,588	3,567,802
Occupational Injury Rate (Total recordable incidence rate, TRIR)	Number of recordable occupational injury cases among employees	Cases	1	1	0	0	0	0	0	0	0	0	2
	Number of employees involved in recordable occupational injury	Number of people	1	1	0	0	0	0	0	0	0	0	2
	Total recordable incidence rate (TRIR)		0.16	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11

Note 1: The employees in this table refers to permanent employees and temporary employees.
Note 2: Total recordable incidence rate (TRIR) calculation method: Number of incidents /Total work hours x 200,000. The definition of recordable occupational incidence includes: death, days away from work, restricted work or transfer to another job, medical treatment beyond first aid, loss of consciousness, or a significant injury or illness diagnosed by a physician or other licensed healthcare professional (even if it does not result in death, days away from work, restricted work or transfer to another job, medical treatment beyond first aid, or loss of consciousness).
Note 3: In 2024, there were no reports of occupational fatalities, severe occupational injuries, occupational illnesses, occupational disease fatalities, or work-related deaths among TSRC employees.

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No.	Corresponding Section	Subject Matter Information	Applicable Criteria
		■ 2024 Occupational Injuries and Illness of TSRC Non-employee Workers (by Subsidiary)	

Occupational Injuries and Illness of TSRC Non-employee Workers Statistics		Unit	TSRC Corporation (Global Business Headquarters, Gangshan Factory, and Kaohsiung Factory)	Shen Hua Chemical	Nantong Industries	TSRC-UBE	Shanghai Industries	TSRC (Vietnam) Company Limited	TSRC Specialty Materials LLC	TSRC (USA)	Polybus	TSRC (Lux.)	TSRC Group Total
Total working hours of non-employee workers		Hours	479,772	267,885	268,814	103,274	28,206	35,441	108,094	N/A	N/A	1,468	1,292,954
Occupational Injury Rate (Total recordable incidence rate, TRIR)	Number of recordable occupational injury cases among non-employee workers	Cases	1	0	1	0	0	0	0	N/A	N/A	0	2
	Number of non-employee workers involved in recordable occupational injury cases	Number of People	1	0	1	0	0	0	0	N/A	N/A	0	2
	Total recordable incidence rate for non-employee workers (TRIR)		0.42	0.00	0.74	0.00	0.00	0.00	0.00	N/A	N/A	0.00	0.31

Note 1: Non-employee workers are defined as those whose job content is monitored by TSRC Group alone or jointly with other organizations, but who are not directly employed by TSRC Group.
Note 2: Total recordable incidence rate (TRIR) calculation method: Number of incidents /Total work hours x 200,000. The definition of recordable occupational incidence includes: death, days away from work, restricted work or transfer to another job, medical treatment beyond first aid, loss of consciousness, or a significant injury or illness diagnosed by a physician or other licensed healthcare professional (even if it does not result in death, days away from work, restricted work or transfer to another job, medical treatment beyond first aid, or loss of consciousness).
Note 3: Definition of severe recordable occupational injury rate: Number of serious occupational injuries/total work hours X 200,000. The definition of severe recordable occupational injury includes: death, an injury that renders it impossible or difficult for the worker to return to their pre-injury state of health within six months.
Note 4: In 2024, there were no reports of occupational fatalities, severe occupational injuries, occupational illnesses, occupational disease fatalities, or work-related deaths among non-employee workers at TSRC Group. TSRC USA and Polybus did not employ any non-employee workers, so their data is marked as N/A.

台橡股份有限公司
TSRC CORPORATION

TSRC CORPORATION

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Phone +886237016000

TSRC CORPORATION-Business Manufacturing Site

Address No.2, Singgong Rd., Dashe Dist., Kaohsiung City 815, Taiwan (R.O.C.) (Kaohsiung Factory)

Phone +88673513811 / +886237016000



Governance

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1.1 Industry

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1.1.1 Globalization

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Environmental

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Physical risks – flood

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Main products

Occupational safety

Phase1

TSRC is headquartered in Taiwan, and we seek to expand our global presence in Europe, Asia, and America.

Solvent Recycling Tank

Note: TSRC (Vietnam) Co., Ltd. is responsible for the production of applied materials. Production and operations were stopped at the end of December 2024 to improve overall production efficiency and configuration.

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Content
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Chapter 2 Environmental Protection
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Chapter 4 Governance
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Chapter 1 About TRSC
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Chapter 3 Social
#f6ba41

Appendix
#966fc9

社會正向力

1.1 產業定位

1.1.1 全球布局

台橡公司

台橡公司

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安全生產

環境

階段一

作為全球特用材料企業，以創新技術豐富人類生活品質，並為我們的利害關係人創造永續價值與收益

溶劑回收槽

註: TSRC (Vietnam) Co., Ltd.負責應用材料產品之生產。為提升整體生產效能與配置，自2024年12月底停止生產，暫停營運。

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目錄
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第一章 關於台橡
#008e5c

第二章 環境保護力
#66cc66

第三章 社會正向力
#f6ba41

第四章 治理續航力
#0091a4

附錄
#966fc9